Veterinary Medical Board
1747 N. Market Boulevard, Suite 230, Sacramento, CA 95834
Telephone: 916-515-5220 Fax: 916-928-6849 | www.vmb.ca.gov

SECOND AMENDED MEETING NOTICE and AGENDA

Board Members
Cheryl Waterhouse, DVM, President
Richard Sullivan, DVM, Vice President
Kathy Bowler
Jennifer Loredo, RVT
Judie Mancuso
Jaymie Noland, DVM
Mark Nunez, DVM
Alana Yanez

VETERINARY MEDICAL BOARD
February 21-22, 2018
1747 N. Market Blvd.
1st Floor Hearing Room
Sacramento, California

Action may be taken on any item listed on the agenda.

10:00 a.m., Wednesday, February 21, 2018

1. Call to Order/Roll Call/Establishment of a Quorum

2. Board President's Remarks, Board Member Comments and Introductions

3. Review and Approval of October 18-19, 2017 Board Meeting Minutes

4. Review and Approval of December 11, 2017 Board Teleconference Meeting Minutes

5. Election of Officers

6. Discussion and Possible Board Action on Nominations for Leadership Positions Within the American Association of Veterinary State Boards (AAVSB)

7. Proposed Regulations
   A. Status of Pending Regulations
   B. Discussion and Possible Board Action on the following Regulatory Proposals:
      i. Adopt Position on California Horse Racing Board's Proposed Regulations, Section 1660.1, Article 7, Division 4, Title 4 of the California Code of Regulations (CCR) Regarding Delivery of Medical Records
      ii. Adopt Position on California Department of Food and Agriculture's Proposed Regulations, Sections 5000-5004, Articles 1-4, Chapter 1, and Sections 5005-5012, Articles 1-4, Chapter 2, Division 5, Title 3 of the CCR Regarding Livestock Drugs
      iii. Amend Section 2069, Article 6, Division 20, Title 16 of the CCR Regarding Emergency Animal Care to include a provision authorizing Registered Veterinary Technicians (RVTs) to Euthanize Animals in an Emergency
      iv. Amend Section 2036, Article 4, Division 20, Title 16 of the CCR Regarding Tasks RVTs may Perform Under Indirect Supervision
      v. Amend Section 2003, Article 1, and Adopt Section 2017, Article 2, and Section 2042, Article 5, Division 20, Title 16 of the CCR Regarding the Consumer Protection Enforcement Initiative (CPEI).

8. Discussion and Consideration of Board Comments to the American Association of Veterinary State Board's Draft Policy on Telehealth
   A. Discussion and Possible Board Action to Amend Section 2032.1, Article 4, Division 20, Title 16 of the CCR Regarding the Veterinarian-Client-Patient Relationship and Telemedicine

9. Multidisciplinary Advisory Committee Report – Dr. Jon Klingborg
   A. Review, Discussion, and Possible Board Action on Multidisciplinary Advisory Committee Items and Recommendations *(**See Attached Agenda**)*

10. Discussion and Possible Board Action on Legislative and Regulatory Proposals Regarding the Corporate Practice of Veterinary Medicine

11. 2018 Legislation of Interest; Possible Board Action to Adopt Positions on Legislative Bills and Proposals
    A. Assembly Bill 1776 (Steinorth, 2018) Emergency Medical Transportation: Transport of Police Dogs
    B. Assembly Bill 1753 (Low, 2018) Controlled substances: CURES Database.
    C. Legislative Proposal for Protections for Veterinarians to Discuss the Use of Cannabis for Animal Patients
       (i) Presentation by Dr. Jaymie Payton, University of California, Davis (UCD) Regarding UCD's Cannabis Survey
    D. Legislative Proposal for Exemptions for Veterinarians to Render Services to an Animal During a Declared Emergency
    E. Legislative Proposal Regarding the Status of the Premises Permit Following Disciplinary Action Against a Licensee Manager and Premises Permit Application Requirements for Owner and Licensee Manager
    F. Legislative Proposal for Spay and Neuter Surgeries as Continuing Education Credits
    G. Legislative Proposal for Electronic Administration of the Veterinary Law Examination
    H. Update on the 2018 Omnibus Provisions Approved by the Board

12. Public Comment on Items Not on the Agenda
    Note: The Board may not discuss or act on any matter raised during this public comment section, except to decide whether to place the matter on the agenda of a future meeting. (Government Code Sections 11125, 11125.7(a).)

13. Recess until February 22, 2018 at 9:00 a.m.

9:00 a.m. Thursday, February 22, 2018

14. Reconvene - Establishment of a Quorum

15. Introductions

16. Board President Report – Dr. Cheryl Waterhouse

17. RVT Report – Jennifer Loredo, RVT

18. Presentation Regarding Assessment of Rehabilitation for Substance Use Disorders – Stephanie Trumm, Clinical Case Manager, MAXIMUS

19. Executive Officer & Staff Reports
    A. Administrative/Budget
    B. Enforcement
    C. Licensing/Examination
    D. Hospital Inspection

20. Future Agenda Items and Next Meeting Dates – May 23-24, 2018, Sacramento; August 22-23, 2018, Location TBD; November 14-15, 2018, Location TBD
    A. Agenda Items for Next Meeting – Tattooing Spayed and Neutered Animals; DEA Registration for Animal Hospital Premises
    B. Multidisciplinary Advisory Committee Meetings – May 22, 2018, Sacramento; August 21, 2018, Location TBD; November 13, 2018, Location TBD

CLOSED SESSION

21. Pursuant to Government Code Section 11126(c)(3), the Board will meet in closed session to deliberate and vote on disciplinary matters, including stipulations and proposed decisions.

22. Pursuant to Government Code Section 11126(e), the Board will Confer with and Receive Advice from Legal Counsel and Deliberate regarding *Gloria Faith Gong Simons, DVM v. Veterinary Medical Board*, San Diego County Superior Court, Case No. 37-2017-00030529-CU-WM-CTL

23. Pursuant to Government Code Section 11126(a)(1), the Board will meet in closed session to discuss the Executive Officer Evaluation.

RETURN TO OPEN SESSION

24. Adjournment

This agenda can be found on the Veterinary Medical Board website at **www.vmb.ca.gov**. Action may be taken on any item on the agenda. The time and order of agenda items are subject to change at the discretion of the Board President and may be taken out of order. In accordance with the Bagley-Keene Open Meeting Act, all meetings of the Board are open to the public.

This meeting will be webcast, provided there are no unforeseen technical difficulties or limitations. To view the webcast, please visit **thedcapage.wordpress.com/webcasts/** The meeting will not be cancelled if webcast is not available. If you wish to participate or to have a guaranteed opportunity to observe and participate, please plan to attend at a physical location. Meeting adjournment may not be webcast if it is the only item that occurs after a closed session.

Government Code section 11125.7 provides the opportunity for the public to address each agenda item during discussion or consideration by the Board prior to the Board taking any action on said item. Members of the public will be provided appropriate opportunities to comment on any issue before the Board, but the Board President may, at his

or her discretion, apportion available time among those who wish to speak. Individuals may appear before the Board to discuss items not on the agenda; however, the Board can neither discuss nor take official action on these items at the time of the same meeting (Government Code sections 11125, 11125.7(a)).

The meeting locations are accessible to the physically disabled. A person who needs disability-related accommodations or modifications to participate in the meeting may make a request by contacting the Board at (916) 515-5220, email: vmb@dca.ca.gov, or send a written request to the Veterinary Medical Board, 1747 N. Market St., Suite 230, Sacramento, CA 95834. Providing your request at least five (5) business days prior to the meeting will help ensure availability of the requested accommodations. TDD Line: (916) 326-2297

The mission of the Veterinary Medical Board is to protect consumers and animals by regulating licensees, promoting professional standards and diligent enforcement of the practice of veterinary medicine.

STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY • GOVERNOR EDMUND G. BROWN JR.
Veterinary Medical Board
1747 N. Market Blvd., Suite 230, Sacramento, CA 95834
Telephone: 916-515-5220 Fax: 916-928-6849 | www.vmb.ca.gov

MEETING MINUTES
VETERINARY MEDICAL BOARD

October 18-19, 2017
Fresno Chaffee Zoo
894 W. Belmont Avenue, Simba Room
Fresno, California 93728

10:00 a.m., Wednesday, October 18, 2017

1. Call to Order/ Roll Call/ Establishment of a Quorum

Dr. Cheryl Waterhouse called the Veterinary Medical Board (Board) meeting to order at 10:05 a.m. Executive Officer, Annemarie Del Mugnaio, called roll; six members of the Board were present and thus a quorum was established.

2. Board President's Remarks, Board Member Comments, and Introductions

Dr. Waterhouse welcomed all to the Board Meeting and noted Board Officer elections will be held at the February 2018 Meeting.

Board Members Present
Cheryl Waterhouse, DVM, President
Richard Sullivan, DVM, Vice President
Kathy Bowler, Public Member
Jennifer Loredo, RVT
Jaymie Noland, DVM
Mark Nunez, DVM

Staff Present
Annemarie Del Mugnaio, Executive Officer, Veterinary Medical Board
Kurt Heppler, Legal Counsel
Ethan Mathes, Administrative Program Manager
Bryce Penney, DCA Webcast
Candace Raney, Enforcement Manager
Tara Welch, Legal Counsel

Guests Present
Leslie Boudreau, California Registered Veterinary Technicians Association
Nancy Ehrlich, RVT, California Registered Veterinary Technicians Association
Valerie Fenstermaker, California Veterinary Medical Association
Diane Isbell, DVM
Jon Klingborg, DVM, Multidisciplinary Advisory Committee
Kevin Lazarchaff, California Veterinary Medical Association
Bonnie Lutz, Klinedinst PC
Grant Miller, DVM, California Veterinary Medical Association

Jon Pascoe, University of California Davis
Cindy Savely, RVT, Sacramento Valley Veterinary Technician Association
Leah Shufelt, RVT, California Veterinary Medical Association
Salomon Stupp, The Lizzie Initiative for Pet Protection
James Syms, California Physical Therapy Association
Brian Yerger, University of San Diego School of Law

3. Review and Approval of July 26-27, 2017 Board Meeting Minutes

The Board reviewed and suggested minor amendments to the Meeting Minutes.

- Dr. Richard Sullivan moved and Kathy Bowler seconded the motion to approve the July 26-27, 2017 Board Meeting Minutes as amended. The motion carried 6-0.

4. Review and Approval of Board and Committee Member Administrative Procedure Manual

Ms. Del Mugnaio updated that previously approved amendments to the Administrative Procedure Manual (Manual) made by staff and brought back before the Board for their review. The Board reviewed additional proposed updates including the Multidisciplinary Advisory Committee (MDC) appointment process, establishing an Elections Committee and its processes to review applicants for MDC vacancies. The Board discussed the Elections Committee composition and made various amendments to the Manual.

- Dr. Mark Nunez moved and Kathy Bowler seconded the motion to approve the Board and Committee Member Administrative Procedure Manual as amended. The motion carried 5-1 (Sullivan).

Kurt Heppler cautioned a three-member Elections Committee would require its meetings to be publicly noticed. Ms. Del Mugnaio clarified that she would serve in the staff role of the two-member committee and will update the Manual per the Board's recommendations. The Board had requested at a previous meeting that the selection criteria of MDC members is more defined and structured to allow for thorough vetting of applicant qualifications. The Board made additional amendments to the Elections Committee structure and procedures in the Manual.

- Dr. Mark Nunez moved and Dr. Richard Sullivan seconded the motion to approve the Board and Committee Member Administrative Procedure Manual as amended and make other conforming changes to the Manual. The motion carried 6-0.

Tara Welch recommended the Board make other technical corrections to the Manual as noted.

- Dr. Richard Sullivan moved and Dr. Jaymie Noland seconded the motion to approve the Board and Committee Member Administrative Procedure Manual as amended. The motion carried 6-0.

5. Review and Discuss Applications for Appointments to the Multidisciplinary Advisory Committee

The Board discussed the cutoff to accept applications for appointment to the MDC and agreed 45 days prior to the next Board meeting would be reasonable. Staff will post the notice requesting applications on the Board's website and send out via the email list.

6. Proposed Regulations

A. Status of Pending Regulations

Ms. Del Mugnaio updated on the status of pending regulations.

B. Discussion and Possible Board Action on the following Regulatory Proposals:

i. Amend the Board's Disciplinary Guidelines and Section 2006, Article 1, Division 20, Title 16 of the California Code of Regulations (CCR)

Ms. Del Mugnaio reviewed proposed amendments to the Disciplinary Guidelines - Term 6 - Supervised Practice terms. The Board discussed appropriate supervisor terms, relationships, and allowing Board staff discretion to determine an approved supervisor and supervision terms based on the guidance of the Board in the settlement agreement or disciplinary order.

- Dr. Mark Nunez moved and Dr. Richard Sullivan seconded the motion to approve the amended Disciplinary Guidelines – Optional Term 6. The motion carried 6-0.

Ms. Del Mugnaio reviewed proposed amendments to the other Disciplinary Guidelines Terms and other miscellaneous amendments.

- Dr. Mark Nunez moved and Kathy Bowler seconded the motion to approve the amended Disciplinary Guidelines and Section 2006, Article 1, Division 20, Title 16 of the California Code of Regulations and notice the proposed text for a 45-day public comment period and to be set for hearing if one is requested by the public, and to delegate to the Executive Officer the authority to adopt the proposed regulatory changes, as modified, if there are no adverse comments received during the public comment period, and also to delegate to the Executive Officer the authority to make any technical or non-substantive changes that may be required in completing the rulemaking file. The motion carried 6-0.

ii. Add Sections 2090-2096, Article 11, to Division 20, Title 16 of the CCR Regarding Veterinary Drug Compounding

Ms. Del Mugnaio reviewed the MDC's recommendations regarding veterinary drug compounding. The Board discussed the language defining "compounding," drug expiration dates, and authority to inspect formula and quality assurance records. Nancy Ehrlich suggested defining the level of supervision for registered veterinary technicians to compound drugs and add compounding as a regulatorily defined registered veterinary technician task.

The Board rejected the suggestion as the proposed regulations leave the level and degree of supervision to the judgement of the veterinarian.

Dr. Jon Klingborg noted "compounding" was defined similarly in California Pharmacy Law. The Board further discussed access to records and quality assurance requirements.

The Board made minor revisions to the language including adding "pursuant to Section 2032.3" to Section 2095 (d) regarding access to animal patient records.

- Dr. Jaymie Noland moved and Dr. Mark Nunez seconded the motion to approve Sections 2090-2096, Article 11, to Division 20, Title 16 of the CCR Regarding Veterinary Drug Compounding

as amended and notice the proposed text for a 45-day public comment period and to be set for hearing if one is requested by the public, and to delegate to the Executive Officer the authority to adopt the proposed regulatory changes, as modified, if there are no adverse comments received during the public comment period, and also delegate to the Executive Officer the authority to make any technical or non-substantive changes that may be required in completing the rulemaking file. The motion carried 6-0.

iii. Amend Section 2032.1, Article 4, Division 20, Title 16 of the CCR Regarding the Veterinarian-Client-Patient Relationship and Telehealth

Ms. Del Mugnaio noted "telemedicine" may be considered in place of "telehealth" in the proposed language as "telemedicine" is the standard industry term. Ms. Welch suggested adding a definition of "telemedicine" if that is the term the Board prefers as "telehealth" is understood to be a broader definition.

The Board agreed to add the definition of "telemedicine" to read, "For purposes of this section, "telemedicine" shall mean the mode of delivering animal health care services via communication technologies to facilitate the diagnosis, consultation, treatment, and care management of the patient."

- Dr. Richard Sullivan moved and Dr. Mark Nunez seconded the motion to approve Section 2032.1, Article 4, Division 20, Title 16 of the CCR Regarding the Veterinarian-Client-Patient Relationship and Telehealth as amended and notice the proposed text for a 45-day public comment period and to be set for hearing if one is requested by the public, and to delegate to the Executive Officer the authority to adopt the proposed regulatory changes, as modified, if there are no adverse comments received during the public comment period, and also delegate to the Executive Officer the authority to make any technical or non-substantive changes that may be required in completing the rulemaking file. The motion carried 6-0.

iv. Add Section 2038.5 to Article 4, Division 20, Title 16 of the CCR Regarding Animal Physical Rehabilitation

Ms. Del Mugnaio reviewed conforming and clarifying amendments made to the proposed language.

- Dr. Richard Sullivan moved and Jennifer Loredo, RVT seconded the motion to approve Section 2038.5 to Article 4, Division 20, Title 16 of the CCR Regarding Animal Physical Rehabilitation as amended and notice the proposed text for a 45-day public comment period and to be set for hearing if one is requested by the public, and to delegate to the Executive Officer the authority to adopt the proposed regulatory changes, as modified, if there are no adverse comments received during the public comment period, and also delegate to the Executive Officer the authority to make any technical or non-substantive changes that may be required in completing the rulemaking file. The motion did not carry 4-2 (Noland, Nunez).

The Board discussed the issue of whether the proposed language should require mandatory direct supervision of veterinary assistants in a range setting or whether a more flexible supervisory level should be considered. The Board ultimately agreed to add, "If at the time the veterinary assistant is performing APR on an animal patient in a range setting, the supervising veterinarian shall be in the general vicinity of the treatment area."

- Dr. Jaymie Noland moved and Dr. Richard Sullivan seconded the motion to approve Section 2038.5 to Article 4, Division 20, Title 16 of the CCR Regarding Animal Physical Rehabilitation as amended including adding reference to range setting provisions and notice the proposed text for

a 45-day public comment period and to be set for hearing if one is requested by the public, and to delegate to the Executive Officer the authority to adopt the proposed regulatory changes, as modified, if there are no adverse comments received during the public comment period, and also delegate to the Executive Officer the authority to make any technical or non-substantive changes that may be required in completing the rulemaking file. The motion carried 5-1 (Nunez).

v. Add Section 2032.26 to Article 4, Division 20, Title 16 of the CCR Regarding Veterinary Drug Counseling

Ms. Del Mugnaio updated that the proposed language was forwarded by the MDC and is consistent in with the direction of the language that was previously in Senate Bill 546. The Board and Bonnie Lutz discussed clarifying amendments to the language.

One minor change was made to the language to changed "refused" to "declined" under proposed Section 2032.26(d).

- Dr. Richard Sullivan moved and Jennifer Loredo, RVT seconded the motion to approve Section 2032.26 to Article 4, Division 20, Title 16 of the CCR Regarding Veterinary Drug Counseling as amended and notice the proposed text for a 45-day public comment period and to be set for hearing if one is requested by the public, and to delegate to the Executive Officer the authority to adopt the proposed regulatory changes, as modified, if there are no adverse comments received during the public comment period, and also delegate to the Executive Officer the authority to make any technical or non-substantive changes that may be required in completing the rulemaking file. The motion carried 6-0.

vi. Amend Section 2069, Article 6, Division 20, Title 16 of the CCR Regarding Emergency Animal Care

Ms. Del Mugnaio updated that the proposed language was forwarded by the MDC and conforming changes were made on advice of legal counsel. The Board reviewed the proposed language, discussed the authority to practice medicine in an emergency situation, and the application of the language to rodeo and shelter settings.

The Board decided to strike the last sentence regarding "Such veterinarian shall be authorized to practice in this state," as it was redundant.

- Dr. Richard Sullivan moved and Kathy Bowler seconded the motion to approve Section 2069, Article 6, Division 20, Title 16 of the CCR Regarding Emergency Animal Care as amended and notice the proposed text for a 45-day public comment period and to be set for hearing if one is requested by the public, and to delegate to the Executive Officer the authority to adopt the proposed regulatory changes, as modified, if there are no adverse comments received during the public comment period, and also delegate to the Executive Officer the authority to make any technical or non-substantive changes that may be required in completing the rulemaking file. The motion carried 6-0.

7. Discussion Regarding Current Laws Pertaining to Cannabis Treatment for Animal Patients and Possible Board Action on Legislative Recommendation

Ms. Welch detailed current Federal and State laws pertaining to cannabis treatment for animals and advised that the Board could recommend legislative changes to provide legal protections for licensed

veterinarians to discuss the use of cannabis on animals or to provide authority for research. Ms. Del Mugnaio and the Board discussed medical cannabis as a viable treatment option for animals and the conflict with Federal law in recommending cannabis and discussing treatment options with clients. The Board discussed the legislative authorized human study on cannabis intoxication; however, there are no equivalent studies on animals.

- Dr. Mark Nunez moved and Dr. Richard Sullivan seconded the motion to recommend the Legislature research on efficacy, safety, and side effects of cannabis on animals. The motion was withdrawn.

The Board discussed the next steps to request research on cannabis and animals. Dr. Jon Pascoe added the Board could utilize ongoing research of the California Cannabis Research program to include animals. Ms. Welch noted a change to Health and Safety Code Section 11362.9, that commissioned the current study, may be necessary to enable research on animals. Ms. Del Mugnaio added that staff will provide research on the Health and Safety Code and research program, request a representative from the research program address the Board, and bring back these issues at the next Board meeting.

8. Multidisciplinary Advisory Committee Report – Dr. Jon Klingborg

A. Review, Discussion, and Possible Board Action on Multidisciplinary Advisory Committee Items and Recommendations

Dr. Klingborg reviewed the MDC meeting discussion including: registered veterinary technician extended duties and the five points of the discussion including the placement of epidurals, proposed amendments to CCR section 2036 regarding supervision parameters for RVTs performing higher risk procedures, various animal shelter related issues, and the veterinary student exemption and offsite training. The MDC referred discussion on minimum standards and fixed premises to an MDC subcommittee.

- Kathy Bowler moved and Dr. Mark Nunez seconded the motion to accept the Multidisciplinary Advisory Committee Report. The motion carried 6-0.

9. Update on the Implementation of Senate Bill (SB) 27 (Hill, Ch. 758, Stats. 2015) and the Antimicrobial Use and Stewardship Outreach Committee

A. Discussion of Board Comments to Proposed Regulations of the California Department of Food and Agriculture to Add Sections 5000-5012, Articles 1-4, to Chapter 1, Division 5, Title 3 of the CCR Regarding Livestock Drugs

Ms. Del Mugnaio updated on amended provisions of the CCR regarding livestock drugs, including what qualifies as a license to dispense medically important antimicrobial drugs, a letter outlining comments in opposition to the proposed language as formulated by the Executive Committee. The Board discussed the Executive Committee's authority to comment on proposed regulations if the timing is not conducive for Board review.

10. 2017 Legislation Report; Possible Board Action to Adopt Positions on Bills

A. SB 547 (Hill, 2017) Professions and Vocations: Weights and Measures

Ms. Del Mugnaio reviewed Senate Bill (SB) 547 amendments; it has been signed into law.

B. SB 673 (Newman, 2017) Pet Lover's Specialized License Plates

Ms. Del Mugnaio updated SB 673 has been signed into law.

C. Assembly Bill (AB) 485 (O'Donnell, 2017) Pet Store Operators: Dogs, Cats, and Rabbits

Ms. Del Mugnaio updated Assembly Bill (AB) 485 has been signed into law.

D. AB 942 (Mathis, 2017) Personal Income Taxes: Credit: Veterinary Costs

Ms. Del Mugnaio updated AB 942 has been suspended.

E. AB 208 (Eggman, 2017) Deferred Entry of Judgement: Pretrial Diversion

Ms. Del Mugnaio updated AB 208 has been signed into law that allows for the pretrial deferment entry of judgement for certain charges involving drugs when there is a plea of not guilty and the individual goes into a drug diversion program. The Board questioned whether an applicant would have to disclose criminal history in these cases. Ms. Del Mugnaio noted staff would need legal guidance on this question and other amendments in AB 208.

11. Discussion and Possible Board Action on 2018 Legislative Proposals

Valerie Fenstermaker reviewed the recent natural disasters and issues with access to veterinary care. She requested the Board's consideration for the temporary waiver of the veterinary-client-patient relationship similar to the Board of Pharmacy provisions.

A. Amend Business and Professions Code Section 4830 Authorizing Veterinary Students to Obtain Clinical Experience as Part of the Formal Veterinary Program Curriculum

Ms. Welch suggested amendments to the MDC's proposed changes to Business and Professions Code (BPC) Section 4830. Dr. Klingborg recommended including an allowance for all forms of veterinary education as well as allowing on and off-site clinical experience into the proposed language.

- Dr. Richard Sullivan moved and Dr. Jaymie Noland seconded the motion to move the concept forward into a Legislative Bill regarding proposed changes to Business and Professions Code Section 4830, as amended. The motion carried 6-0.

B. Amend Business and Professions Code Section 4809.7 Mandating Inspection of 20% of the Hospital Premises

Ms. Del Mugnaio noted the need for mandatory hospital premises inspections which would ensure consumer protection, require a minimum number of annual inspections performed, and assist in obtaining additional funding for the program. The Board noted one of the benefits of the inspection program is an outreach tool.

- Kathy Bowler moved and Dr. Richard Sullivan seconded the motion to move the concept forward into a Legislative Bill regarding mandating hospital premises inspections. The motion carried 6-0.

C. Amend Business and Professions Code Section 4848 Removing the Criteria for Passing an Examination Concerning the Statute and Regulations of the Veterinary Medicine Practice Act

Ms. Del Mugnaio updated that the Board had discussed the need to keep the Veterinary Law Examination (VLE) due to the impact on certain license types that come into California from other states as well as the new university license. The Board agreed and will not move the concept forward.

D. Add Business and Professions Code Provisions to Issue a Probationary License to Veterinary Assistant Controlled Substance Permit (VACSP) Applicants

Ms. Del Mugnaio reviewed the proposal to allow veterinary assistant controlled substances permit applicants to obtain a probationary license, similar to registered veterinary technicians. The proposal is a result of the increasing volume of application denials, the nature of applicant criminal history that could allow for a probationary license, and the increased cost to the Board by not having a probationary license option for these applicants.

- Dr. Mark Nunez moved and Kathy Bowler seconded the motion to add Business and Professions Code provisions to issue a probationary license to veterinary assistant controlled substances applicants. The motion carried 6-0.

E. Add Business and Professions Code Provisions Limiting the Timeframe for Graduates of Veterinary Programs to Perform the Duties of a Registered Veterinary Technician (RVT)

Ms. Del Mugnaio updated the proposed language was approved by the Board at their April 2017 meeting and suggested moving the implementation date to the year 2020. The Board discussed a veterinary graduate's authority to take the veterinary technician examination and that the concept could be addressed once the current concept is enacted.

- Dr. Mark Nunez moved and Dr. Jaymie Noland seconded the motion to move the concept forward into a Legislative Bill regarding veterinary graduates performing the duties of a registered veterinary technician, as amended. The motion carried 6-0.

12. Public Comment on Items Not on the Agenda

There were no public comments.

13. Recess until October 19, 2017 at 9:00 a.m.

The meeting recessed at 4:45 p.m.

9:00 a.m., Thursday, October 19, 2017

14. Reconvene - Establishment of a Quorum

Dr. Waterhouse called the Veterinary Medical Board (Board) meeting to order at 9:05 a.m. Ms. Del Mugnaio, called roll; six members of the Board were present and thus a quorum was established.

15. Introductions

Board Members Present
Cheryl Waterhouse, DVM, President
Richard Sullivan, DVM, Vice President
Kathy Bowler, Public Member

Jennifer Loredo, RVT
Jaymie Noland, DVM
Mark Nunez, DVM

Staff Present
Annemarie Del Mugnaio, Executive Officer, Veterinary Medical Board
Kurt Heppler, Legal Counsel
Ethan Mathes, Administrative Program Manager
Bryce Penney, DCA Webcast
Candace Raney, Enforcement Manager
Tara Welch, Legal Counsel

Guests Present
Leslie Boudreau, California Registered Veterinary Technicians Association
Nancy Ehrlich, RVT, California Registered Veterinary Technicians Association
Ed Washington, Office of Administrative Hearings

16. Board President Report – Dr. Cheryl Waterhouse

Dr. Waterhouse noted that the Department's Human Resources office will provide an update to the Board at the February 2018 meeting regarding upgrading the Board's size and structure. She reported that at the California Veterinary Medical Association's recent Board of Governor's meeting, issues were discussed including medicinal cannabis, veterinary blood bank rules, and disaster response. The Department Director sent a letter to the Board noting Executive Officer Ms. Del Mugnaio's involvement in the Department's leadership development program.

17. RVT Report – Jennifer Loredo, RVT

A. Status of Progress on Foreign Educated RVTs

Jennifer Loredo, RVT, updated the recent American Association of Veterinary State Boards (AAVSB) meeting discussion regarding the continued exploration of licensure pathways for foreign licensees. The Veterinary Technician National Examination job analysis was also recently completed. Ms. Loredo additionally requested clarification on amendments to CCR section 2036 regarding supervision for casting and splinting.

18. Report on the International Council for Veterinary Assessment Survey – Kathy Bowler

Kathy Bowler reviewed the International Council for Veterinary Assessment's (ICVA) survey of licensing jurisdictions regarding the national veterinary examination and professional practice areas. A blueprint will be created from the survey to inform on future examinations and the national veterinary examination will be updated in Fall of 2019. She also requested California-specific survey statistics from the ICVA.

Ms. Del Mugnaio noted the AAVSB's resolution to take part in the development of the national veterinary examination analysis and reported that the AAVSB would still need to ensure compliance with California requirements; a teleconference to discuss this issue with the AAVSB is forthcoming.

19. Executive Officer & Staff Reports

A. Administrative/ Budget

Ethan Mathes updated on the Fiscal Year-end Expenditure Report and other budget activities. The Board and Mr. Mathes discussed and clarified certain Report line items.

B. Enforcement

Candace Raney updated on the enforcement program's focus on intake efforts as a result of the higher volume of complaints, historical information on citations, and changes to personnel. Ms. Del Mugnaio commented on the challenges recruiting and hiring staff that ultimately delays placement of new staff into vacant positions. She noted the number of complaints are trending upward and that processing times to process complaints is trending down. The Board asked about complaint trends in other boards and bureaus.

C. Licensing/ Examination – Report to Include Process for Application Denials/ Subject Matter Expert Examination Policy

Mr. Mathes updated on the status of the veterinary technician comparative study, staff outreach activities, and recent changes to personnel. The Board and Mr. Mathes discusses and updated on the national veterinary technician pass rate report and website redesign schedule.

D. Hospital Inspection

Ms. Del Mugnaio updated the annual inspection cycle has begun, staff recently conducted inspector training, and staff is now conducting performance audits of inspectors.

20. Future Agenda Items and Next Meeting Dates – February 21-22, 2018, Sacramento; May 23-24, 2018, Location TBD; August 22-23, 2018, Sacramento; November 14-15, 2018, Location TBD

A. Agenda Items for Next Meeting – Tattooing Spay and Neuter Animals/ DEA Facility Registration

B. Multidisciplinary Advisory Committee Meetings – February 20, 2018, Sacramento; May 22, 2018, Location TBD; August 21, 2018, Sacramento; November 13, 2018, Location TBD

The Board discussed spay and neuter tattooing and whether to assign research on the issue to the MDC; they decided to draft a letter in response to the public member's comment. Ms. Del Mugnaio will schedule a Drug Enforcement Administration (DEA) representative to present at a future meeting to review DEA facility registration. The August meeting will be moved to August 28-30, 2018. Future agenda items will include the corporate practice of veterinary medicine.

21. Special Order of Business – 10:00 a.m.

A. Petition for Reduction of Penalty – Penny Pembrook

Administrative Law Judge (ALJ) Ed Washington presided over the petition for reduction of penalty hearing.

Deputy Attorney General (DAG) Diann Sokoloff updated and presented the case against Penny Pembrook.

Ms. Pembrook represented herself and presented her request for reduction of penalty. Ms. Pembrook answered questions from the DAG and members of the Board.

ALJ Washington closed the hearing.

CLOSED SESSION

22. Pursuant to Government Code Section 11126(e), the Board will Confer with and Receive Advice from Legal Counsel and Deliberate regarding *Davinder Singh Sandhu, DVM v. Veterinary Medical Board,* Sacramento County Superior Court, Case Number 34-2017-80002552-CU-WM-GDS.

The Board moved to not appeal Case Number 34-2017-80002552-CU-WM-GDS.

The Board moved to accept written arguments regarding discipline terms imposed.

23. Pursuant to Government Code Section 11126(c)(3), the Board will Deliberate on the Above Petition and Disciplinary Actions.

Petition for Reduction of Penalty – Penny Pembrook
The Board denied the petition for reduction of penalty.

Aidan McNeil, VET 16295 - Case No. AV 2016 34
The Board adopted the stipulated settlement.

Sue Morizi, VET 9387 and The Village Veterinary Hospital, HSP 7769 – Case No. 1002055931
The Board adopted the stipulated settlement.

Lacey Mae Patino, RVT applicant, Case No. 460 2017 001049
The Board adopted the stipulated settlement.

Gurjit Sandhu, VET 15762 - Case No. 460 2017 000 742
The Board adopted the stipulated settlement.

Sean Yoshimoto, VET 14456 – Case No. 1002037511
The Board non-adopted the stipulated settlement and proposed a modification.

Kristen Bender, RVT Applicant – Case No. 460 2017 000 473
The Board non-adopted the proposed decision and proposed a modification.

Remy Ann Berman, RVT Applicant – Case No. 460 2017 000 724
The Board non-adopted the proposed decision and proposed a modification.

RETURN TO OPEN SESSION

24. Adjournment

- Dr. Jaymie Noland moved and Kathy Bowler seconded the motion to adjourn the Veterinary Medical Board meeting. The motion carried 6-0.

The meeting adjourned at 2:40 p.m.

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STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY • GOVERNOR EDMUND G. BROWN JR.
Veterinary Medical Board
1747 N. Market Blvd., Suite 230, Sacramento, CA 95834
Telephone: 916-515-5220 Fax: 916-928-6849 | www.vmb.ca.gov

MEETING MINUTES
Veterinary Medical Board

The Veterinary Medical Board met via teleconference on
Monday, December 11, 2017, at the following locations:

Waterhouse Animal Hospital
1115 East Champlain
Fresno, California

Veterinary Care Center
6455 Santa Monica Boulevard
Los Angeles, California

Western Riverside Animal Shelter
6851 Van Buren Boulevard
Jurupa Valley, California

Laguna Beach Community
and Susi Q Senior Center
380 Third Street
Laguna Beach, California

Bay Cities Pet Hospital
20447 Hawthorne Boulevard
Torrance, California

Department of Consumer Affairs
1747 North Market Boulevard, Peridot Room
Sacramento, California

1. Call to Order / Roll Call / Establishment of a Quorum

Veterinary Medical Board (Board) President, Cheryl Waterhouse, called the meeting to order at 12:07 p.m. via telephone conference. Executive Officer, Annemarie Del Mugnaio called roll; six members of the Board were present and thus a quorum was established. Dr. Jaymie Noland and Alana Yanez were not present.

2. Introductions

Members Present
Cheryl Waterhouse, DVM, President
Richard Sullivan, DVM, Vice President
Kathy Bowler, Public Member
Jennifer Loredo, RVT
Mark Nunez, DVM
Judie A. Mancuso, Public Member

Staff Present
Annemarie Del Mugnaio, Executive Officer, Veterinary Medical Board
Ethan Mathes, Administrative Program Manager
Amanda Drummond, Administrative Program Coordinator
Tara Welch, Legal Counsel

Guests Present
Patrick Le, Assistant Deputy Director, Department of Consumer Affairs
Paul Hansbury, Lovingly and Legally Grown
Susan Tibbon, Lovingly and Legally Grown

3. Discussion and Possible Board Action on Regulatory Proposal Regarding Sections 2070 & 2071, Article 7, Division 20, of Title 16 of the California Code of Regulations Regarding Proposed Fee Increases.

Annemarie Del Mugnaio discussed how in July the Board approved a licensure fee increase and today the Board is holding a meeting to approve the emergency regulations to implement the fee increase to increase revenue for this fiscal year. The fee increase is being requested due to Attorney General (AG) expenses increasing, which is a direct result of enforcement and complaints activity doubling in the last four fiscal years. The Board is projected to spend approximately $900,000 in AG expenses at the end of the current fiscal year with the typical AG expenses in prior years ranging between $530,000 to $560,000. Board expenditures have gone up exponentially over the last five years and revenue is not keeping pace with those expenditures. Currently, the Board's fund is at risk of being negative at the end of Fiscal Year (FY) 2018-19. Due to these factors, the Department of Finance would not likely approve a mid-year increase or adjustment to the Board's appropriation without the fee increase. If the Board approves the filing of emergency regulations, we can generate at least another $600,000 in FY 2017-18 which would offset a mid-year adjustment and the fund condition would improve at the end of the FY 2018-19.

In July, the Board also approved a motion in Title 16, California Code of Regulation (CCR) section 2070(h), that the annual registration for hospital premises will increase from $200 to $400. However, the Board did not agree to also increase the initial premises fee to $400 and based on projections, it would be prudent to also increase the initial premises registration fee to $400. By increasing the initial premises registration fee to $400, the renewal and initial fees will be consistent and the revenue that the Board generates will be maximized. Ms. Del Mugnaio recommended the Board vote to amend CCR section 2070(g) to $400 instead of $350 to be consistent with subsection (h).

Board counsel, Tara Welch, stated that the university veterinary licenses and renewals will increase as well because these fees are based on Business and Professions Code Section 4848.1 and the statute makes the university veterinary license subject to the same fee requirements of veterinary licensees.

The Board discussed other miscellaneous fees and increasing those as well. Ms. Del Mugnaio pointed out, some of the other miscellaneous fees, are already at their statutory cap. The Board discussed obtaining other funding sources, such as from the Department of Consumer Affairs (DCA) but it was established that the DCA does not have a general fund that would allow it to provide the Board with additional revenue.

The Board discussed whether all fees have reached the statutory cap in all categories. Ms. Del Mugnaio stated that the Board has not reached the statutory cap in all categories, just the hospital premises, and that the Board wanted to take a conservative approach to the fee increase at this time. There is also a requirement in statute to maintain a fund balance between 3-10 months. With this proposed fee increase, staff is projecting the Board will be able to maintain its statutory requirement. Ms. Del Muganio also noted that there has not been a regulatory fee increase since 2012 nor a statutory increase since 2009.

- Dr. Sullivan moved and Kathy Bowler seconded the motion to adopt the proposed regulatory changes including increasing Title 16, California Code of Regulation section 2070(g) from $350 to $400, to designate to the EO to take all necessary steps to complete the emergency rulemaking process, authorize the EO to make any technical or non-substantive changes to the rulemaking package. Notice the proposed text for the 45-day public comment period and if no adverse comments are received during the 45-day comment period and no hearing is requested to adopt the proposed regulatory changes with modifications if any. The motion carried 6-0.

Ms. Del Mugnaio wanted to clarify for the record that the motion was delegating the Executive Officer to pursue the emergency rulemaking process and to also proceed with the general rulemaking process and the 45-day comment period. With this motion, we are approving both the emergency rulemaking process and the regular rulemaking process.

4. Public Comment on Items Not on the Agenda

Paul Hansberry, from Lovingly and Legally Grown, spoke to the Board about medical cannabis for animal use. He stated that he is working with legislators to make it legal for veterinarians to prescribe medical cannabis to their animal patients for ailments. He requested the Board consider agenizing a committee to discuss and provide their support of this legislation.

Susan Tibbon, from Lovingly and Legally Grown, spoke to the Board about medical cannabis for animal use and how she felt veterinarians were in support of medical cannabis, but are fearful of losing their licenses. They are in the process of working with legislators and are happy to give a demonstration/presentation if the Board would like to help increase their knowledge on the subject.

Ms. Del Mugnaio noted discussion related to this topic is scheduled to be on the February 2018 Board Meeting Agenda and that they are welcome to come to the meeting and provide comment.

5. Adjournment

The Board adjourned at 12:50 p.m.

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American Association of Veterinary State Boards

Information on Representatives to the ICVA Elected Positions
for 2018-2019

Current 2017-2018 AAVSB Representatives to the ICVA

Jon Betts, DVM from Oregon (Licensed Veterinarian)

Kathy Bowler from California (Public Member)

Bruce Louderback, DVM from Colorado (Licensed Veterinarian)

Helen Tuzio, DVM from New York (Licensed Veterinarian)

Upcoming 2018-2019 AAVSB Representatives to the ICVA

OPEN (Licensed Veterinarian position; 3-year term)
(Dr. Jon Betts is currently serving the third year of second 3-year term and is eligible for nomination to a third term.)

OPEN (Public Member position; 3-year term)
(Ms. Kathy Bowler is currently serving the third year of first 3-year term and is eligible for nomination to a second term.)

Bruce Louderback, DVM
(Dr. Louderback is currently serving the second year of a second 3-year term)

Helen Tuzio, DVM
(Dr. Tuzio is currently serving the first year of first 3-year term)

Bylaws Specifications (Article IX)
The AAVSB Bylaws prescribe the composition, duties, election, qualifications and terms as described below.

Composition
There shall be a minimum of four AAVSB representatives to the International Council of Veterinary Assessment (ICVA).

Duties
The Representatives shall attend all meetings of the ICVA and shall report to the AAVSB Board of Directors following each ICVA or subcommittee meeting. The Representatives shall present the consensus opinions of the Association at such meetings and shall not vote in conflict with the AAVSB Bylaws.

Election
Delegates at the Annual Delegate Assembly shall elect the Representatives at the Annual Delegate Assembly of the Association either from nominations submitted by the Nominating Committee or by nomination from the floor. Each Representative shall assume his or her responsibilities at the close of the Annual Delegate Assembly at which elected and shall serve as specified in these Bylaws or until a successor is elected and qualified.

Qualifications

- *Three representatives must, when nominated and elected, be Licensed Veterinarians currently practicing in public or private practice and be either (i) a member of a Member Board, or (ii) have been a member of the AAVSB Board of Directors within the previous year, or (iii) have been a member of the ICVA within the previous year, or (iv) be a current Associate Member.*
- *One Representative must, when nominated and elected, be a Public Member and be either (i) a member of a Member Board, or (ii) have been a member of the AAVSB Board of Directors within the previous year, or (iii) have been a member of the ICVA within the previous year, or (iv) be a current Associate Member.*

Terms

Representatives can be eligible for three 3-year terms.

Expectations

Please contact the AAVSB office for additional information on the AAVSB representatives to the ICVA.

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American Association of Veterinary State Boards

Nominating Form for 2018-2019

Nominating Process

Please return one nomination packet for each candidate being nominated. The nomination packet should include all of the following:

1. Completed nominating form,
2. Completed biographical information, and
3. Statement from the nominator indicating the rationale for the nomination.

Please note: The bio and statement will be distributed to the AAVSB Member Boards.

SUBMIT BY MAY 17, 2018

ONLINE: http://bit.ly/2AEQSeR
EMAIL: dtabbytite@aavsb.org
FAX: (816) 931-1604
MAIL: AAVSB
Attention: Nominating Committee
380 West 22nd Street, Suite 101
Kansas City, MO 64108

2018-2019 Open Positions

Indicate the position for the nominated candidate.

☐ President-Elect (1 position)
☐ Director (3 positions)
☐ Nominating Committee Member (1 position)
☐ ICVA Representative (2 positions - 1 Licensed Veterinarian and 1 Public Member)

Nominated Candidate Information

Name: _____ State or Province: _____

☐ Board Member *Term began:* _____ *Current term expires:* _____

Eligible for re-appointment: Yes / No

(Provide explanation on separate page if candidate's term has expired, but is still serving on Board)

Check all that apply:

☐ Board Administrator
☐ AAVSB Associate Member
☐ Delegate or Alternate Delegate
☐ Current AAVSB Board of Director
☐ AAVSB Committee Chairperson
☐ Current ICVA Representative

Phone Numbers and e-mail, if available:

Work: _____ Cell: _____

E-mail: _____

Nominated By

Member Board Name: _____

Contact Name: _____

Contact Phone # and Email: _____

Return or complete online by May 17, 2018

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American Association of Veterinary State Boards

Requested Biographical Information

The following biographical information should be provided for each nominee. The information should not exceed two pages.

- Candidate's Name
- Position Nominated
- Member Board Experience and Roles Served
- Experience with the AAVSB and Roles Served
- Other Affiliations
- Work History
- Education
- Leadership Positions Held

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February 21, 2018

AAVSB Nominating Committee
American Association of Veterinary State Boards
380 W. 22nd Street, Suite 101
Kansas City, MO 64108

RE: Nomination for Reappointment as the AAVSB Representative to the ICVA – Kathy Bowler, Public Member

Dear Committee Members:

As President of the California Veterinary Medical Board (VMB), I am nominating Board member, Kathy Bowler, for reappointment to the position of AAVSB Representative to the ICVA. Ms. Bowler has an extensive background in public policy and working with elected officials on consumer advocacy issues. Ms. Bowler has over three years of experience serving as a public member on the VMB.

Ms. Bowler has enjoyed her work as a representative on the AAVSB Committee. She is well versed in animal welfare issues and has a strong understanding of the process for setting entry-level standards for licensure as well as being knowledgeable and engaged in other regulatory matters facing veterinary medicine. Ms. Bowler's passion for animals and understanding of the profession as a high-volume consumer of veterinarian services is an asset to the VMB and the ICVA. As such, I enthusiastically support Ms. Bowler for reappointment.

Ms. Bowler's nomination and biography are attached.

Please let me know if there is anything else you need.

Sincerely,

Cheryl Waterhouse, DVM President
California Veterinary Medical Board

Cc: Daphne Tabbytite, AAVSB, Assistant Executive Director

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STATUS OF PENDING VMB REGULATIONS JANUARY 2018			
BOARD			
Subject	**CCR Section(s)**	**Current Status/Action**	**Notes**
Animal Control Officer Training	2039.5	Enacted	July 2014 – Board approved language July 2016 – Board approved amended language 8/26/2016 – Publish 45-day notice 10/10/2016 – End of public comment period 3/17/2017 – Publish 15-day notice 4/3/2017 – End of public comment period 6/19/17 – Board approved amended language via teleconference 6/19/17 – Submitted final rulemaking file for DCA review October 2017 – File under review with Department, Agency and Department of Finance; OAL Filing deadline extended to 11/21/2017 12/20/2017 – Approved by OAL and filed with Secretary of State. Regulations effective 12/20/2017.
CPEI (SB 1111)	2003, 2017, 2042	Before Board at February 2018 Meeting with Amendments	October 2014 – Board approved language April 2017 – Board approved amended language July 2017 – Submit noticing package for DCA review October 2017 – File under review with Department prior to publication of 45-day Notice
Disciplinary Guidelines	2006	In Progress	January 2015 – Board approved language May 2015 – Disciplinary Guidelines Committee Meeting July 2015 – Board approved amended language October 2015 – Board approved amended language January 2017 – Board approved amended language April 2017 – Board approved amended language July 2017 – Submit noticing package for DCA review October 2017 – Approved for Notice by Board.

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BOARD			
Subject	**CCR Section(s)**	**Current Status/Action**	**Notes**
Animal Rehabilitation	2038.5	TBD	November 2015 – Rulemaking file withdrawn from OAL January 2016 – Discussion on hold per Board pending Sunset Review June 2016 – 1st Task Force meeting held in Sacramento, CA 10/4/2016 – 2nd Task Force meeting held in Sacramento, CA April 2017 – Board motioned to direct Legal Counsel and Board staff to review recommendations and provide guidance to Board regarding appropriate route for implementation July 2017 – Discuss guidance provided by Legal and Board staff October 2017 - Approved for Notice by Board.
Minimum Standards - Telehealth	2032.1	In Queue	February 2015 – MDC approved amendments to Minimum Standards language April 2015 – Board approved language July 2017 – Discussion at Board meeting October 2017 - Approved for Notice by Board.
RVT Education	2036.6, 2064, 2065.1, 2065.2, 2065.6, 2065.7, 2065.8 2066.1, 2068.5	In Progress	***RVT Alternate Route-*** February 2015 – MDC approved amended language and forwarded to Board for discussion. July 2015 – Board approved language July 2017 – Approved for Notice by Board. ***RVT Student Exemption-*** July 2015 – MDC approved amended language and forwarded to Board for discussion. October 2015 – Board approved language July 2017 – Approved for Notice by Board. ***RVT AVMA School Approval-*** July 2016 – Board approved language July 2017 – Approved for Notice by Board.
			July 2017 – Approved for Notice by Board.

Fee Schedule	2070, 2071	In Queue	July 2017 – Board approved language December 2017 – Board approved amended language January – Under review with DCA for Emergency Filing
Drug Counseling	2031.26	In Queue	April 2017 – Submitted to MDC for discussion July 2017 – MDC approved and forwarded to Board October 2017 - Approved for Notice by Board.
Drug Compounding	2090-2096	In Queue	July 2017 – MDC approved and forwarded to Board October 2017 - Approved for Notice by Board.
Emergency Animal Care	2069	In Queue	July 2017 – MDC approved and forwarded to Board October 2017 - Approved for Notice by Board.
Uniform Standards for Abuse (SB 1441)	2006, 2006.5, and 2076	In Queue	October 2014 – Board approved language April 2015 – On hold per Legal March 2016 – Hold removed per Legal, approved to continue with rulemaking file TBD – Submit amendments to Board for review/approval

MDC			
Subject	**CCR Section(s)**	**Current Status/Action**	**Notes**
Shelter Medicine	TBD	TBD	September 2015 – CVMA task force meetings begin April 2017 – Discussion is ongoing October 2017 – MDC moved to amend CCR Section 4840(b) and that subcommittee conduct further research regarding these issues.
Veterinary Student Exemption	2027, 2027.5	2018 Legislative Proposal	October 2016 – MDC approved language in CCR section 2027. April 2017 – Board approved language for CCR section 2027.5; Statutory amendment BPC section 4841.2 that must pre-date regulatory change October 2017 - MDC moved to remove BPC Section 4830(b) and expand on BPC Section 4830(a).
"Extended Duty" for Registered Veterinary Technicians	TBD	TBD	April 2017 – Submitted to MDC for approval. Subcommittee formed to continue discussions. October 2017 - MDC moved to revise CCR Section 2036(b)(2) and moved to have subcommittee research CCR Section 2036 to explore duties of supervising veterinarians.

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Minimum Standards for Alternate Veterinary Premises	2030, 2030.05, 2030.1, 2030.15, 2030.2, 2030.3, 2030.4, 2030.45, 2030.5, 2034, 2032.4 and 2036.5	TBD	October 2017 – CVMA presented a proposal and the MDC created a subcommittee to review the proposal.

CALIFORNIA HORSE RACING BOARD
TITLE 4. CALIFORNIA CODE OF REGULATIONS
ARTICLE 7. CLAIMING RACES
PROPOSED ADDITION OF
RULE 1660.1. DELIVERY OF MEDICAL RECORDS

1660.1. Delivery of Medical Records.

(a) A copy of all existing veterinary medical records for a horse claimed in a claiming race shall be transferred from the horse's former attending veterinarian(s) to the horse's new owner or their designee within seven days of the claim.

(b) Veterinarians attending a horse for the first time after it is claimed shall review all medical records provided to the owner or their designee pursuant to subsection (a) prior to treating the horse.

NOTE: Authority cited: Sections 19440, 19562, and 19580, Business and Professions Code. Reference: Sections 19440, 19562, and 19580, Business and Professions Code.

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August 16, 2017

Rachelle Kennedy, Senior Environmental Scientist
Feed, Fertilizer, and Livestock Drugs Regulatory Services Branch
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

Re: Proposed Regulations Division 5, Livestock Drugs & Chapter 1, Sales of Restricted Livestock Drugs (Sections 5000-5005) and Chapter 2, Sales of Medically Important Antimicrobial Drugs (Sections 5005-5012).

Dear Ms. Kennedy:

The Executive Committee of the California Veterinary Medical Board, hereinafter "Board," submits the following comments on behalf of the Board for your consideration.

Business and Professions Code Section 14404 calls for the Board amongst other agencies, to work collaboratively with the California Department of Food and Agriculture (CDFA) to develop antimicrobial stewardship guidelines and best management practices for veterinarians and livestock owners on the proper use of medically important antimicrobial drugs for treating, controlling and preventing known diseases that affect livestock. This regulatory proposal is a critical component in carrying out the intent of the provisions of Senate Bill 27, (Hill, Chapter 758, Statues of 2015) effective January 1, 2016 which is to prohibit the administration of medically important antimicrobial drugs to livestock, unless ordered by a licensed veterinarian through a prescription or veterinary feed directive pursuant to an established veterinarian-client-patient-relationship. The CDFA's mission statement as included in its Antimicrobial Use and Stewardship Strategic Plan 2017 document, clearly states in part, the CDFA's intent: *to mitigate practices contributing to the expansion of antimicrobial resistance, to reduce potentially harmful impacts from the use of antibiotics, to promote and protect animal health by preserving existing veterinary antimicrobial drugs for veterinary use.* A major step in reducing the overuse of medically important antimicrobial drugs is placing the drugs under the order of a prescription by a veterinarian. The second equally important component is ensuring that those who handle and sell the prescription drugs to the livestock owners are appropriately trained, supervised, and regulated to prevent mishandling, mislabeling, or diversion, all of which have serious public safety consequences.

Unfortunately, the regulatory proposal as published causes grave concerns regarding the authorized sale of a prescription drug. Proposed §5001 of Article 2 requires that

anyone selling a restricted livestock drug must hold a restricted livestock drug license issued pursuant to Food and Agriculture Code. Nowhere in the Food and Agriculture Code or in the proposed regulations, do the qualifications for the restricted livestock drug license require an applicant to possess any formal training or education in the handling of prescription drugs, nor is there a requirement for oversight or supervision by a licensed pharmacist. Alternately, Business and Profession Code §§ 4041,4053, and 4196 sets forth the Veterinary Food Animal Drug Retailer (VFADR) license where an entity may be licensed as a wholesaler by the Board of Pharmacy to dispense veterinary drugs for food-producing animals and where specific requirements for training and oversight regarding drug distribution, quality control, safe storage and handling, terminology abbreviations or dosages, and labeling are enforced. It is unclear why the CDFA would rely upon an untrained and unsupervised licensing category to handle a prescription drug, (defined in Pharmacy Law §4022 as a "dangerous drug") when there are plenty of other avenues including the VFADR, retail pharmacies, online pharmacies, and licensed veterinarians to dispense these medically important antimicrobial drugs to meet the demands of the livestock community.

In addition to the overarching concern above, the Board also noted the following inconsistencies or clarity issues with the regulatory proposal:

- §5000 and §5005 -Duplication in definitions– Recommend that one section reference the other to comply with the OAL standard of nonduplication.
- It is unclear whether the intent of §§5002(a) (5)-(7) require a physical address location on record.
- Inconsistency in the permissible type of authorized sales conducted by a restricted livestock drug licensee between §5002(a)(9) and §5006(d).
- § 5002(b) – A $50 application fee is not sufficient to fund the oversight of the program and may result in violations going undetected or unenforced.
- §5004 does not contain all of the prescribed information required in §5008 for Sales Records.
- §5010 – Labeling – It is unclear who is responsible for labeling the drug. Is it labeled at the time of sale? It is also unclear whether only off-label or extra-label use of a drug would require a specific drug label, or does this imply all drugs? If the veterinarian is responsible for supplying a prescription drug label, the requirements in §5010 are inconsistent with the Veterinary Medicine Practice Act – California Code of Regulations Title 16, Article 4, §2032.2.
- §5011(d)- Include "or if the drug is outdated."

In closing, it is the Board's intention to assist the CDFA with implementing the provisions of SB 27 and the forthcoming regulations as an effort to reduce the over-use of antibiotics and protect both human and animal health into the future. While we recognize that many medically important antimicrobial drugs are necessary for the health and welfare of livestock and that access must be a consideration, we strongly believe there are plenty of safe avenues within which livestock owners can purchase these important prescription drugs through pharmacies, including online options, veterinary clinics and drop mail orders, and the VFADRs. In each of the available

options, appropriately trained and educated personnel are involved in the handling, storage, labeling, and delivery of the prescribed drug to the user. The public's welfare is best served when licensed individuals who are expertly trained in their respective profession(s) are providing healthcare services.

The Board appreciates your consideration of the comments and looks forward to continuing its work with the CDFA on this important issue.
Respectfully,

Cheryl Waterhouse, DVM, President
California Veterinary Medical Board

Richard Sullivan, DVM, Vice President
California Veterinary Medical Board

CC: Virginia Herold, Executive Officer, Board of Pharmacy
Val Fenstermaker, Executive Director CVMA
Annette Jones, Director Animal Health and Food Safety Services
CDFA

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CONFIDENTIAL WORKING DRAFT

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

MODIFIED REGULATION TEXT

Original proposed text is displayed in underline type.
Additions to the original proposed text are displayed in double underline type.
Original proposed text to be deleted is displayed in ~~strikethrough~~ type.

CALIFORNIA CODE OF REGULATIONS
TITLE 3. FOOD AND AGRICULTURE
DIVISION 5. LIVESTOCK DRUGS
CHAPTER 1. SALES OF RESTRICTED LIVESTOCK DRUGS

ARTICLE 1. DEFINITIONS

§5000. Definitions.
For purposes of this chapter, the following definitions apply:

(a) "Company representative" ~~"Designated individual"~~ means an individual representing a restricted livestock drug licensee that is assigned to perform the duties required to maintain a restricted livestock drug licensee's compliance with California livestock drug laws and regulations.

(b) "Livestock" includes all animals in a species typically raised, kept, or used for profit and includes bees, mammals, avian, aquatic, and amphibian species. It does not include those species which are usually kept as pets, such as dogs, cats, and pet birds. "Species that are raised, kept, or used for profit" means:

(1) Livestock that are typically used for financial gain, commercial use, breeding, competition, or show; or

(2) Livestock whose owners are engaged in business using animals for financial gain, commercial use, breeding, competition, or show.

(c) "Parent company" means the legal business entity that owns a restricted livestock drug licensee.

(d) "Qualified individual" means a person who meets all of the necessary requirements in order to sell California prescription drugs under Section 5009 of Title 3 of the California Code of Regulations.

(e ~~c~~) "Restricted livestock drug" means any livestock drug which is sold in such form that it might be administered to humans and if so administered would be dangerous to the health of such humans or any livestock drug which if improperly administered to livestock is dangerous to the health of such livestock or to humans who consume products from such livestock. Restricted drugs include all of the following:

(1) Arsenic compounds and preparations.

(2) Diethylstilbestrol and other substances which have a hormonelike action.

(3) Sulfanilamide or substitute sulfanilamides.

~~(4) Antibiotic preparations, including medically important antimicrobial drugs as defined in Section 14400(a) of Chapter 4.5 of Division 7 of the Food and Agricultural Code.~~

~~(5) Such other drugs and their preparations which the Secretary determines are hazardous to the health of livestock or the public safety.~~

(4) Antibiotic preparations, including those medically important antimicrobial drugs federally labeled for over the counter sale listed in Appendix A of the federal Food and Drug Administration's Guidance for Industry #152, including critically important, highly important, and important antimicrobial drugs, as that appendix may be amended.

(5) Type A Medicated Articles as defined in Section 558.3(b)(2) of Title 21 of the Code of Federal Regulations.

(6) Any drug that has a withdrawal period.

~~(d) "Restricted livestock drug licensee" is a person that has obtained a restricted livestock drug license pursuant to Article 5 (commencing with Section 14321) of Chapter 4 of Division 7 of the Food and Agricultural Code.~~

(f) "Restricted livestock drug licensee" is a location licensed pursuant to Article 5 (commencing with Section 14321) of Chapter 4 of Division 7 of the Food and Agricultural Code where sales of restricted livestock drug occur.

Note: Authority Cited: Sections 407 and 14231 of the Food and Agricultural Code. Reference: Section 14203, 14205, 14321 of the Food and Agricultural Code.

ARTICLE 2. GENERAL PROVISIONS

§5001. Sales of Restricted Livestock Drugs.

~~(a) A person shall not sell any restricted livestock drug in this state at retail unless he or she holds a restricted livestock drug license issued pursuant to Article 5 of Chapter 4 of Division 7 of the Food and Agricultural Code.~~

~~(1) The term sell includes in-person sales at a physical place of business, including mobile units, as well as all sales conducted using the internet, electronic mail, telephone, facsimile, mail order, or catalog.~~

~~(2) A person whose business is located outside of the state of California who makes any sale of a restricted livestock drug into California must obtain a restricted livestock drug license prior to any such sale.~~

~~(3) A separate restricted livestock drug license is required for each place of business at which any restricted livestock drug is kept for sale, and for each mobile unit in which any such drug is kept for sale.~~

~~(b) A copy of the laws and regulations relating to livestock drugs shall be provided to each restricted livestock drug licensee upon issuance of the license. The failure of any restricted livestock drug licensee to receive a copy of the regulations is not a defense to a violation of the regulations.~~

~~(c) Each restricted livestock drug licensee shall be supervised or managed by a designated individual named on the restricted livestock drug license application that shall be responsible for maintaining the restricted livestock drug licensee's compliance with state laws and regulations.~~

(a) A restricted livestock drug shall only be sold at retail within or into this state by a restricted livestock drug licensee. This includes:

(1) In-person sales at a physical place of business, including mobile units.

(2) All sales conducted using the internet, electronic mail, telephone, facsimile, mail order, or catalog.

(b) A business located outside of the state of California that makes any retail sale of a restricted livestock drug into this state shall obtain a restricted livestock drug license prior to any such sale.

(c) A separate restricted livestock drug license is required for each place of business at which any restricted livestock drug is kept for sale, and for each mobile unit in which any such drug is kept for sale.

(d) All livestock drugs sold by restricted livestock drug licensees must be registered pursuant to Article 4 of Chapter 4 of Division 7 of the Food and Agricultural Code.

Note: Authority Cited: Sections 407 and 14231 of the Food and Agricultural Code. Reference: Sections 14281, 14321 and 14326 of the Food and Agricultural Code.

ARTICLE 3. LICENSING

§5002. License Application.

~~(a) Any person may file with the Secretary an application for a restricted livestock drug license pursuant to Article 5 of Chapter 4 of Division 7 of the Food and Agricultural Code. The application shall be on a form which is supplied by the Secretary and shall contain:~~

~~(1) The legal business name, Federal Tax ID number, and telephone number of the firm.~~

~~(2) The full name of the owner or owners of the firm.~~

~~(3) The mailing address of the firm, including street number, city, county, state, and ZIP code.~~

~~(4) The location of business to be licensed, including street number, city, county, state, and ZIP code. If the business to be licensed is conducting online sales, the website where sales are conducted shall be provided.~~

~~(5) A designated individual for the business to be licensed who shall be responsible for compliance with the livestock drugs law and shall serve as the primary emergency contact.~~

~~The following information shall be provided for the designated individual: name, title, email address, and telephone number.~~

~~(6) A secondary emergency contact for the business to be licensed. The following information shall be provided for the secondary emergency contact: name, title, email address, and telephone number.~~

~~(7) A disclosure of whether the business to be licensed is a mobile unit. If the location to be licensed is a mobile unit, the license plate number shall be provided.~~

~~(8) A disclosure of the company type (corporation, partnership, individual, limited liability company, co-partnership, or other). If other, the type shall be specified.~~

~~(9) A disclosure of the type of sales conducted by the business to be licensed (sales directly to the end user for the purpose of administration to livestock and/or sales to other businesses for the purpose of resale).~~

~~(10) A disclosure of whether the business to be licensed will sell medically important antimicrobial drugs as defined in Section 14400(a) of Chapter 4.5 of Division 7 of the Food and Agricultural Code.~~

~~(11) A certification that the information provided on the application is complete, true, and accurate. The certification shall be made by the owner of the firm or designated individual for the business to be licensed and shall contain the following information: name, title, signature, and date signed.~~

~~(b) The application shall be accompanied by an application fee of fifty dollars ($50).~~

~~(1) The fee is not refundable if the license is refused.~~

~~(2) If the license is issued, the application fee covers the license for the remainder of the current calendar year in which it is issued.~~

~~(3) The fee shall not be reduced to cover a fraction of a year.~~

~~(c) The application described in Section 5002(a) and accompanying fee described in Section 5002(b) shall be submitted in one of two ways:~~

~~(1) Electronically using the Feed, Fertilizer, and Livestock Drugs Regulatory Services online registration database.~~

~~(2) By mail using a form available on the Feed, Fertilizer, and Livestock Drugs Regulatory Services website.~~

~~(d) A restricted livestock drug licensee shall notify the Department within thirty (30) calendar days if any of the information provided on the license application changes after the license is issued.~~

(a) The restricted livestock drug license application required pursuant to Article 5 of Chapter 4 of Division 7 of the Food and Agricultural Code shall contain:

(1) The following information for the parent company:

(A) The legal business name, Federal Tax ID number, and telephone number.

(B) The full name of the owner or owners.

(C) The mailing address, including street number, city, county, state, and ZIP code.

(D) Identification of the company representative who shall be responsible for compliance with the livestock drugs law and regulations. This person shall serve as the Department's primary point of contact for the parent company. The following information shall be provided: name, title, email address, and telephone number.

(E) The company type (corporation, partnership, individual, limited liability company, co-partnership, or other). If other, the type shall be specified.

(2) The following information for the location to be licensed:

(A) The physical location where the sale of restricted livestock drugs will occur, including street number, city, county, state, and ZIP code.

(B) Whether the location to be licensed conducts online sales. If the location is conducting online sales, the website where sales are conducted shall be provided.

(C) Identification of the manager for the location to be licensed. This person shall serve as the Department's primary point of contact for the location to be licensed. The following information shall be provided: name, title, email address, and telephone number.

(D) Whether the location to be licensed is a mobile unit. If the location to be licensed is a mobile unit, the license plate number shall be provided.

(E) Whether the location to be licensed conducts sales of restricted livestock drugs to other businesses for the purpose of resale.

(F) Whether the business to be licensed intends to sell California prescription drugs as defined in Section 5007(a) of Title 3 of the California Code of Regulations. Retailers that indicate such intent shall comply with all requirements of Chapter 2 of Division 5 of Title 3 of the California Code of Regulations and shall submit all of the following:

(i) The full legal name of each qualified individual that will sell California prescription drugs and documentation that each individual identified meets the requirements of Section 5009 of Title 3 of the California Code of Regulations.

(ii) Either a written certification from a consulting pharmacist pursuant to Section 5011(b) of Title 3 of the California Code of Regulations, signed and dated within three (3) months from the date of application; or identification of a staff pharmacist pursuant to Section 5011(c) of Title 3 of the California Code of Regulations.

(3) The name and title of the individual submitting the application and either their signature and the date signed or electronic acknowledgment of submission affirming that the information provided on the application is complete, true, and accurate.

(b) The application shall be accompanied by a non-refundable application fee of fifty dollars ($50). The fee shall not be reduced to cover a fraction of a year.

(c) A restricted livestock drug license is valid for the remainder of the current calendar year in which it is issued.

(d) A restricted livestock drug licensee shall notify the Department within thirty (30) calendar days if any of the information provided pursuant to Sections 5002(a)(1) through 5002(a)(2)(E) changes after the license is issued.

(e) A restricted livestock drug licensee shall notify the Department if any information provided pursuant to Section 5002(a)(2)(F) changes after the license is issued. This information shall be provided to the Department before a qualified individual may sell any California prescription drug as defined in Section 5007(a) of Title 3 of the California Code of Regulations.

(f) A restricted livestock drug license application may be denied if prior enforcement actions have been taken against the applicant, owner(s) listed, parent company, or the location to be licensed.

Note: Authority Cited: Sections 407 and 14231 of the Food and Agricultural Code. Reference: Sections 14322, 14323, and 14324 of the Food and Agricultural Code. Section 4198 of the Business and Professions Code. Section 1780 of Title 16 of the California Code of Regulations.

§5003. License Renewal.

~~(a) Applications for restricted livestock drug license renewal shall be submitted on or before January 31 of each year on a form supplied by the Secretary which shall be limited to the information described in Section 5002(a) of this chapter.~~

~~(b) The fee for the renewal application for a license is fifty dollars ($50) per year, payable on or before January 31 of each year. If the fee is not paid by that date, a penalty of fifty dollars ($50) shall be added to the fee.~~

~~(c) Renewal applications and accompanying fees shall be submitted in the manner specified in Section 5002(c) of this chapter.~~

~~(d) A restricted livestock drug licensee shall notify the Department in a timely manner if any of the information provided on the license renewal changes after the license is renewed.~~

(a) Applications for restricted livestock drug license renewal shall be submitted beginning January 1 and on or before January 31 of each year and shall be limited to the information described in Section 5002(a) of this chapter.

(b) The fee for the renewal application for a license is fifty dollars ($50) per year, payable on or before January 31 of each year. If the fee is not paid by that date, a penalty of fifty dollars ($50) shall be added to the fee.

(c) Any location that fails to renew their license on or before January 31 shall not sell restricted livestock drugs beginning February 1 until the location has renewed their license with the department.

(d) A restricted livestock drug licensee shall notify the Department within thirty (30) calendar days if any of the information provided pursuant to Sections 5002(a)(1) through 5002(a)(2)(E) changes after the license is renewed.

(e) A restricted livestock drug licensee shall notify the Department if any information provided pursuant to Section 5002(a)(2)(F) changes after the license is renewed. This information shall be provided to the Department before a qualified individual may sell any California prescription drug as defined in Section 5007(a) of Title 3 of the California Code of Regulations.

(f) A restricted livestock drug license renewal application may be denied if prior enforcement actions have been taken against the applicant, owner(s) listed, parent company, or the location to be licensed.

Note: Authority Cited: Sections 407 and 14231 of the Food and Agricultural Code. Reference: Sections 14322 and 14325 of the Food and Agricultural Code.

ARTICLE 4. RECORDKEEPING

§5004. Sales Records.

(a) Each restricted livestock drug licensee shall maintain ~~in this state, or with the Secretary's permission, at another~~ , at the licensed location, an accurate record of each sale of a restricted livestock drug by the licensee.

(b) The record of each sale of a restricted livestock drug shall include all of the following:

(1) The established drug name or trade name, route of administration, quantity, and lot number(s) of the restricted livestock drug sold.

(2) Date of sale.

(3) Name, address, telephone number, and email address (optional) of the purchaser.

(4) Signature of the purchaser or an electronic acknowledgment of sale.

(5) Any additional information as required under Section 5010(c) ~~5008~~ of the California Code of Regulations regarding retail sales of ~~medically important antimicrobial drugs~~ California prescription drugs.

~~(c) The record of each sale of a restricted livestock drug shall be kept by a restricted livestock drug licensee for a period of not less than three years following the transaction.~~

~~(d) The record of each sale of a restricted livestock drug is subject to audit by the Secretary and shall be made available to the Secretary upon request.~~

(c) The record of each sale of a restricted livestock drug:

(1) Shall be retained for a period of not less than three (3) years following the transaction.

(2) Is subject to audit by the Secretary and shall be made available to the Secretary upon request.

Note: Authority Cited: Sections 407 and 14231 and of the Food and Agricultural Code. Reference: Sections 14295, 14327, 14328, 14329, and 14330 of the Food and Agricultural Code.

ARTICLE 5. VIOLATIONS AND PENALTIES

§5005. Violations.

(a) It is unlawful for any business located within or outside of the state of California to make any retail sale of a restricted livestock drug within or into this state unless the business holds a valid restricted livestock drug license under Article 5 of Chapter 4 of Division 7 of the Food and Agricultural Code.

(b) It is unlawful for any business to fail to obtain a separate restricted livestock drug license for each place of business at which any restricted livestock drug is kept for sale, and for each mobile unit in which any such drug is kept for sale.

(c) It is unlawful for any restricted livestock drug licensee to sell a livestock drug that is not registered pursuant to Article 4 of Chapter 4 of Division 7 of the Food and Agricultural Code.

(d) It is unlawful for any business to submit inaccurate or outdated information on the restricted livestock drug license application or renewal.

(e) It is unlawful for any restricted livestock drug licensee to fail to notify the Department within thirty (30) calendar days if any of the information provided pursuant to Sections 5002(a)(1) through 5002(a)(2)(E) changes after the license is issued.

(f) It is unlawful for any restricted livestock drug licensee to sell a California prescription drug prior to providing the information required pursuant to Section 5002(a)(2)(F).

(g) It is unlawful for any restricted livestock drug licensee to fail to notify the Department prior to selling a California prescription drug if any of the information provided pursuant to Section 5002(a)(2)(F) changes after the license is issued.

(h) It is unlawful for any restricted livestock drug licensee to fail to keep adequate sales records of restricted livestock drugs or to fail to make the required records available to the Secretary upon request as required by Section 5004 of this chapter.

(i) It is unlawful for any restricted livestock drug licensee to prevent the entry into and inspection of any premises where restricted livestock drugs are stored or sold.

(j) It is unlawful for any restricted livestock drug licensee to sell any restricted livestock drug that is outdated, damaged, deteriorated, misbranded or adulterated.

(k) It is unlawful for a location who does not renew their license with the department on or before January 31 to sell any restricted livestock drugs beginning February 1 of that year.

Note: Authority Cited: Sections 407 and 14231 and of the Food and Agricultural Code.

Reference: Sections 14321, 14326, 14327, 14328, 14329, 14351, 14354, 14356, 14357, and 14362 of the Food and Agricultural Code.

§5006. Penalties.
(a) Upon finding a violation, the Secretary may issue a notice of warning.

(b) A first violation of this chapter is an infraction punishable by a fine of 500 dollars ($500).

(c) A second or subsequent violation of this chapter is a misdemeanor punishable by a fine of 1000 dollars ($1000).

(d) A person may contest a fine for any violation specified in Section 5006 by requesting an informal hearing. At the hearing, the person shall be given the right to present evidence on his or her own behalf.

(1) Requests must be submitted by written correspondence to the Department of Food and Agriculture Legal Office of Hearings and Appeals, 1220 “N” Street, Suite 315, Sacramento, California 95814.

(2) Requests must be submitted within 30 days from the date the notice of fine was signed by investigator and person notified.

(3) If a hearing is not requested, the fine shall constitute a final, non-reviewable order.

(e) If the renewal fee is not paid by January 31, a penalty of fifty dollars ($50) shall be added to the license fee.

Note: Authority Cited: Sections 407 and 14231 and of the Food and Agricultural Code. Reference: Sections 14381 and 14382 of the Food and Agricultural Code. Chapter 4.5 (commending with Section 11400) and Chapter 5 (commencing with Section 11500) of the Government Code.

CALIFORNIA CODE OF REGULATIONS
TITLE 3. FOOD AND AGRICULTURE
DIVISION 5. LIVESTOCK DRUGS
CHAPTER 2. SALES OF ~~MEDICALLY IMPORTANT ANTIMICROBIAL~~ CALIFORNIA PRESCRIPTION DRUGS

ARTICLE 1. DEFINITIONS

§5007 ~~5005~~. Definitions.
For purposes of this chapter, the following definitions apply:

~~(a) "Dispense" means to deliver a medically important antimicrobial drug to a purchaser under a lawful veterinary prescription or veterinary feed directive.~~

(a) "California prescription drug" means a medically important antimicrobial drug intended for use on livestock that is federally labeled for over the counter sale but requires a prescription to be sold in California pursuant to Chapter 4.5 of Division 7 of the Food and Agricultural Code.

(b) "Extra label use" ~~has the same definition as in Section 530.3(a) of Title 21 of the Code of Federal Regulations.~~ means actual use or intended use of a drug in an animal in a manner that is not in accordance with the approved labeling. This includes, but is not limited to, use in species not listed in the labeling, use for indications (disease or other conditions) not listed in the labeling, use at dosage levels, frequencies, or routes of administration other than those stated in the labeling, and deviation from the labeled withdrawal time based on these different uses.

~~(c) "Inventory" means a record of accountability for all medically important antimicrobial drugs.~~

(c) "Federal prescription drug" means a drug intended for use on livestock that is labeled with the statement: "Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian."

(d) "Livestock" includes all animals in a species typically raised, kept, or used for profit and includes mammals, avian, aquatic, and amphibian species. It does not include bees or those species which are usually kept as pets, such as dogs, cats, and pet birds. "Species that are raised, kept, or used for profit" means:

(1) Livestock that are typically used for financial gain, commercial use, breeding, competition, or show; or

(2) Livestock whose owners are engaged in business using animals for financial gain, commercial use, breeding, competition, or show.

(e) "Medically important antimicrobial drug" means ~~a restricted livestock drug as defined in Section 14400(a) of Chapter 4.5 of Division 7 of the Food and Agricultural Code.~~ means an antimicrobial drug listed in Appendix A of the federal Food and Drug Administration's Guidance for Industry #152, including critically important, highly important, and important antimicrobial drugs, as that appendix may be amended.

(f) "Pharmacist" means a natural person to whom a license has been issued by the State Board of Pharmacy, under Section 4200 of the Business and Professions Code.

(g) “Prescription” means an oral, written, or electronic transmission order issued by a veterinarian that includes the following information:

(1) The name and address of the livestock owner;

(2) The name and quantity of the drug or device prescribed and the directions for use;

(3) The date of issue;

(4) The name, address, and telephone number of the prescribing veterinarian, and;

(5) If in writing, the signature of the prescribing veterinarian.

(h) “Qualified individual” means a person who meets all of the necessary requirements in order to sell California prescription drugs under Section 5009 of Title 3 of the California Code of Regulations.

(i ~~f~~) “Restricted livestock drug” means any livestock drug which is sold in such form that it might be administered to humans and if so administered would be dangerous to the health of such humans or any livestock drug which if improperly administered to livestock is dangerous to the health of such livestock or to humans who consume products from such livestock. Restricted drugs include all of the following:

(1) Arsenic compounds and preparations.

(2) Diethylstilbestrol and other substances which have a hormonelike action.

(3) Sulfanilamide or substitute sulfanilamides.

~~(4) Antibiotic preparations, including medically important antimicrobial drugs as defined in Section 14400(a) of Chapter 4.5 of Division 7 of the Food and Agricultural Code.~~
~~(5) Such other drugs and their preparations which the Secretary determines are hazardous to the health of livestock or the public safety.~~

(4) Antibiotic preparations, including those medically important antimicrobial drugs federally labeled for over the counter sale listed in Appendix A of the federal Food and Drug Administration’s Guidance for Industry #152, including critically important, highly important, and important antimicrobial drugs, as that appendix may be amended.

(5) Type A Medicated Articles as defined in Section 558.3(b)(2) of Title 21 of the Code of Federal Regulations.

(6) Any drug that has a withdrawal period.

~~(g) “Restricted livestock drug licensee” is a person that has obtained a restricted livestock drug license pursuant to Article 5 (commencing with Section 14321) of Chapter 4 of Division 7 of the Food and Agricultural Code.~~

(j) "Restricted livestock drug licensee" is a firm that has obtained a restricted livestock drug license pursuant to Article 5 (commencing with Section 14321) of Chapter 4 of Division 7 of the Food and Agricultural Code.

~~(h) "Veterinary feed directive" has the same definition as in Section 558.3 of Title 21 of the Code of Federal Regulations.~~

~~(i) "Veterinary prescription" means a lawful non-verbal order, given by a licensed veterinarian, for use of a medically important antimicrobial drug.~~

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Section 14203, 14321, 14400, 14403 and 14405 of the Food and Agricultural Code~~.~~; Section 4036 of the Business and Professions Code; Section 503(f) of the federal Food, Drug, and Cosmetic Act.

ARTICLE 2. GENERAL PROVISIONS

§5008 ~~5006~~. Sales of Medically Important Antimicrobial Drugs.

~~(a) Notwithstanding Sections 14401 and 14402 of the Food and Agricultural Code and Article 15 (commencing with Section 4196) of Chapter 9 of Division 2 of the Business and Professions Code, medically important antimicrobial drugs may be sold by retailers licensed pursuant to Article 5 (commencing with Section 14321) of Chapter 4 of Division 7 of the Food and Agricultural Code with a prescription or veterinary feed directive from a licensed veterinarian.~~

~~(b) Medically important antimicrobial drugs are a subset of the broader classification of restricted livestock drugs under Section 14203(d) of the Food and Agricultural Code and are therefore subject to Chapter 4 of Division 7 of the Food and Agricultural Code and Chapter 1 of Division 5 of Title 3 of the of the California Code of Regulations, in addition to Chapter 4.5 of Division 7 of the Food and Agricultural Code and the provisions of this chapter.~~

~~(c) Pursuant to Food and Agricultural Code Section 14262(d), a restricted livestock drug licensee shall not sell any drug that is required by federal law to be sold on prescription only unless they also hold a valid license under Chapter 9 of Division 2 of the Business and Professions Code allowing them to do so.~~

~~(d) The provisions of this chapter apply only to medically important antimicrobial drugs sold by restricted livestock drug licensees to the end user for the purpose of administration to livestock, rather than sales made to other businesses for the purpose of resale.~~

(a) The provisions of this chapter apply only to restricted livestock drug licensees that choose to sell California prescription drugs pursuant to Chapter 4.5 of Division 7 of the Food and Agricultural Code. These are restricted livestock drugs under Section 14203(d) of the Food and Agricultural Code and are therefore subject to Chapter 4 of Division 7 of the Food and Agricultural Code and Chapter 1 of Division 5 of Title 3 of the of the California Code of Regulations, in addition to Chapter 4.5 of Division 7 of the Food and Agricultural Code and the provisions of this chapter.

(b) A restricted livestock drug licensee shall not sell federal prescription drugs. Pursuant to Food and Agricultural Code Section 14262(d), a restricted livestock drug licensee shall not sell any drug that is required by federal law to be sold by prescription only unless they also hold a valid

license under Article 7 or Article 15 of Chapter 9 of Division 2 of the Business and Professions Code allowing them to do so.

(c) A restricted livestock drug licensee shall only sell California prescription drugs to an end user for the sole purpose of administration to livestock. A restricted livestock drug licensee shall not sell a California prescription drug to another business for resale unless they also hold a valid license under Article 11 of Chapter 9 of Division 2 of the Business and Professions Code allowing them to do so.

(d) A restricted livestock drug licensee shall not sell a California prescription drug until the information required in Section 5002(a)(2)(F) of Title 3 of the California Code of Regulations has been submitted to the Department.

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14203, 14262, 14281, 14321, and 14403 of the Food and Agricultural Code.; Articles 7, 11, and 15 of Chapter 9 of Division 2 of the Business and Professions Code.

ARTICLE 3. ADDITIONAL REQUIREMENTS ~~FOR RETAIL SALES OF MEDICALLY IMPORTANT ANTIMICROBIAL DRUGS~~

~~§5007. Verification.~~

~~(a) A restricted livestock drug licensee shall not sell a medically important antimicrobial drug at retail without the purchaser first providing a valid veterinary prescription or veterinary feed directive.~~

~~(b) A restricted livestock drug licensee shall verify that the veterinarian listed on a veterinary prescription or veterinary feed directive is currently licensed by the California Veterinary Medical Board prior to completing the retail sale of any medically important antimicrobial drug.~~

> ~~(1) For the purpose of veterinarian license verification, a restricted livestock drug licensee shall rely upon the information on the Department of Consumer Affairs' licensing and enforcement website.~~

~~(c) No medically important antimicrobial drug may be sold at retail by a restricted livestock drug licensee more than six months after the issuance date of a veterinary prescription or veterinary feed directive or after the expiration date listed on a veterinary prescription or veterinary feed directive, whichever comes first.~~

~~Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Section 14403 of the Food and Agricultural Code, Section 4830 of the Business and Professions Code, Section 558.6(b)(3)(v) of Title 21 of the Code of Federal Regulations, Section 1780.1(g)(2) of Title 16 of the California Code of Regulations.~~

~~§5008. Sales Records.~~

~~(a) In addition to the recordkeeping requirements for sales of restricted livestock drugs listed in Chapter 4 of Division 7 of the Food and Agricultural Code and Section 5004 of the California Code of Regulations, each restricted livestock drug licensee shall include the following additional information in the record for each retail sale of a medically important antimicrobial drug:~~

(1) The name and California Veterinary Medical Board license number of the prescribing veterinarian.

(2) A unique transaction identification number. This number must be listed on the record of sale as well as on the corresponding copy of the veterinary prescription or veterinary feed directive maintained on file.

(3) A copy of the veterinary prescription or veterinary feed directive labeled with the corresponding unique transaction identification number.

(b) The record of each retail sale of a medically important antimicrobial drug and accompanying copy of the veterinary prescription or veterinary feed directive shall be kept by a restricted livestock drug licensee for a period of not less than three years following the retail transaction.

(c) The record of each retail sale of a medically important antimicrobial drug and accompanying copy of the veterinary prescription or veterinary feed directive is subject to audit by the Secretary and shall be made available to the Secretary upon request.

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14295, 14328, 14329, 14330, 14403, 14405, and 14406 of the Food and Agricultural Code.

§5009. Storage and Inventory.

(a) Each restricted livestock drug licensee shall store medically important antimicrobial drugs in a secure, lockable area.

(b) Entry into areas where medically important antimicrobial drugs are held shall be limited to authorized personnel.

(c) Restricted livestock drug licensees shall establish, maintain, and adhere to written policies and training procedures for all employees that handle and dispense medically important antimicrobial drugs for retail sale and shall include the following:

(1) The receipt, security, storage, inventory, labeling, and dispensing of medically important antimicrobial drugs.

(2) Identifying, recording, and internally reporting losses or thefts of medically important antimicrobial drugs.

(3) Maintaining a correct inventory of medically important antimicrobial drugs and verifying that inventory records are free from errors and inaccuracies.

(4) Maintaining records to document proper storage conditions for medically important antimicrobial drugs as recommended by the manufacturer and required by regulation.

(d) All invoices and records of shipment for medically important antimicrobial drugs shall be kept on file and maintained for at least three years from the date of shipment.

(e) All invoices and records of shipment for medically important antimicrobial drugs are subject to audit by the Secretary and shall be made available to the Secretary upon request.

~~Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14295, 14327, 14330, 14403, and 14405 of the Food and Agricultural Code.~~

~~§5010. Labeling.~~

~~(a) A prescription for a medically important antimicrobial drug shall be dispensed in accordance with its federally approved label. If a medically important antimicrobial drug is to be administered off-label in accordance with a veterinarian prescription, it shall be dispensed by a restricted livestock drug licensee with an added label including all of the following:~~

~~(1) Date dispensed.~~

~~(2) Name and address of the prescribing veterinarian.~~

~~(3) Name of the client who was issued the veterinary prescription or veterinary feed directive.~~

~~(4) Established name of the medically important antimicrobial drug or, if formulated from more than one active ingredient, the established name of each ingredient.~~

~~(5) Class/species or identification of the animal or the herd, flock, pen, lot, or other group of animals being treated.~~

~~(6) Condition for which the medically important antimicrobial drug was prescribed.~~

~~(7) Directions for use, including dosage, frequency, route of administration, duration of treatment, and withdrawal time.~~

~~(8) Date of expiration.~~

~~(b) Upon receipt of a veterinary prescription or veterinary feed directive lacking sufficient information to fulfill the labeling requirements described in Section 5010(a), the restricted livestock drug licensee shall contact the prescribing veterinarian to obtain the required information prior to dispensing the medically important antimicrobial drug and shall document any such request for clarification.~~

~~Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Section 14330 and 14403 of the Food and Agricultural Code.~~

§5009. Qualified Individuals.

(a) Each restricted livestock drug licensee that chooses to sell California prescription drugs shall identify one (1) or more employees to serve as qualified individual(s) responsible for protecting the public health and safety in the handling, storage, and sale of California prescription drugs.

(b) A qualified individual shall be at least 18 years of age.

(c) A qualified individual shall complete a training program that meets the following:

(1) Offered by one of the following:

(A) Federal, state, or local government agencies,

(B) Accredited university or college.

(C) Accredited veterinarian technician program.

(D) American Veterinary Medical Association or affiliated state, local, or specialty organization; or

(E) Other third party verified educational program verified by the Department of Food and Agriculture.

(2) Addresses each of the following subjects with regard to California prescription drugs:

(A) Applicable state and federal laws, including how to identify whether a product is a California prescription drug.

(B) The importance and obligations relative to drug use on livestock, including public health threats such as residue hazards to consumers and antimicrobial resistance.

(C) How to read and understand information contained on drug labels and package inserts, including cautionary statements and withdrawal times.

(D) How to read and understand a prescription and verify that it is in accordance with the labeled use for the prescribed drug. This shall include information on terminology, abbreviations, dosages, and routes of administration for drugs prescribed by veterinarians.

(E) United States Pharmacopoeia standards relating to the safe storage and handling of drugs.

(d) Alternatives to the training requirements specified in paragraph (c) of this section include fulfillment of one of the following:

(1) Possessing a registration as a registered veterinary technician with the California Veterinary Medical Board.

(2) Being eligible to take the State Board of Pharmacy's pharmacist licensure exam or the Veterinary Medical Board's veterinarian licensure examination.

(3) Possessing a license as a pharmacist with the State Board of Pharmacy.

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Section 14403 of the Food and Agricultural Code; Section 4053 of the Business and Professions Code; Section 1780.1 of Title 16 of the California Code of Regulations.

§5010. Sale Requirements.

(a) A California prescription drug shall only be sold by a qualified individual.

(b) A qualified individual shall not sell a California prescription drug without the purchaser first providing a prescription in a written, facsimile, or electronic image format. A qualified individual

shall not alter or amend a prescription nor sell a California prescription drug on the basis of an oral order. A qualified individual shall not alter or amend any prescription. Prior to selling the prescribed drug, the qualified individual shall verify:

(1) The prescription document must describe a use that is in accordance with the manufacturer or distributor's label for the prescribed drug.

(2) The date sold is within the expiration date and within six months of the issuance date listed on the prescription.

(c) In addition to the recordkeeping requirements listed in Chapter 4 of Division 7 of the Food and Agricultural Code and Section 5004 of Title 3 of the California Code of Regulations, a restricted livestock drug licensee shall comply with the following provisions for each sale of a California prescription drug.

(1) Include the following in the record of sale:

(A) Indication that the drug sold is a California prescription drug.

(B) Identification of the qualified individual selling the drug.

(C) A unique transaction identification number.

(2) Retain a copy of the prescription labeled with the corresponding unique transaction identification number listed in the record of sale.

(3) The record of sale and copy of the prescription:

(A) Shall be retained for a period of not less than three (3) years following the transaction.

(B) Are subject to audit by the Secretary and shall be made available to the Secretary upon request.

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14295, 14327, 14328, 14329, 14330, 14358, 14403, and 14405 of the Food and Agricultural Code; Sections 4053 and 4105 of the Business and Professions Code; Section 558.6(b)(3)(v) of Title 21 of the Code of Federal Regulations; Section 1780.1 of Title 16 of the California Code of Regulations.

§5011. Storage and Inventory Requirements.

(a) Each restricted livestock drug licensee shall store California prescription drugs in a secure, lockable area that shall only be accessible to the qualified individual(s) identified to the Department.

(b) Each restricted livestock drug licensee shall maintain on the premises fixtures and equipment in a clean and orderly condition. The premises shall be dry, well-ventilated, and have adequate lighting. Temperature and humidity monitoring shall be conducted to assure compliance with the most recent version of the United States Pharmacopeia Standards.

(c) No restricted livestock drug licensee shall sell a California prescription drug except in the container in which it is packaged by the manufacturer or distributor.

(1) A restricted livestock drug licensee may break down case lots of drugs, so long as the seals on the individual containers are not broken.

(2) A restricted livestock drug licensee shall not open an individual container and count out or measure out any quantity of California prescription drugs.

(d) Each restricted livestock drug licensee shall adhere to the following procedures for handling damaged or outdated California prescription drugs:

(1) California prescription drugs that are outdated, damaged, deteriorated, misbranded or adulterated shall be placed in a quarantine area and physically separated from other drugs until they are returned to their supplier or properly disposed of.

(2) Any California prescription drugs whose immediate or sealed outer or sealed secondary containers have been opened or used shall be identified as such, and shall be placed in a quarantine area and physically separated from other drugs until they are returned to their supplier or properly disposed of.

(e) Each restricted livestock drug licensee shall maintain an inventory of California prescription drugs, shall verify that inventory records are free from errors and inaccuracies, and shall identify, record, and internally report losses or thefts of California prescription drugs.

(f) All records related to the receipt, storage, inventory, sale, and disposition of California prescription drugs:

(1) Shall be retained for a period of not less than three (3) years from the date of making.

(2) Are subject to audit by the Secretary and shall be made available to the Secretary upon request.

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14295, 14327, 14330, 14358, and 14403 of the Food and Agricultural Code; Sections 4105 and 4197 of the Business and Professions Code; Sections 1780 and 1780.1 of Title 16 of the California Code of Regulations.

§5012. Written Operating Procedures.

(a) Each restricted livestock drug licensee shall establish, maintain, and adhere to store-specific written operating procedures for the receipt, storage, inventory, sale, and disposition of California prescription drugs by qualified individuals.

(b) Each qualified individual employed by a restricted livestock drug licensee shall receive training on the licensee's store-specific written operating procedures.

(c) All records pertaining to this section:

(1) Shall be retained for a period of not less than three (3) years from the date of making or after a qualified individual's last date of employment.

(2) Are subject to audit by the Secretary and shall be made available to the Secretary upon request.

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14295, 14327, 14330, 14403, and 14405 of the Food and Agricultural Code; Section 4198 of the Business and Professions Code; Section 1780 of Title 16 of the California Code of Regulations.

§5013. Pharmacist Oversight.

(a) Each restricted livestock drug licensee shall either retain a consulting pharmacist or employ a pharmacist on staff.

(b) If a restricted livestock drug licensee chooses to retain a consulting pharmacist, the consulting pharmacist shall:

(1) Conduct an inspection of the restricted livestock drug licensee quarterly.

(2) Develop, review, approve, and revise the restricted livestock drug licensee's store-specific written operating procedures.

(3) Issue a signed, written certification stating whether or not the restricted livestock drug licensee is operating in compliance with California law and regulations regarding California prescription drugs.

(4) If a restricted livestock drug licensee is not in compliance, the consulting pharmacist shall notify the Department within ten (10) days.

(c) If a restricted livestock drug licensee chooses to employ a pharmacist on staff, the staff pharmacist shall:

(1) Develop, review, approve, and revise the restricted livestock drug licensee's store-specific written operating procedures.

(2) Ensure the restricted livestock drug licensee is operating in compliance with California law and regulations regarding California prescription drugs.

(3) A pharmacist employed by a restricted livestock drug licensee shall be exempt from the following provisions of this chapter:

(A) Prohibition on the sale of a California prescription drug on the basis of an oral order, Section 5010(b).

(B) Prohibition on the sale of a California prescription drug for an extralabel use, Section 5010(b)(1).

(d) The restricted livestock drug licensee shall disclose to the Department if the consulting or staff pharmacist has an ownership or financial interest in the firm.

(e) All records pertaining to this section:

(1) Shall be retained for a period of not less than three (3) years from the date of making.

(2) Are subject to audit by the Secretary and shall be made available to the Secretary upon request.

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14295, 14327, 14330, 14403, and 14405 of the Food and Agricultural Code; Section 4198 of the Business and Professions Code; Section 1780 of Title 16 of the California Code of Regulations.

ARTICLE 4. VIOLATIONS AND PENALTIES

§5014 ~~5011~~. Violations.

~~(a) It is unlawful for any restricted livestock drug licensee to sell any medically important antimicrobial drug that is required by federal law to be sold on prescription only unless they also hold a valid license under Chapter 9 of Division 2 of the Business and Professions Code allowing them to do so.~~

~~(b) It is unlawful for any restricted livestock drug licensee to sell any medically important antimicrobial drug at retail unless the purchaser provides a valid veterinary prescription or veterinary feed directive.~~

~~(c) It is unlawful for any restricted livestock drug licensee to sell any medically important antimicrobial drug at retail if the veterinary prescription or veterinary feed directive provided by the purchaser is not issued by a veterinarian licensed by the California Veterinary Medical Board.~~

~~(d) It is unlawful for any restricted livestock drug licensee to sell any medically important antimicrobial drug at retail beyond the expiration date listed on the veterinary prescription or veterinary feed directive or if the date of issuance of the veterinary prescription or veterinary feed directive is more than six months prior to the date of purchase.~~

~~(e) It is unlawful for any restricted livestock drug licensee to prevent the entry into and inspection of any premises where medically important antimicrobial drugs are stored or sold.~~

~~(f) It is unlawful for any restricted livestock drug licensee to fail to keep adequate retail sales records of medically important antimicrobial drugs or to fail to make the required records available to the Secretary upon request as required by Section 5008 of this chapter.~~

~~(g) It is unlawful for any restricted livestock drug licensee to fail to comply with the minimum standards for storage and inventory of medically important antimicrobial drugs as required by Section 5009 of this chapter.~~

~~(h) It is unlawful for any restricted livestock drug licensee to fail to comply with the minimum standards for labeling medically important antimicrobial drugs sold at retail as required by Section 5010 of this chapter.~~

~~Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14203, 14262, 14295, 14321, 14327, 14328, 14329, 14330, 14403, 14405, and 14406 of the Food and Agricultural Code, Section 4830 of the Business and Professions Code, Section 558.6(b)(3)(v) of Title 21 of the Code of Federal Regulations, Section 1780.1(g)(2) of Title 16 of the California Code of Regulations.~~

(a) It is unlawful for any restricted livestock drug licensee to sell any drug that is required by federal law to be sold on prescription only unless they also hold a valid license under Article 7 or Article 15 of Chapter 9 of Division 2 of the Business and Professions Code allowing them to do so.

(b) It is unlawful for any restricted livestock drug licensee to sell any California prescription drug to another business for resale unless they also hold a valid license under Article 11 of Chapter 9 of Division 2 of the Business and Professions Code allowing them to do so.

(c) It is unlawful for any employee of a restricted livestock drug licensee to sell a California prescription drug unless they are a qualified individual that meets the requirements of Section 5009 of this chapter that has been identified to the Department at the time of licensure, renewal, or upon appointment.

(d) It is unlawful for any qualified individual to sell any California prescription drug at retail unless the purchaser provides a valid prescription issued by a veterinarian.

(e) It is unlawful for any qualified individual to alter or amend any prescription.

(f) It is unlawful for any qualified individual who is not a licensed pharmacist to sell any California prescription drug on the basis of an oral order.

(g) It is unlawful for any qualified individual who is not a licensed pharmacist to sell any California prescription drug for a purpose that is not in accordance with its manufacturer or distributor's label.

(h) It is unlawful for any qualified individual to sell any California prescription drug at retail beyond the expiration date listed on the prescription or if the date of issuance of the prescription is more than six months prior to the date of purchase.

(i) It is unlawful for any restricted livestock drug licensee to fail to keep adequate sales records of California prescription drugs or to fail to make the required records available to the Secretary upon request as required by Section 5010 of this chapter.

(j) It is unlawful for any restricted livestock drug licensee to fail to comply with the minimum standards for receipt, storage, inventory, sale, and disposition of California prescription drugs as required by Section 5011 of this chapter.

(k) It is unlawful for any qualified individual to sell any California prescription drug except in the container in which it is packaged by the manufacturer or distributor.

(l) It is unlawful for any qualified individual to sell any California prescription drug that is outdated, damaged, deteriorated, misbranded or adulterated.

(m) It is unlawful for any restricted livestock drug licensee to fail to comply with the minimum standards for written operating procedures for sales of California prescription drugs as required by Section 5012 of this chapter.

(n) It is unlawful for any restricted livestock drug licensee to sell California prescription drugs without either retaining a consulting pharmacist or employing a pharmacist on staff as required by Section 5013 of this chapter.

(o) It is unlawful for any restricted livestock drug licensee to prevent the entry into and inspection of any premises where California prescription drugs are stored or sold.

Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14203, 14262, 14281, 14295, 14321, 14327, 14328, 14329, 14330, 14358, 14403, and 14405 of the Food and Agricultural Code; Sections 4053, 4105, 4197, and 4198 of the Business and Professions Code; Section 558.6(b)(3)(v) of Title 21 of the Code of Federal Regulations; Sections 1780 and 1780.1 of Title 16 of the California Code of Regulations.

§5015 ~~5012~~. Penalties.

(a) Upon finding a violation, the Secretary ~~shall~~ may issue a notice of warning.

(b) A person who violates this chapter shall be liable for a civil penalty of two hundred and fifty dollars ($250) for each day a violation occurs ~~if at least one notice of warning has been issued by the Secretary for a prior violation within the preceding 12-month period~~.

(c) For a second or subsequent violation, a person who violates this chapter shall be punishable by an administrative fine, levied by the Secretary, in the amount of five hundred dollars ($500) for each day a violation occurs.

(d) A person may contest a penalty or fine for any violation specified in Section 5014 ~~5011~~ by requesting an informal hearing ~~before the Secretary~~. At the hearing, the person shall be given the right to present evidence on his or her own behalf.

(1) Requests must be submitted by written correspondence to the ~~Secretary of the~~ Department of Food and Agriculture Legal Office of Hearings and Appeals, 1220 “N” Street, ~~Room A-107~~Suite 315, Sacramento, California 95814.

(2) Requests must be submitted within 30 days from the date ~~of the notice of penalty or fine~~ the notice of penalty or fine was signed by investigator and person notified.

~~(3) Requests must be accompanied by a written statement supporting the need for the hearing.~~

~~(4) A formal or informal hearing may be requested. The hearing officer shall determine whether to proceed with an informal hearing or whether a formal hearing or other appropriate administrative proceeding may be required by statute pursuant to Chapter 5 (commencing with section 11500), Part 1, Division 3, Title 2 of the Government Code.~~

(5) If a hearing is not requested, the penalty or fine shall constitute a final, ~~and~~ non-reviewable order.

~~(e) The Secretary may, after a hearing, refuse to issue or renew, or may suspend or revoke a restricted livestock drug license for any violation of this chapter, pursuant to the procedural requirements outlined in Section 14382 of the Food and Agricultural Code and Government Code Title 2, Division 3, Part 1, Chapter 5.~~

Note: Authority Cited: Sections 407, 14231, 14403, and 14405 of the Food and Agricultural Code. Reference: Sections 14382 and 14408 of the Food and Agricultural Code~~, Division 3 Part 1 Chapter 5 of Title 2 of the Government Code.~~ Chapter 4.5 (commending with Section 11400) and Chapter 5 (commencing with Section 11500) of the Government Code.

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STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

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MEMORANDUM

DATE	January 12, 2018
TO	Veterinary Medical Board
FROM	Annemarie Del Mugnaio, Executive Officer Veterinary Medical Board
SUBJECT	RVT- Emergency Care

Background:
At the Board's October 2017 meeting, the Board approved amendments to California Code of Regulations, Title 16, Division 20, section 2069 regarding emergency animal care. This regulation sets out the animal care that may be rendered by a registered veterinary technician (RVT) under conditions of an emergency. The Board's discussion of amendments to this regulation focused on treatment provided by an RVT at a shelter, rodeo, or other event where a supervising veterinarian may not be on site when a situation arises and where the RVT must render emergency treatment to an animal. The amendments specify the tasks that may only be performed by the RVT after direct communication with a licensed veterinarian.

One of the amendments approved by the Board was that in the event direct communication cannot be established with a licensed veterinarian, the RVT may administer pharmacological agents to prevent or control shock and administer pain management or sedation drugs to prevent further injury in accordance with a supervising veterinarian's written instructions. For rodeos or other sport events, the RVT can rely on written instructions of the veterinarian charged with providing treatment to the animals.

Issue:
Missing from the Board's deliberation of amendments to section 2069 was the acknowledgment that an RVT has the ability, through section 2036, to administer controlled substances under the indirect supervision of a veterinarian. Section 2036 provides the general authority and limitations of animal health care tasks performed by an RVT. With the authority in section 2036, coupled with the amendments to section 2069 relative to emergency animal care at a rodeo or other sporting event, an RVT would be able to administer controlled substances necessary to euthanize an animal injured at the rodeo or other sporting event pursuant to the responsible veterinarian's instructions.

Action(s) Requested
This issue is being highlighted for the Board's consideration before the section 2069 rulemaking package is submitted to the Legal Affairs Division in case the Board wants to make any additional changes to the language.

Attachment
- Board approved amended regulations Section 2069, Article 6, Division 20 of Title 16 of the CCR

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California Code of Regulations
Title 16. Professional and Vocational Regulations
Division 20. Veterinary Medical Board

PROPOSED LANGUAGE

Proposed amendments to the regulatory language are shown in single underline for new text and ~~single strikethrough~~ for deleted text.

Amend Section 2069 of Article 6 of Division 20 of Title 16 of the California Code of Regulations as follows:

§ 2069. Emergency Animal Care.

Emergency animal care rendered by registered veterinary technician.
(a) Under conditions of an emergency as defined in Section 4840.5 of the code, a registered veterinary technician may render the following life-saving aid ~~and~~ or emergency treatment to an animal:
(1) Application of tourniquets and/or pressure bandages to control hemorrhage.
~~(2) Administration of pharmacological agents to prevent or control shock, including parenteral fluids, shall be performed after direct communication with a licensed veterinarian or veterinarian authorized to practice in this state. In the event that direct communication cannot be established, the registered veterinary technician may perform in accordance with written instructions established by the employing veterinarian. Such veterinarian shall be authorized to practice in this state.~~
(~~3~~2) Resuscitative oxygen procedures.
(4~~3~~) Establishing open airways including intubation appliances but excluding surgery.
(~~5~~4) External cardiac resuscitation.
(~~6~~5) Application of temporary splints or bandages to prevent further injury to bones or soft tissues.
(~~7~~6) Application of appropriate wound dressings and external supportive treatment in severe burn cases.
(~~8~~7) External supportive treatment in heat prostration cases.
(b) The following tasks shall only be performed after direct communication with a veterinarian licensed or otherwise authorized to practice in this state:
(1) Administration of pharmacological agents to prevent or control shock, including parenteral fluids.
(2) Administration of a drug or drugs to manage pain or to sedate an animal for examination or to prevent further injury.
(c) In the event that direct communication cannot be established as required under subdivision (b), the registered veterinary technician may perform the task in accordance with written instructions established by the supervising veterinarian, or, in the case of a sanctioned rodeo or other sporting event, the veterinarian charged with the responsibility to provide treatment to the animals at the rodeo or event.

Note: Authority cited: Sections 4808 and 4836, Business and Professions Code.
Reference: Section 4840.5, Business and Professions Code.

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California Code of Regulations
Title 16. Professional and Vocational Regulations
Division 20. Veterinary Medical Board

PROPOSED LANGUAGE

Proposed amendments to the regulatory language are shown in single underline for new text and ~~single strikethrough~~ for deleted text.

Amend Section 2036 of Article 4 of Division 20 of Title 16 of the California Code of Regulations to read as follows:

2036. Animal Health Care Tasks for R.V.T.

(a) Unless specifically so provided by regulation, a R.V.T. shall not perform the following functions or any other activity which represents the practice of veterinary medicine or requires the knowledge, skill and training of a licensed veterinarian:

(1) Surgery;

(2) Diagnosis and prognosis of animal diseases;

(3) Prescription of drugs, medicines or appliances.

(b) An R.V.T. may perform the following procedures only under the direct supervision of a licensed veterinarian:

(1) Induce anesthesia;

~~(2) Apply casts and splints;~~

(3) Perform dental extractions;

(4) Suture cutaneous and subcutaneous tissues, gingiva and oral mucous membranes,

(5) Create a relief hole in the skin to facilitate placement of an intravascular catheter

(c) An RVT may perform the following procedures under indirect supervision of a licensed veterinarian:

(1) Administer controlled substances~~.~~;

(2) Apply casts and splints.

(d) Subject to the provisions of subsection(s) (a), (b) and (c) of this section, an R.V.T. may perform animal health care tasks under the direct or indirect supervision of a licensed veterinarian. The degree of supervision by a licensed veterinarian over a R.V.T. shall be consistent with standards of good veterinary medical practices.

Authority cited: Sections 4808, 4826 and 4836, Business and Professions Code. Reference: Sections 4836, 4840 and 4840.2, Business and Professions Code.

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MEMORANDUM

DATE	February 6, 2018
TO	Veterinary Medical Board
FROM	Amanda Drummond, Administrative Programs Coordinator
SUBJECT	**Updates to Adopted Language – Consumer Protection Enforcement Initiative (CPEI)**

Background:

In April 2017, the Board adopted a version of the regulatory proposal for Consumer Protection Enforcement Initiative (CPEI). The regulatory packet was submitted for Department of Consumer Affairs (DCA) review in May of 2017. In January of 2018, the Board received suggested revisions from the Deputy Director of Legal Affairs, including substantive changes to the proposed language. These changes require further review and consideration by the Board.

The changes include the following:

- Removing Business and Professions Code (BPC) section 4808 from the authority.
- Adding BPC section 4836.2, 4837, 4853.5, 4853.6, 4875, 4875.3, to the authority.
- Adding Government Code (GC) section 11415.60 and 1150 through 11528 to the authority.
- Amending California Code of Regulations (CCR) section 2042(a)(2) from "Any disciplinary action taken by another licensing entity or authority of this state or of another state or an agency of the federal government or the United State military" to "Any disciplinary action taken by any public agency in any state or territory or any licensing entity or authority of this state or another state or territory."
    - There was concern from Legal Affairs that the original language was too broad with the additional of "federal government or the United State military". Legal Counsel provided a recommendation to remove the language in question and revise it to the proposed text.

Attachments:

Proposed Consumer Protection Enforcement Initiative Language.

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CONSUMER PROTECTION ENFORCEMENT INITIATIVE (CPEI)

PROPOSED LANGUAGE

California Code of Regulations, Title 16, Division 20, Article 1- General Provisions

Section 2003. Delegation of Certain Functions.

(a) The power and discretion conferred by law upon the board to receive and file accusations; issue notices of hearing, statements to respondent and statements of issues; receive and file notices of defense; determine the time and place of hearings under Section 11508 of the Government Code; issue subpoenas and subpoenas duces tecum; set and calendar cases for hearing and perform other functions necessary to the business-like dispatch of the business of the board in connection with proceedings under the provisions of Sections 11500 through 11528 of the Government Code, prior to the hearing of such proceedings; and the certification and delivery or mailing of copies of decisions under Section 11518 of said code are hereby delegated and conferred upon the executive officer, or, in his or her absence from the office of the board, the acting executive officer.

(b) The board delegates and confers upon its executive officer the authority to approve settlement agreements for the surrender or interim suspension of a license, registration, or permit, to investigate and evaluate each applicant for licensure under the Veterinary Medicine Practice Act (Act), and issue a license, registration, or permit in conformance with the provisions of the Act and these regulations.

Authority cited: Sections 4804.5 and 4808, Business and Professions Code. Reference: Sections 4804.5, 4836.2, 4837, 4853.5, 4853.6, 4875, 4875.3, and 4883, Business and Professions Code; Sections 11415.60 and 11500 through 11528, Government Code.

California Code of Regulations, Title 16, Division 20, Article 2- Examination and Licensing

Section 2017. ~~Review of Applications.~~Mental or Physical Examination of Fitness for Licensure.

In addition to any other requirements for licensure, whenever it appears that an applicant for a license, registration, or permit may be unable to practice veterinary medicine safely due to mental or physical illness affecting competency, the board may require the applicant to be examined by one or more physicians and surgeons or psychologists designated by the board. The board shall pay the full cost of such examination. An applicant's failure to comply with the requirement shall render his or her application incomplete. The report of the evaluation shall be made available to the applicant. If after receiving the evaluation report the board determines that the applicant is unable to safely practice, the board may deny the application.

Authority cited: Section 4808, Business and Professions Code. Reference: Sections 480, 820, and 4808, Business and Professions Code.

California Code of Regulations, Title 16, Division 20, Article 5- Criteria for Rehabilitation

Section 2042. ~~Rehabilitation Criteria for Suspensions or Revocations.~~Grounds for Discipline.

Grounds for the denial, revocation, or suspension of a license, registration, or permit as provided in Section 4883 of the code, or grounds to assess a fine as provided in Section 4875 of the code includes, but is not limited to, the following:
(a) Failure to report to the board within 30 days any of the following:
(1) A conviction, including any verdict of guilty, or plea of guilty or no contest, of any felony or misdemeanor.
(2) Any disciplinary action taken by any public agency in any state or territory or any licensing entity or authority of this state or another state or territory.
(b) Failure or refusal to comply with a court order, issued in the enforcement of a subpoena, mandating the release of records to the board.

Authority cited: Section 4808, Business and Professions Code. Reference: Sections 475, 480, 490, 4856, 4875, and 4883, Business and Professions Code.

SUBCOMMITTEE REPORT ON TELEHEALTH
POST AASVB WEBINAR
February 21, 2018

Cheryl Waterhouse, President/ Dick Sullivan, Vice-President

The purpose of this report is twofold. First, it is to update you on the discussion of Telemedicine on the national level. Secondly, it is to stimulate discussion on formulating a response to the American Association of Veterinary State Board's (AAVSB) policy statement on Telemedicine that is enclosed.

There are two different schools of thought on Telemedicine, both on the human side and the veterinary side. On one side you have entrepreneurs/large insurance companies/large companies. Their purpose is to save insurance companies money and make a profit themselves. An example of this is Teledoc. On the other side are physician's groups that are using Telemedicine as a consulting tool to monitor chronic cases. The American Telemedicine Association (ATA) is a non-profit organization that develops guidelines for Telemedicine for humans. Most states allow virtual exams for humans.

The Board's proposed language requires a veterinarian to perform a hands-on examination to establish a Veterinarian-Client Patient Relationship (VCPR). This is consistent with AVMA's Telemedicine Policy:

a. A VCPR cannot be established solely by telephonic or electronic means.
b. Telemedicine shall be conducted within an existing VCPR, with exception for advice given in an emergency care situation until the patient(s) can be seen by or transported to a veterinarian.

The other school of thought, including the present AAVSB Policy on Telemedicine is that the veterinarian can decide if a virtual examination is sufficient to establish a VCPR. The group that is aggressively promoting the virtual exam is the Veterinary Innovation Council which is a part of the North American Veterinary Community (NAVC). The NAVC is the largest veterinary continuing education provider in the country; they are a private organization and are not affiliated with any state association, AVMA, or AAVSB. They had a very strong voice in the development of AAVSB's policy statement. At the 2016 AAVSB Conference, NAVC's attorney Mark Cushing presented a webinar on the benefits of using Telemedicine in veterinary medicine, however, there was no speaker to balance the discussion regarding the potential risks and limitations.

In veterinary medicine, all of the hoopla boils down to one issue; can a veterinarian establish a veterinarian-client-patient relationship (VCPR) by doing a virtual exam or must they have a hands-on physical examination? Everyone agrees that once you establish a VCPR, you can use telemedicine as a mode of delivery so long as providing care remotely does not compromise the treatment of the patient.

Telemedicine technology ranges from a simple follow-up phone call on the progress of your patient to sophisticated high tech monitoring like a Holter monitor to record real time ECGs to diagnose a cardiac arrhythmia that may be causing syncopal episodes in a patient.

On Dec. 4, 2017, Ms. Del Mugnaio, Dr. Waterhouse, and Dr. Sullivan participated in a webinar provided by the AAVSB. We have a number of issues with the written draft policy statement and how the practical application of the policy was communicated on the webinar. The issues are outlined below for the Board's review:

1."The need for the use of a virtual exam to establish a VCPR in telemedicine because the public demands it."
One of the bullet points on the chalkboard of the webinar read, "The veterinary profession must be proactive rather than reactive to demands by both the public and government for access to safe telehealth options." First and foremost, is there truly a public/consumer demand?

This may be an attempt by the AAVSB to somehow respond to a movement by industry in terms of accessible health care for animals. The concern may be that if we as regulators do not address these "demands" by establishing safe and efficacious policies, someone will fill the void. The public demands a lot of things that are not in the best interest of the patient, whether it be a human or animal. For example, clients demand indefinite refills on medication without a veterinarian reexamining the patient. The reexamination is required by law to be within a year or less depending on the seriousness of the medical condition. Similarly, clients are often resistant to running blood tests prior to having the patient put on certain medication, but if the medication has a potential toxic effect on kidney or liver function, those tests must be run to mitigate risks to the animal. This may be a matter of educating the public about the risks of not having a proper in-person (hands-on) physical examination. Simply reacting to a particular movement with policies that are not in the best interest of the animal patient is irresponsible.

2. The FTC will require this. We have very compelling arguments to raise before the FTC. Veterinary medicine is not like human medicine. Animals cannot tell us where they hurt. You have to physically examine the patient to try to localize the problem. Instinctively, animals mask their pain; it is a genetic trait developed over eons. In the wild, an animal may show pain by just acting slightly unusual, perhaps standing differently, this can still attract predators. We have patients come to the clinic with bone fractures and the patient is not presenting with obvious signs of pain, such as crying or howling, although they may bite. We are often in a position to investigate what the client describes with what we palpate, hear, smell, and see. For example, kidney disease can give off a very characteristic uremic odor; parvo virus has a very characteristic odor, etc. Animals can walk into the clinic with the complaint of being just a little off and if a larger breed, especially a Golden Retriever, it may have an emergency condition such as a bleeding splenic tumor that a

veterinarian would need to conduct a physical examination and palpate to diagnose. There are many more examples.

3. Another comment that we hear often is telehealth is needed for underserved areas. Again, once the VCPR is established, that patient may seek follow-up care through telemedicine as deemed appropriate for the condition being treated. But for the reason stated in #2 above, the initial in-person exam is necessary to make a diagnosis so that the patient can be treated properly. Then, telemedicine may be used to further treat or monitor the patient for that condition remotely. It is important to note, the VCPR is not a blanket examination/contract that covers any future health concerns, it must be re-established with the client for any new/other health issues that may surface with that animal patient.

Regulations are not typically written solely for one population. Regulations are written for the broader application of law within a profession and serve as a basis for the establishing a standard of practice for the state. With limited exceptions where community standards may be applied in impoverished areas, licensed professionals are expected to meet a standard of practice that is enforced throughout the state.

4. Throughout the webinar, there was discussion as to where the veterinarian and RVT needed to be licensed. The most common response was the veterinarian and the RVT needed to be licensed in the state where the patient lives. Perhaps what was intended to be communicated, is that the veterinarian must be licensed where the patient is being treated. Another way to look at this may be, **the veterinarian must be licensed in the state where the VCPR is established.** Once the VCPR is established, the veterinarian may continue to monitor the patient via telemedicine even if the client and patient are in a different state. However, if a new medical problem arises, a new VCPR must be established.

5. What is in the best interest of the patient? Without question, a hands-on physical examination is best for the patient because of the reasons stated in item number 2. Although, a medical history is just as important in veterinary medicine as in human medicine, the physical examination is much more critical in veterinary medicine because often a client misinterprets the symptoms that an animal is displaying.

6. "The policy states that you can't prescribe medication when the VCPR was established by a virtual exam." That changes the entire definition of the VCPR. We cannot have two definitions. The VCPR is a contract between a client and a veterinarian for the veterinarian to diagnose and treat the animal(s). Treatment often times means to prescribe medications or to dispense medications. It isn't logical to have it any other way; either it is a contract to diagnose and treat or it is not.

In human medicine, a doctor-patient relationship may exist via a virtual exam, however, a physician can not prescribe a controlled substance without an in-person examination. This is codified by the Ryan-Haight bill; H.R. 6353 (110th) Online Pharmacy Consumer Protection Act of 2008.

7. "They may utilize paraprofessionals to examine the patient instead of a veterinarian doing the physical exam." This is of great concern as it would not be lawful to delegate the physical examination to an RVT or veterinary assistant. The term paraprofessional may be an unlicensed person. There was a comment during the AAVSB webinar stating that a paraprofessional can provide the same services via telehealth as they can in a clinical setting. However, the telehealth model is not the same as a clinical setting in that, the veterinarian is not present to diagnose the animal; should the paraprofessional make this call? Who is responsible for an undiagnosed abdominal mass? The paraprofessional must be under the supervision of a veterinarian to provide care and treatment, therefore, the veterinarian would ultimately be responsible for the diagnosis as well. Allowing a paraprofessional to perform a physical examination removes the expertise of the veterinarian to make an informed diagnosis. **This is very poor public policy.**

8."Remuneration, benefits, or incentives to Veterinarians prohibited." This was one of the bullet points on the webinar's chalkboard. This point is not clear to me. Does it mean that a veterinarian who is doing telemedicine after he/she has established a VCPR cannot charge for it? Or are they referring to "kickbacks, commissions for referrals, etc.?

9.The presenters commented that the AAVSB policy statement was intentionally non-descript as to provide states the flexibility to adopt policies consistent with their respective practice acts. A policy statement from the AAVSB should be clear and provide a framework for states to make informed decisions and formulate appropriate laws and regulations governing the use of telemedicine in practice. AAVSB should be the leader in defining where the practice of telemedicine takes place, where the practitioner must be licensed, and the standard of practice when using telemedicine as the mode of delivery of services, including establishing a VCPR.

10.We often hear the statement that telemedicine in veterinary medicine is like human pediatric telemedicine. The following is a quote from the American Telemedicine Association (ATA) which develops the guidelines for Telemedicine in the different disciplines of human medicine. **"Telehealth services should not be provided to children under two years of age in their home or other non-clinical setting except when the provider or their surrogate has a previously established in-person relationship with the patient or when the Patient Center Medical Home (PCMH) has referred them for subspecialty consultation."** **T**herefore, we believe that if children under two years of age are comparable to our patients, then we should follow ATA's recommendation that an in-person or in our case a hands-on examination is vital to patient care before telemedicine is practiced.

MODEL POLICY FOR THE APPROPRIATE USE OF TELEHEALTH TECHNOLOGIES IN THE PRACTICE OF VETERINARY MEDICINE

Introduction

When telehealth is used within the confines of state and provincial regulations, it provides valuable tools to augment the delivery and availability of high quality veterinary care. According to the Center for Connected Health Policy, "Telehealth encompasses a broad variety of technologies and tactics to deliver virtual medical, health, and education services. Telehealth is not a specific service, but a collection of means to enhance care and education delivery."[1] Advancements in communication and information technology provide opportunities for new approaches to the delivery of veterinary medicine.

Definitions

- **Animal** means any member of the Animal kingdom other than humans, whether living or dead.
- **Client** means an entity, Person, group or corporation that has entered into an agreement with a Veterinarian for the purposes of obtaining veterinary medical services.
- **Consultation** means when a Veterinarian receives advice or assistance in Person, telephonically, electronically, or by any other method of communication, from a veterinarian or other Person whose expertise, in the opinion of the Veterinarian, would benefit an Animal. Under any circumstance, the responsibility for the welfare of the Animal remains with the Veterinarian receiving Consultation.
- **Informed Consent** means the Veterinarian has informed the Client or the Client's authorized representative, in a manner understood by the Client or representative, of the diagnostic and treatment options, risk assessment, prognosis, and the Client has consented to the recommended treatment.
- **Non-medical Advice** means any advice given by a Veterinarian via any medium outside an established VCPR that is given in general terms, not specific to an individual animal, group of animals, diagnosis, or treatment.
- **Patient** means any Animal or group of Animals receiving veterinary care from a Veterinarian or Veterinary Technician.
- **Telehealth** is the overarching term that encompasses all uses of technology geared to remotely deliver health information or education.
- **Telemedicine** is the use of medical information exchanged from one site to another via electronic communications regarding a Patient's clinical health status.
- **Teletriage** means emergency Animal care, including Animal poison control services, for immediate, potential life-threatening animal health situations (e.g., poison exposure mitigation, animal CPR instructions, and other critical lifesaving advice).

[1] The Center for Connected Health Policy (www.cchpca.org)

- **Veterinarian** means an individual who is duly licensed to practice veterinary medicine under the provisions of Act _____.
- **Veterinarian-Client-Patient Relationship (VCPR)** exists when both the Veterinarian and Client agree for the Veterinarian to assume responsibility for making medical judgments regarding the health of the Patient (s).
- **Veterinary Technician** means an individual who is duly licensed to practice veterinary technology under the provisions of Act _____.

Guidelines for the Appropriate Use of Telehealth Technologies in Veterinary Medical Practice

The [Name of Board] has adopted the following guidelines for Veterinarians and Veterinary Technicians utilizing Telehealth in the delivery of Animal care and medical advice within the constraints of a Veterinary Client Patient Relationship (VCPR).

Licensure

A Veterinarian or Veterinary Technician must be licensed, or under the jurisdiction, of the Board of Veterinary Medicine in the state or province where the Patient is located. The practice of veterinary medicine occurs where the Patient(s) or Client is located at the time Telehealth is used. Veterinarians who treat through online service sites are practicing veterinary medicine and must possess appropriate licensure in all jurisdictions where Patients receive care. Should a Veterinary Technician be utilized in the delivery of Animal care, the Veterinarian and Veterinary Technician must possess appropriate licensure in the jurisdiction where the Patient(s) is receiving care.

Evaluation and Treatment of the Patient(s)

The Veterinarian must employ sound professional judgment to determine whether using Telehealth is appropriate in particular circumstances each and every time Animal care is provided and only provide medical advice or treatment via Telehealth to the extent that it is possible without a physical examination. A Veterinarian using Telehealth must take appropriate steps to obtain Informed Consent, establish the VCPR and conduct all appropriate evaluations and history of the patient consistent with traditional standards of care for the particular patient presentation. As such, some situations and patient presentations are appropriate for the utilization of Telehealth as a component of, or in lieu of, hands on medical care, while others are not.

The Veterinarian must ensure that he or she safeguards a Client's privacy when practicing via Telehealth by taking appropriate precautions and confirming that the technology and physical setting being used by the Veterinarian and Client have adequate security protocols in place to

ensure compliance with the Veterinarian's legal and professional obligations to protect Clients' privacy and confidentiality.

Evidence documenting appropriate consent for the use of Telehealth must be obtained and maintained. The Veterinarian must ensure that the Client is aware of the Veterinarian's identity, location, licensure state or province, number and status, and the privacy and security issues involved in accessing veterinary care via Telehealth.

Continuity of Care

Veterinarians should ensure that Clients can seek, with relative ease, follow-up care or information from the Veterinarian (or Veterinarian's designee) who conducts an encounter using Telehealth. Veterinarians solely providing services using Telehealth with no existing VCPR prior to the encounter must maintain appropriate medical records that contain sufficient information for another veterinarian to continue care if necessary, make documentation of the Telehealth encounter easily available to the Client immediately after the encounter, and subject to the Client's consent, including the identity of all care providers of the Patient(s).

Emergency Services

Teletriage may be performed by a Veterinarian or Veterinary Technician without establishing a VCPR to provide emergency, potentially life-saving Telehealth consultations with the public until that Patient can be seen by a veterinarian.

Medical Records

Appropriate medical records must be maintained in a secure and confidential manner. The medical record should include, but not be limited to, if applicable, copies of all patient related electronic communications, including prescriptions, laboratory and test results, imaging, evaluations and consultations, and instructions obtained or produced in connection with the utilization of Telehealth. Informed Consents obtained in connection with an encounter involving Telehealth should also be filed in the medical record.

Prescribing Medications

In order to prescribe medication when practicing via Telehealth, the Veterinarian must have sufficient knowledge of the animal or group of animals by virtue of a history and inquiry and either physical examination or medically appropriate and timely visits to the premises where the animal or group of animals is kept. Prescribing medications, in-person or via Telehealth, is at the professional discretion of the veterinarian. The indication, appropriateness, and safety considerations for each Telehealth visit prescription must be evaluated by the veterinarian in accordance with current laws and standards of care and consequently carry the same professional accountability as prescriptions delivered during an encounter in person.

Disclosures and Functionality on Online Services Making Available Telehealth Technologies

Online services must clearly identify the licensure state or province, number and status of all Veterinarians or Veterinary Technicians providing veterinary medical services using Telehealth and should provide Clients a clear mechanism to:

1. Access, supplement and amend Client provided contact information and health information about the Animal;
2. Provide feedback regarding the site and the quality of information and services; and
3. Register complaints, including information regarding filing a complaint with the applicable Board of Veterinary Medicine

Non-medical Advice may be provided without establishing a VCPR; however, it must meet the disclosure and functionality requirements of this section.

Online services must have accurate and transparent information about the website owner/operator, location, and contact information, including domain name that accurately reflects the identity.

Advertising or promotion of goods or products from which the Veterinarian receives direct remuneration, benefits, or incentives (other than fees for the medical care services) is prohibited. Notwithstanding, online services may provide links to general health information sites to enhance Client education; however, the Veterinarian should not benefit financially from providing such links or from the services or products marketed by such links. When providing links to other sites, Veterinarians should be aware of the implied endorsement of the information, services or products offered from such sites. The maintenance of preferred relationships with any pharmacy is prohibited. Veterinarians shall not transmit prescriptions to a specific pharmacy, or recommend a pharmacy, in exchange for any type of consideration or benefit from that pharmacy.

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California Code of Regulations
Title 16. Professional and Vocational Regulations
Division 20. Veterinary Medical Board

PROPOSED LANGUAGE

Proposed amendments to the regulatory language are shown in single underline for new text and ~~single strikethrough~~ for deleted text.

Amend Section 2032.1 of Article 4 of Division 20 of Title 16 of the California Code of Regulations to read as follows:

§ 2032.1. Veterinarian-Client-Patient Relationship.

(a) It is unprofessional conduct for a veterinarian to administer, prescribe, dispense or furnish a drug, medicine, appliance, or treatment of whatever nature for the prevention, cure, or relief of a wound, fracture or bodily injury or disease of an animal without having first established a veterinarian-client-patient relationship with the animal patient or patients and the client, except where the patient is a wild animal or the owner is unknown.
(b) A veterinarian-client-patient relationship shall be established by the following:
(1) The client has authorized the veterinarian to assume responsibility for making medical judgments regarding the health of the animal, including the need for medical treatment,
(2) The veterinarian has sufficient knowledge of the animal(s) to initiate at least a general or preliminary diagnosis of the medical condition of the animal(s). This means that the veterinarian is personally acquainted with the care of the animal(s) by virtue of an examination of the animal or by medically appropriate and timely visits to the premises where the animals are kept, and
(3) The veterinarian has assumed responsibility for making medical judgments regarding the health of the animal and has communicated with the client a course of treatment appropriate to the circumstance.
(c) A drug shall not be prescribed for a duration inconsistent with the medical condition of the animal(s) or type of drug prescribed. The veterinarian shall not prescribe a drug for a duration longer than one year from the date the veterinarian examined the animal(s) and prescribed the drug.
(d) As used herein, “drug” shall mean any controlled substance, as defined by Section 4021 of ~~Business and Professions~~ the code, and any dangerous drug, as defined by Section 4022 of ~~Business and Professions~~ the code.
(e) No person may practice veterinary medicine in this state except within the context of a veterinarian-client-patient relationship. A veterinarian-client-patient relationship cannot be established solely by telephonic or electronic means.
(f) Telemedicine shall be conducted within an existing veterinarian-client-patient relationship, with the exception for advice given in an “emergency”, as defined under BPC section 4840.5, until that patient(s) can be seen by or transported to a veterinarian.

For purposes of this section, “telemedicine” shall mean the mode of delivering animal health care services via communication technologies to facilitate the diagnosis, consultation, treatment, and care management of the patient.

Note: Authority cited: Sections 686 and 4808, Business and Professions Code. Reference: Sections 686, 2290.5, 4021, 4022, and 4883, Business and Professions Code.

Veterinary Medical Board
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MEETING NOTICE and AGENDA
MULTIDISCIPLINARY ADVISORY COMMITTEE

Committee Members
Jon A. Klingborg, DVM, Chair
Allan Drusys, DVM, Vice-Chair
Willian A. Grant II, DVM
Jeff Pollard, DVM
David F. Johnson, RVT
Kristi Pawlowski, RVT
Diana Woodward Hagle
Jennifer Loredo, RVT
Richard Sullivan, DVM

February 20, 2018
1747 N. Market Blvd. – 1st Floor
Hearing Room
Sacramento, California

Action may be taken on any item listed on the agenda.

10:00 a.m. Tuesday, February 20, 2018

1. Call to Order/ Roll Call/ Establishment of a Quorum

2. Committee Chair's Remarks, Committee Member Comments, and Introductions

3. Review and Approval of October 17, 2017 Committee Meeting Minutes

4. Update from the Complaint Process Audit Subcommittee; Potential Recommendation to Full Board

5. Discussion and Consideration of Recommendations from State Humane Association of California, California Animal Control Director's Association, and California Veterinary Medical Association Regarding Public and Private Shelters and Minimum Standards and Protocols for Shelter Medicine; Potential Recommendation to Full Board

6. Discussion and Consideration of California Veterinary Medical Association's Proposal Regarding Minimum Standards for Alternate Veterinary Premises/Practices; Potential Recommendation to Full Board

7. Discussion and Consideration of Amendments to Supervision Requirements for Veterinarians Delegating Tasks to Registered Veterinary Technicians; Potential Recommendation to Full Board

8. Public Comment on Items Not on the Agenda
   Note: The Committee may not discuss or take action on any matter raised during this public comment section, except to decide whether to place the matter on the agenda of a future meeting. (Government Code Sections 11125 and 11125.7(a).)

9. Future Agenda Items and Next Meeting Dates – May 22, 2018, Sacramento; August 21, 2018, Location TBD; November 13, 2018, Location TBD
   A. Multidisciplinary Advisory Committee Assignment Priorities
   B. Agenda Items for Next Meeting

10. Adjournment

This agenda can be found on the Veterinary Medical Board website at **www.vmb.ca.gov**. Action may be taken on any item on the agenda. The time and order of agenda items are subject to change at the discretion of the Committee Chair and may be taken out of order. In accordance with the Bagley-Keene Open Meeting Act, all meetings of the Board are open to the public.

This meeting will be webcast, provided there are no unforeseen technical difficulties or limitations. To view the webcast, please visit **thedcapage.wordpress.com/webcasts/.** The meeting will not be cancelled if webcast is not available. If you wish to participate or to have a guaranteed opportunity to observe and participate, please plan to attend at a physical location. Meeting adjournment may not be webcast if it is the only item that occurs after a closed session.

Government Code section 11125.7 provides the opportunity for the public to address each agenda item during discussion or consideration by the Committee prior to the Committee taking any action on said item. Members of the public will be provided appropriate opportunities to comment on any issue before the Committee, but the Committee Chair may, at his or her discretion, apportion available time among those who wish to speak. Individuals may appear before the Committee to discuss items not on the agenda; however, the Committee can neither discuss nor take official action on these items at the time of the same meeting (Government Code sections 11125, 11125.7(a)).

The meeting locations are accessible to the physically disabled. A person who needs disability-related accommodations or modifications to participate in the meeting may make a request by contacting the Committee at (916) 515-5220, email: vmb@dca.ca.gov, or sending a written request to the Board of Veterinary Medicine, 1747 N. Market St., Suite 230, Sacramento, CA 95834. Providing your request at least five (5) business days prior to the meeting will help ensure availability of the requested accommodations. TDD Line: (916) 326-2297.

The mission of the Veterinary Medical Board is to protect consumers and animals by regulating licensees, promoting professional standards and diligent enforcement of the practice of veterinary medicine.

MDC Report
February 2018 Meeting
Jon Klingborg, DVM— Chair

4. Update from the Complaint Process Audit Subcommittee; Potential Recommendation to Full Board

Significant improvement in the Expert Witness reports and organization noted this time. All cases were from current EW and had attended training sessions within the past 2 years.

We discussed that some were too technical—- need be written for an Administrative Law Judge— who is very smart, but may not be fully conversant in medical terminology.

5. Discussion and Consideration of Recommendations from State Humane Association of California, California Animal Control Director's Association, and California Veterinary Medical Association Regarding Public and Private Shelters and Minimum Standards and Protocols for Shelter Medicine; Potential Recommendation to Full Board

Report from December 8 Stakeholders meeting from SHAC/CACDA/CVMA
Rec 1a: Minimum Standards be developed for Animal Shelter Facilities
Rec 1b: Consider Premise Permit and whom may be a Licensee Manager (IX) (VIII)
Rec 2: Define Animal Shelter (VII)
Rec 3: Authorize RVTs and Shelter Staff to perform tasks w/ DVM Order (I) (VI)
Rec 4: Amend Rabies Vaccine language so Shelter Staff may administer (V)

Eight Major Items from MDC—
This is the tireless work of David Johnson, RVT; Jeff Pollard, DVM; Allan Drusys, DVM
(I) Veterinary Care On Intake
(II) Controlled Substances Administration of pre-euthanasia drugs
(III) Sodium Pentobarbital— Wildlife
(IV) Euthanasia Training
(V) Rabies Vaccines
(VI) Indirect Supervision
(VII) Definition of Shelter 1834.7 a(2)—Separating Shelters by those who provide basic wellness services vs 'veterinary services.'
(VIII) Licensee Managers— RVTs, Shelter Director, etc.
(IX) Premise Permits

—> We will be forming an MDC sub-committee to create Minimum Standards for Shelters.

6. Discussion and Consideration of California Veterinary Medical Association's Proposal Regarding Minimum Standards for Alternate Veterinary Premises/Practices; Potential Recommendation to Full Board

The CVMA Document encompassed changes from the original "Section 2030. Minimum Standards – Fixed Veterinary Premises" to the proposed new categories of Minimum Standards for different types of premises. The Premises Permit Task Force reviewed and edited this document over a period of seven days. The final decision was to define and list the minimal standards for each practice type.

There were a number of minor changes in language and 'clean up.'

There was substantial discussion regarding Animal Vaccine Clinics and trying to find the write standards in have clarity in the regulations.

7. Discussion and Consideration of Amendments to Supervision Requirements for Veterinarians Delegating Tasks to Registered Veterinary Technicians; Potential Recommendation to Full Board

2035. Duties of a Supervising Veterinarian

(a) The supervising veterinarian shall be responsible for determining the competency of the R.V.T. or unregistered assistant to perform allowable animal health care tasks.

(b) The supervising veterinarian of a R.V.T. or unregistered assistant shall make all decisions relating to the diagnosis, treatment, management and future disposition of the animal patient.

(c) The supervising veterinarian shall have examined the animal patient prior to the delegation of any animal health care task to either an R.V.T. or unregistered assistant. The examination of the animal patient shall be conducted at such time as good veterinary medical practice requires consistent with the particular delegated animal health care task.

<u>(d) A supervising veterinarian shall not delegate any allowable animal health care task to an RVT, permit holder, or VA who does not have the necessary:</u>

<u>(i) extensive clinical skill</u>

<u>(ii) demonstrated competency</u>

STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

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MEMORANDUM

DATE	February 2, 2018
TO	Members Veterinary Medical Board
FROM	Tara Welch, Attorney III Legal Affairs Division, Department of Consumer Affairs
SUBJECT	**Corporate Practice of Veterinary Medicine**

Questions Presented

Can a general corporation own or operate a veterinary medical practice or influence the standards of veterinary medicine practice?

Short Answers

Current statutory and regulatory law does not explicitly prohibit general corporate ownership or operation of a veterinary medical practice or influence over the standards of veterinary medicine practice.

Discussion

In recent years, there has been a trend toward large corporations purchasing smaller veterinary practices. These mergers may be beneficial to consumers, who can continue to receive veterinary services for their pets rather than having to find a new veterinary practice if the small veterinary practice otherwise closed, but these mergers raise potential concerns as to whether these corporations are influencing the veterinary care provided by veterinarians and whether California consumers have any protection from the commercialization of veterinary practice.

This memorandum reviews the state laws affecting the corporate practice of medicine, corporate ownership of a veterinary premises, and corporate ownership and operation of a veterinary practice. This memorandum also discusses contractual arrangements for management services of a veterinary practice and the potential implications on consumer protection. This memorandum also provides possible recommendations for the Veterinary Medical Board (Board) to consider submitting to the Legislature in order to address the issues raised herein.

A. Background on the Corporate Practice of Medicine and Professional Corporations

A corporation is a legal entity created by statute, which permits a group of people, as shareholders, to apply to the government (the California Secretary of State) for an independent organization to be created. A corporation is empowered with legal rights usually only reserved for individuals, such as to

sue and be sued, to own property, hire employees, or borrow and loan money. Benefits to individuals organizing as a corporation include immunity from individual liability and reductions in taxes applicable to the income received by the organizing individuals.

According to the California Research Bureau, "[b]etween 1905 and 1917, courts in several states ruled that corporations could not engage in the commercial practice of medicine, even if they employed licensed physicians, because a corporation could not be licensed to practice medicine and commercialism in medicine was contrary to sound public policy." (A. Kim, California Research Bureau, *The Corporate Practice of Medicine Doctrine* (Oct. 2007), CRB 07-011, p. 12.) These courts established the common-law corporate practice of medicine doctrine, which bans the corporate practice of medicine.

As the corporate practice of medicine doctrine developed under common law, in the 1930s, several statutes were enacted in California's Medical Practice Act to prohibit unlicensed persons from practicing medicine, employment of unlicensed physicians, and interference with a physician's medical judgment (Bus. & Prof. Code, §§ 2052, 2264, 2401). These statutes protect patients from a treating physician with divided loyalties between independent medical judgment and meeting the demands of a lay person or entity (corporate owner).

In 1968, the Moscone-Knox Professional Corporation Act (Moscone-Knox) (Corp. Code, § 13400 et seq.) established the ability of individuals who are professionally licensed to organize as a professional corporation. Moscone-Knox defines "professional corporation" to mean a corporation organized under the General Corporation Law that is engaged in rendering professional services in a single profession pursuant to a certificate or registration issued by the governmental agency regulating the profession and designates itself as a professional or other corporation as required by statute, and "professional services" means any type of professional services that may be lawfully rendered only pursuant to a license, certification, or registration authorized by the Business and Professions Code, the Chiropractic Act, or the Osteopathic Act." (Corp. Code, § 13401(a), (b).)

Following the enactment of Moscone-Knox, the California Attorney General issued an opinion that further clarified California's corporate practice of medicine doctrine and stated that a corporation is a creature created by statute, and, aside from Moscone-Knox and nonprofit corporation provisions, the Corporations Code does not provide specific authority for a corporation to practice the healing arts. (58 Ops. Cal. Atty. Gen. 755, 758 (1975).) That opinion also stated that "[e]xcept as otherwise specifically provided by statute, it is well settled that neither a corporation nor any other unlicensed person or entity may engage, directly or indirectly, in the practice of certain learned professions, including the legal, medical, and dental professions." (*Id*.)

In 1980, the Medical Practice Act was repealed, revised, and recast. At that time, the Medical Practice Act included that lay entities (e.g., general corporations) have no professional rights, privileges, or powers to practice medicine (Bus. & Prof. Code, § 2400), but professional medical corporations in compliance with Moscone-Knox were exempt from this restriction (Bus. & Prof. Code, § 2402).

With respect to the corporate practice of veterinary medicine, the Veterinary Medicine Practice Act similarly prohibits the unlicensed practice of veterinary medicine and the aiding and abetting of the unlicensed practice of veterinary medicine, and provides that a veterinary corporation is a corporation which is authorized to render professional services, as defined, so long as that corporation and its shareholders, officers, directors, and employees rendering professional services who are licensed veterinarians are in compliance with the Moscone-Knox (Bus. & Prof. Code, §§ 4825, 4883(j), 4910). Unlike the Medicine Practice Act, the Veterinary Medicine Practice Act does not provide that lay entities

have no professional rights, privileges, or powers to practice veterinary medicine, and there is no explicit ban on interfering with a veterinarian's medical judgment.

B. General Corporate Practice Ban Problem

Although the Medical Practice Act provides limitations on the corporate practice of medicine ("corporations and other artificial legal entities shall have no professional rights privileges, or powers" (Bus. & Prof. Code, § 2400)), most of the other healing arts practice acts do not contain this prohibition. Rather, numerous healing arts practice acts only provide that a professional corporation is authorized to render professional services as long as the shareholders, officers, directors, and employees rendering professional services are licensed and in compliance with the Moscone-Knox (e.g., Veterinary Medicine Practice Act, Bus. & Prof. Code, § 4910; Physical Therapy Practice Act, Bus. & Prof. Code, § 2690). Even though common law bans the corporate practice of medicine, the statutory language authorizing formation of a professional corporation may be interpreted as permissive (i.e., licensees *can* organize as a professional corporation) rather than restrictive (the *only way* to organize as a corporation and provide health care services is to organize as a professional corporation). The statutes are otherwise silent as to whether corporations that do not comply with Moscone-Knox may practice.

Consequently, these boards and their licensees are left to interpret a patchwork of statutes in their respective practice acts, Moscone-Knox, general corporation law, and the Medical Practice Act to determine whether corporate practice of the profession is prohibited. Without statutory language that clearly bans corporations from practicing a health care profession requiring licensure or rendering health care services, healing arts boards struggle with enforcing the corporate practice ban intended to protect consumers from commercial motives of the corporation being asserted over a healing arts licensee's professional judgment.

C. Specific Corporate Practice Ban Problem of Veterinary Medicine

Veterinary medicine, a healing art under the Business and Professions Code, has two problems relative to the corporate practice ban that are unique to veterinary medicine and not applicable to most other healings arts. First, the Medical Practice Act and its ban on the corporate provision of medical services does not apply to the provision of animal health care services. Thus, while some healing arts boards are authorized through their respective practice acts to enforce violations of the Medical Practice Act and could potentially refer to the Medical Practice Act's corporate practice ban statute, the Board is not authorized to rely on that statute. Rather, the Board's authority is limited to the Veterinary Medicine Practice Act statute authorizing licensees to organize as professional corporations pursuant to Moscone-Knox. (Bus. & Prof. Code, § 4910.) But again, that arguably permissive professional corporation language does not specifically ban the practice of the licensed profession or rendering of veterinary services by a general corporation owned by non-licensed individuals.

Second, the Veterinary Medicine Practice Act is unique in that it licenses veterinarians who practice veterinary medicine, registers the veterinary premises, and authorizes professional corporations to render veterinary services. Notably, the Veterinary Medicine Practice Act does not specifically define whether a veterinary premises means the property at which a veterinary practice provides services and does not define a veterinary practice as the business that offers veterinary medical services. This has led to the terms "premises" and "practice" to be used interchangeably, even though they are conceptually very different. The Veterinary Medicine Practice Act requires that a premises be registered but does not require the premises owner to be a licensed veterinarian. Further, the Act is silent as to requiring that a veterinary practice be registered or owned by a licensee.

The lack of definition of the veterinary practice has led to a trend where general corporations are purchasing and operating not only veterinary premises, but also the veterinary practices located at the premises. General corporate ownership of veterinary practices raises potential concerns for consumers in that corporations are in a position to dictate the standards of care provided by the veterinarians employed by the corporation. This situation is analogous to a medical clinic that is owned and operated by unlicensed individuals and where the licensed professionals are employed to render health care services. Under the Medical Practice Act, clinic owners/operators are prohibited from interfering with, controlling, or otherwise directing the professional judgment of a physician and surgeon (Bus. & Prof. Code, § 2401(b)). Conversely, there is no specific statutory prohibition on unlicensed shareholders/owners/ operators of either a veterinary premises or practice interfering with the professional judgment of a veterinarian.

Accordingly, national corporations are purchasing veterinary premises, registering the premises in the corporate name, operating the veterinary practices housed at the premises, employing veterinarians as Licensee Managers of the premises, as well as general practitioners, and, ultimately, practicing the licensed profession of veterinary medicine. Such corporations have unlicensed officers who also manage the payroll department and negotiate employment agreements entered into between the general corporation and veterinarians and veterinary staff working at each premises. The employment agreements contain net revenue percentage incentives to sell the corporation's animal care products, including vaccinations, flea treatments, vitamins, shampoos, dental products, and prescription pet foods and services, which may or may not be in the best interest of the animal. Consequently, these employment agreements, and the commission-based fee structures therein, create an environment where veterinarians may believe their employment is at risk if they are not selling the corporate animal care products and services to the client.

In addition, veterinarians who own a veterinary practice may enter into contracts for the provision of management services that may be provided by the corporate premises owner, outside management services organizations, or even as corporate partners in the veterinary practice. These arrangements also potentially allow for corporate control over veterinary medical practice. Notably, since the Medical Practice Act specifically states that legal entities (corporations) have no practice rights but the Veterinary Medicine Practice Act does not, and veterinary premises can be owned by unlicensed entities, general corporation premises and/or practice owners could argue that the lack of a similar limitation of corporate practice rights under the Veterinary Medicine Practice Act shows that the Legislature did not intend to place the same limitations on the corporate practice of veterinary medicine as are applied to the corporate practice of medicine.

Given the recent trend of large corporations merging with small veterinary practices, and the corporations' employment of veterinarians and veterinary staff with financial incentives tied to selling the animal health care products of the corporations, it would be helpful to clarify in statute the boundaries between corporation ownership of the premises and/or practice and the corporation's influence over the practice itself.

D. Possible Board Recommendations of Statutory Solutions

Attached hereto for the Board's consideration is statutory language to address the corporate practice of veterinary medicine in several ways, described further below. These proposals are modeled after the Medical Practice Act and related laws, which provide similar limitations on corporate hospital and clinic ownership and employment of physicians and other healing arts practitioners. Since access to veterinary services may not otherwise be available without the corporate ownership and operation of the veterinary practice, these proposals are intended to provide a conservative approach to updating

the veterinary medicine practice laws without banning general corporation ownership altogether. The bracketed information below refers to the location of the provision in the attached proposals.

1. Limit practice authority of premises permit holders. This proposal would add to the premises permit statute a new provision that the issuance of a premises permit does not authorize the holder of the permit to furnish animal patient advice, services, or treatment and would track a similar provision in the Health and Safety Code prohibiting the practice of medicine by a clinic. [Pg. 1, Bus. & Prof. Code, § 4853, new subd. (d).]

2. Corporation rights, privileges, and power. This proposal would add two new statutes to provide that corporations and other artificial legal entities, other than professional veterinary corporations, have no professional rights, privileges, or powers and are prohibited from engaging in the practice of veterinary medicine; this would track the corporate limitations provided under the Medical Practice Act. [Pgs. 1-2, Bus. & Prof. Code, new §§ 4910.1, 4910.2.]

3. Employment of licensed professionals. This proposal would add a new statute providing for employment by a veterinary clinic or hospital owned by a general corporation of persons licensed under the Veterinary Medicine Practice Act, but prohibit employment agreements providing for clinic or hospital control of professional judgment or services. This provision would also authorize the Board to obtain information from the clinic or hospital (such as employment agreements) to enforce the provision. This proposal tracks the clinic/hospital prohibition on control of professional judgment in the Medical Practice Act, as well as the authority to obtain necessary documents provided in the Pharmacy Act. [Pg. 2, Bus. & Prof. Code, new § 4918.]

4. Management Services Organizations (MSOs). Aside from selling the veterinary practice and becoming employed by a general corporation that owns and operates the veterinary practice, veterinarians may instead enter into agreements for the provision of administrative and/or management services by a management services organization (MSO), which can be beneficial to the veterinary practice by applying management expertise to reduce the operating costs of the practice. These types of arrangements may include agreements in which the management services organizations lease to the veterinarians the facility and medical and non-medical equipment.

   As with the general corporate ownership of a veterinary practice problem, there are currently no prohibitions on the exertion of control by an MSO over the professional judgment of the veterinarian. Notably, a general corporate premises owner could also enter into a management services arrangement with the veterinary practice owner. Although these types of arrangements may be necessary for a veterinarian who wants to focus on the provision of animal health care services rather than the day-to-day administrative affairs of running a business, it may be prudent to authorize these types of arrangements by statute, and, in addition to cross-referencing the existing prohibition on patient referral rebates (see Bus. & Prof. Code, § 650), clarify the limitations of these agreements by regulation. This proposal would allow veterinarians to contract for administrative/management services while protecting consumers and animal patients from unlicensed control over the care rendered by the veterinarian. [Pg. 2, Bus. & Prof. Code, new § 4919.]

E. Regulatory Proposals

In addition to the statutory proposals above, the Board may wish to consider adopting regulations to clarify the new authorization in proposed Business and Professions Code, section 4918, subdivision (c) to require the clinic, hospital, or veterinarian to disclose to the Board any information deemed reasonably necessary to enforce the prohibition on contracts providing for control over professional judgment or services. [Pg. 6, CCR, new § 2095.] Additionally, if the Board agrees that management services should be addressed by statute, the Board may wish to consider defining the limitations of MSOs by regulation. [Pgs., 3-5, CCR, new §§ 2090-2093.]

Conclusion

Although the ban on corporate practice of medicine has evolved over time and strengthened human patient protection, the protections for animal patients and their owners has not kept pace. Potential risks exist to consumers and animal patients if commercial motives are prioritized above professional judgment. Due to the increasing corporate ownership and operation of veterinary practices and the need for veterinarians to properly apply their professional judgment on a case-by-case basis, the Board may wish to recommend legislative proposals and adopt regulations to address these issues.

Attachments: Legislative and regulatory proposals

VETERINARY MEDICAL BOARD
Corporate Practice of Veterinary Medicine

Proposed revisions are shown in single underline for new text and ~~single strikethrough~~ for deleted text.

Statutory Proposals:

Business and Professions Code, Division 2, Chapter 11

Article 3. Issuance of Licenses.

4853.
(a) All premises where veterinary medicine, veterinary dentistry, veterinary surgery, and the various branches thereof is being practiced shall be registered with the board. The certificate of registration shall be on a form prescribed in accordance with Section 164.

(b) “Premises” for the purpose of this chapter shall include a building, kennel, mobile unit, or vehicle. Mobile units and vehicles shall be exempted from independent registration with the board when they are operated from a building or facility which is the licensee manager’s principal place of business and the building is registered with the board, and the registration identifies and declares the use of the mobile unit or vehicle.

(c) Every application for registration of veterinary premises shall set forth in the application the name of the responsible licensee manager who is to act for and on behalf of the licensed premises. Substitution of the responsible licensee manager may be accomplished by application to the board if the following conditions are met:

(1) The person substituted qualifies by presenting satisfactory evidence that he or she possesses a valid, unexpired, and unrevoked license as provided by this chapter and that the license is not currently under suspension.

(2) No circumvention of the law is contemplated by the substitution.

(d) This section does not authorize any person, corporation, or artificial legal entity, other than a licensed practitioner of veterinary medicine or a veterinary corporation practicing pursuant to Article 6 (commencing with Section 4910) of this Chapter and the Moscone-Knox Professional Corporation Act (Part 4 (commencing with Section 13400) of Division 3 of Title 1 of the Corporations Code), to furnish to any person or animal patient any advice, services, or treatment within the scope of veterinarian licensure under this chapter. This section does not authorize any person, other than a licensed veterinarian within the scope of his or her license, to engage directly or indirectly in the practice of veterinary medicine, surgery, and dentistry. This section does not regulate, govern, or affect in any manner the practice of veterinary medicine, surgery, or dentistry by any person duly licensed to engage in such practice.

Article 6. Veterinary Corporations

4910.1. (a) Corporations and other artificial legal entities shall have no professional rights, privileges, or powers.
(b) The provisions of subdivision (a) do not apply to a veterinary corporation practicing pursuant to the Moscone-Knox Professional Corporation Act (Part 4 (commencing with Section 13400) of Division 3 of Title 1 of the Corporations Code) and this article, when such corporation is in compliance with the requirements of these statutes and all other statutes and regulations now or hereafter enacted or adopted pertaining to such corporations and the conduct of their affairs.

4910.2. (a) A professional corporation, foreign professional corporation, or other legal entity not owned exclusively by one or more licensed veterinarians shall not engage in the practice of veterinary medicine.

4918. (a) Except as provided in Section 13403 of the Corporations Code, a veterinary clinic or hospital that is owned by a general corporation, foreign corporation, or other legal entity but is not exclusively owned by one or more licensed persons shall be registered with the board pursuant to Section 4853 and may employ, or enter into contracts or other arrangements with, any person or persons licensed under this chapter, but no such employment, contract, or arrangement shall provide for the rendering, supervision, or control of professional judgment or services other than as authorized by law.
(b) The veterinary clinic or hospital shall not interfere with, control, or otherwise direct the professional judgment of any licensed veterinarian, registered veterinary technician, or veterinary assistant.
(c) The board may require any information the board deems is reasonably necessary for the enforcement of this section.

4919. (a) A veterinarian or group of veterinarians, whether or not incorporated, may employ, or enter into a contract or other arrangements with a management services organization to provide management services to the veterinarian or the veterinary practice, but no such employment, contract, or arrangement shall provide for the management services organization to render control, supervision, or intervention in a veterinarian’s practice of veterinary medicine, or violate Section 650.
(b) For purposes of this section, “management services organization” means a person or entity that provides management or administrative services.
(c) The board may require any information the board deems is reasonably necessary for the enforcement of this section.

Proposed Regulations:

California Code of Regulations, Title 16, Division 20

Article 12. Management Services Organizations in Veterinary Practice

2090. Definitions. The following words and terms, when used in this section, shall have the following meanings, unless the context clearly indicates otherwise:

(a) “Control” means the ability to order or dictate the delivery or the manner of delivery of any services or tasks. Consulting with another person regarding a service or task, or assisting in the performance of a service or task, does not constitute control.

(b) “Intervene” means directly altering the practice of veterinary medicine. Recommending or providing a service or supply or performing management services under this section does not constitute intervention.

(c) “Management services” means those services and activities relating to the operation of a veterinary practice exclusive of the practice of veterinary medicine.

(d) “Management services organization” means a person or entity that provides management services.

(e) “Veterinary medical personnel” means persons under the direct or indirect supervision of a veterinarian who perform duties directly related to the practice of veterinary medicine.

Note: Authority cited: Sections 4808, Business and Professions Code. Reference: Section 4919, Business and Professions Code;

2091. Prohibited Practices.
(a) A management services organization shall not control or intervene in a veterinarian's practice of veterinary medicine. Prohibited activities by a management services organization, whether or not authorized by contract, include but are not limited to:
(1) employing a veterinarian to practice veterinary medicine;

(2) determining the compensation of a veterinarian for the practice of veterinary medicine;

(3) controlling or intervening in a veterinarian's diagnosis, treatment, correction, change, manipulation, relief, or prevention of animal disease, deformity, defect, injury or other physical condition, including the prescription or administration of a drug, biologic, anesthetic, apparatus, or other therapeutic or diagnostic substance or technique;

(4) controlling or intervening in a veterinarian's selection or use of type or quality of medical supplies and pharmaceuticals to be used in the practice of veterinary medicine;

(5) determining the amount of time a veterinarian may spend with a patient;

(6) owning drugs, unless the drugs are owned in compliance with applicable state or federal law;

(7) owning and controlling the records of patients of the veterinarian;

(8) determining the fees to be charged by the veterinarian for the veterinarian's practice of veterinary medicine;

(9) mandating compliance with specific professional standards, protocols, or practice guidelines relating to the practice of veterinary medicine;

(10) placing limitations or conditions upon communications that are clinical in nature with the veterinarian's clients;

(11) requiring a veterinarian to make referrals in violation of section 650 of the code; or

(12) penalizing a veterinarian for reporting violations of a law regulating the practice of veterinary medicine.

(b) Veterinarians, and entities in which veterinarians are the sole owner, shareholders, or partners, are not prohibited from performing the activities set out in subsections (a)(1) - (10) of this section.
Note: Authority cited: Sections 4808, Business and Professions Code. Reference: Section 4919, Business and Professions Code.

2092. Permitted Management Services. Permitted activities by a management services organization include, but are not limited, to:
(a) providing by lease, ownership, or other arrangement:

(1) the facility used by the veterinarian in the practice of veterinary medicine;

(2) the medical equipment, instruments, and supplies used by the veterinarian in the practice of veterinary medicine; and

(3) the business, office, and similar non-medical equipment used by the veterinarian.

(b) providing for the repair, maintenance, renovation, replacement or otherwise of any facility or equipment used by the veterinarian in the practice of veterinary medicine;

(c) providing accounting, financial, payroll, bookkeeping, budget, investment, tax compliance, and similar financial services to the veterinarian;

(d) providing information and information systems and services for the veterinarian so long as any patient records in these systems are clearly owned and freely accessed by the veterinarian;

(e) providing the services of billing and collection of the veterinarian's fees and charges;

(f) arranging for the collection or sale of the veterinarian's accounts receivable;

(g) providing advertising, marketing and public relations services that comply with Section 651 of the code pertaining to the practice of veterinary medicine;

(h) providing contract negotiation, drafting, and similar services for the veterinarian;

(i) providing receptionist, scheduling, messaging, and similar coordination services for the veterinarian;

(j) obtaining all licenses and permits necessary to operate a practice of veterinary medicine that may be obtained by a non-veterinarian, and assisting veterinarians in obtaining licenses and permits necessary to operate a practice of veterinary medicine that may be obtained only by a veterinarian, provided that the executive officer of the board approves the method of payment for veterinary license renewals paid by the management services organization;

(k) assisting in the recruiting, continuing education, training, and legal and logistical peer review services for the veterinarian;

(l) providing insurance, purchasing and claims services for the veterinarian, and including the veterinarian and veterinary medical personnel on the same insurance policies and benefit plans as the management services organization;

(m) providing consulting, business and financial planning, and business practice and other advice;

(n) establishing the price to be charged to the veterinary client for the goods and supplies provided or managed by the management services organizations;

(o) employing and controlling persons who:

(1) perform management services;

(2) are veterinarians employed by a management services organization to perform management services but not the practice of veterinary medicine; or

(3) perform management, administrative, clerical, receptionist, secretarial, bookkeeping, accounting, payroll, billing, collection, boarding, cleaning and other functions; or

(p) employing veterinary medical and other personnel, if a veterinarian present at the practice location in charge of veterinary medicine for that practice location at which the veterinary medical and other personnel work has the right to:

(1) control the medically related procedures, duties, and performance of the veterinary medical and other personnel; and

(2) suspend for medically related reasons the veterinary medical and other personnel unless the suspension is contrary to law, regulation or other legal requirements.

Note: Authority cited: Sections 4808, Business and Professions Code. Reference: Section 4919, Business and Professions Code.

2093. Disclosure of Contracts.

(a) A veterinarian or a group of veterinarians that contract with a management services organization shall:

(1) make available for inspection by the board at the main office of the veterinarian or group of veterinarians copies of the contracts with the management services organizations; and

(2) if the board opens an investigation against a veterinarian or a group of veterinarians, make available to the board copies of the contracts with the management services organizations.

(b) Verbal contracts will not be considered evidence of compliance with this section.

(c) Copies of contracts provided to the board pursuant to this section are confidential and not subject to disclosure pursuant to section 6250 et seq. of the Government Code.

Note: Authority cited: Section 4808, Business and Professions Code. Reference: Section 4919, Business and Professions Code.

Article 13. Requirements for Corporations

2095. Disclosure of Corporate Records

(a) Upon request by the board, a veterinary corporation, foreign veterinary corporation, general corporation, foreign corporation, or other legal entity shall make available for inspection or provide copies of the following:

(1) copies of all documents filed with the Secretary of State.

(2) all corporate records, including, but not limited to, ownership agreements between any director, officer, owner, or shareholder.

(3) any employment contract between the corporation or legal entity and a licensee.

(4) all written policies or procedures.

(b) Copies of corporate records provided to the board pursuant to subsection (a)(2) shall be considered corporate financial records and/or corporate proprietary information including trade secrets and are confidential and not subject to disclosure pursuant to section 6250 et seq. of the Government Code.

Note: Authority cited: Sections 4808 and 4916, Business and Professions Code. Reference: Sections 4910, 4912, 4918, and 4919, Business and Professions Code; Section 13401.5, Corporations Code; and Section 6254.15, Government Code.

Legislation

A. AB 1776 (STEINORTH) – EMERGENCY MEDICAL TRANSPORTATION: TRANSPORT OF POLICE DOGS

INTRODUCED: 1/4/18 **STATUS:** Referred to Committees of Health and Judiciary

BOARD POSITION:

Assembly Bill (AB) 1776 proposes to add Section 1797.10 to the Health and Safety Code. This bill would allow emergency personnel, specifically EMT-I, EMT-II, or EMT-P, to provide emergency medical transportation to a police dog injured in the line of duty to a facility that is capable of providing veterinary medical services. In addition, this bill would also provide protection to emergency personnel from liability for civil damages except for acts or omissions performed in a grossly negligent manner or acts or omissions not performed in good faith.

AB 1776 also defines "police dog" as a dog being used by a peace officer in the discharge or attempted discharge of his or her duties and includes, but is not limited to, a search and rescue dog, passive alert dog, and service dog.

B. AB 1753 (LOW) – CONTROLLED SUBSTANCES: CURES DATABASE

INTRODUCED: 1/3/18 **STATUS:** Referred to Committees on Business and Professions Code and Economic Development and Public Safety

BOARD POSITION:

AB 1753 proposed to amend, beginning January 1, 2020, sections 11161.5, 11162.1 and 11165 to the Health and Safety Code. Under existing law, certain controlled substances are classified into designated schedules. The Department of Justice (DOJ) is required to maintain the Controlled Substance Utilization Review and Evaluation System (CURES) for the electronic monitoring of the prescribing and dispensing of Schedule II, Schedule III, and Schedule IV controlled substances by a health care practitioner. Existing law requires that prescription forms for controlled substances be obtained from security printers approved by the DOJ.

AB 1753 would require the DOJ to limit the number of approved security printers to three (3) and would require prescription forms for controlled substance prescriptions to have a unique serial number and require a printer to submit specified information to the DOJ for all prescription forms delivered. The bill would require the information submitted by a dispensing pharmacy, clinic, or other dispenser to the (DOJ) to include the serial number for the corresponding prescription pad.

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ASSEMBLY BILL No. 1776

Introduced by Assembly Member Steinorth

January 4, 2018

An act to add Section 1797.10 to the Health and Safety Code, relating to emergency medical services.

LEGISLATIVE COUNSEL'S DIGEST

AB 1776, as introduced, Steinorth. Emergency medical transportation: transport of police dogs.

Existing law, the Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act, establishes the Emergency Medical Services Authority, among other things, to establish training standards for Emergency Medical Technicians (EMT) at various levels, including EMT-I, EMT-II, and EMT-P. Existing law makes a firefighter, police officer or other law enforcement officer, EMT-I, EMT-II, EMT-P, or registered nurse who renders emergency medical services at the scene of an emergency or during an emergency air or ground ambulance transport only liable in civil damages for acts or omissions performed in a grossly negligent manner or acts or omissions not performed in good faith. Existing law exempts the public agency employer of the firefighter, police officer or other law enforcement officer, EMT-I, EMT-II, EMT-P, or registered nurse from civil liability if the employee is not liable.

This bill would authorize an EMT-I, EMT-II, or EMT-P to transport a police dog, as defined, injured in the line of duty to a facility that is capable of providing veterinary medical services to the injured police dog if there is not a person requiring medical attention or medical transportation at the time the decision is made to transport the police

dog. The bill would also exempt an EMT-I, EMT-II, EMT-P who provides emergency medical transportation for a police dog, or the EMT's employer, from liability for civil damages resulting from an act or omission relating to the transport of the police dog, unless the act or omission constitutes gross negligence or is performed in bad faith.

Vote: majority. Appropriation: no. Fiscal committee: no. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 1797.10 is added to the Health and Safety Code, to read:

1797.10. (a) An EMT-I, EMT-II, or EMT-P may provide emergency medical transportation for a police dog injured in the line of duty to a facility that is capable of providing veterinary medical services to the injured police dog if there is not a person requiring medical attention or medical transportation at the time the decision is made to transport the police dog.

(b) An EMT-I, EMT-II, or EMT-P who provides emergency medical transportation for a police dog pursuant to subdivision (a) shall not be liable for civil damages resulting from an act or omission relating to the transport of the police dog, unless the act or omission constitutes gross negligence or is performed in bad faith. The entity employing the EMT-I, EMT-II, or EMT-P that provided emergency medical transportation to a police dog pursuant to subdivision (a) shall not be liable for civil damages if the employee is not liable.

(c) For purposes of this section, "police dog" means a dog being used by a peace officer in the discharge or attempted discharge of his or her duties and includes, but is not limited to, a search and rescue dog, passive alert dog, and service dog.

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LEGISLATIVE COUNSEL'S DIGEST

Bill No.
as introduced, _____.
General Subject: Emergency medical services: law enforcement dogs.

Existing law, the Emergency Medical Services System and the Prehospital Emergency Medical Care Personnel Act, establishes the Emergency Medical Services Authority, among other things, to establish training standards for Emergency Medical Technicians (EMT) at various levels, including EMT-I, EMT-II, and EMT-P. Existing law makes a firefighter, police officer or other law enforcement officer, EMT-I, EMT-II, EMT-P, or registered nurse who renders emergency medical services at the scene of an emergency or during an emergency air or ground ambulance transport only liable in civil damages for acts or omissions performed in a grossly negligent manner or acts or omissions not performed in good faith. Existing law exempts the public agency employer of the firefighter, police officer or other law enforcement officer, EMT-I, EMT-II, EMT-P, or registered nurse from civil liability if the employee is not liable.

Existing law, the Veterinary Medicine Practice Act, provides for the licensure and regulation of veterinarians and the practice of veterinary medicine by the Veterinary Medical Board. The act makes it unlawful for any person to practice veterinary medicine in this state without a license and provides that the practice of veterinary medicine includes, among other things, the treatment of whatever nature for the prevention, cure, or relief of a wound, fracture, bodily injury, or disease of an animal.

This bill would authorize the Veterinary Medical Board to adopt standards for the emergency medical treatment of a law enforcement dog, as defined, by a law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P, and would also authorize the authority, the board, and the Commission on Peace Officer Standards and Training to adopt emergency medical treatment training standards, as specified. The bill would authorize a law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P who meets those training standards to provide emergency medical treatment for a law enforcement dog injured in the line of duty, which shall be provided in accordance with those standards adopted by the board and shall not exceed the law enforcement canine (K-9) officer's, EMT-I's, EMT-II's, or EMT-P's existing scope of practice for humans.

The bill would also authorize a law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P to transport a law enforcement dog injured in the line of duty to a facility that is capable of providing veterinary medical services to the injured law

enforcement dog if there is not a person requiring medical attention or medical transportation at the time the decision is made to transport the law enforcement dog. The bill would exempt a law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P who provides emergency medical treatment or transportation for a law enforcement dog, or the EMT's employer, from liability for civil damages resulting from an act or omission relating to the treatment or transport of the law enforcement dog, unless the act or omission constitutes gross negligence or is performed in bad faith.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

An act to add Section 1797.10 to the Health and Safety Code, relating to emergency medical services.

1807702139O2BILLMA40

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 1797.10 is added to the Health and Safety Code, to read:

1797.10. (a) Notwithstanding any other law, including the Veterinary Medicine Practice Act (Chapter 11 (commencing with Section 4800) of Division 2 of the Business and Professions Code), a law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P who meets the training standards specified in subdivision (c) may provide emergency medical treatment for a law enforcement dog injured in the line of duty, which shall be provided in accordance with standards adopted by the Veterinary Medical Board pursuant to subdivision (b) and shall not exceed the law enforcement canine (K-9) officer's, EMT-I's, EMT-II's, or EMT-P's existing scope of practice for humans.

(b) The Veterinary Medical Board may adopt standards for the emergency medical treatment of a law enforcement dog by a law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P.

(c) The authority, the Veterinary Medical Board, and the Commission on Peace Officer Standards and Training may adopt emergency medical treatment training standards that shall include, at a minimum, both of the following requirements:

(1) The standards shall conform to existing standards adopted by the authority, the Veterinary Medical Board, and the Commission on Peace Officer Standards and Training.

(2) The training shall be provided under the medical direction of a licensed veterinarian.

(d) A law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P may provide emergency medical transportation for a law enforcement dog injured in the line of duty to a facility that is capable of providing veterinary medical services to the injured law enforcement dog if there is not a person requiring medical attention or medical transportation at the time the decision is made to transport the law enforcement dog.

(e) A law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P who provides emergency medical treatment or transportation for a law enforcement dog pursuant to subdivision (a) or (d) shall not be liable for civil damages resulting from an act or omission relating to the treatment or transport of the law enforcement dog, unless the act or omission constitutes gross negligence or is performed in bad faith. The entity employing the law enforcement canine (K-9) officer, EMT-I, EMT-II, or EMT-P that provided emergency medical treatment or transportation to a law enforcement dog pursuant to subdivision (a) or (d) shall not be liable for civil damages if the employee is not liable.

(f) For purposes of this section, the following terms have the following definitions:

(1) "Law enforcement dog" means a dog trained for law enforcement or security purposes that is actively certified pursuant to national or regional standards and is owned or maintained by a law enforcement agency or other government-funded agency for law enforcement or security purposes, and is used by a law enforcement officer or security personnel in the discharge or attempted discharge of his or her duties. "Law enforcement dog" includes, but is not limited to, a search and rescue dog, passive alert dog, and service dog.

(2) "Law enforcement canine (K-9) officer" means a law enforcement officer or security personnel who is trained to partner with a law enforcement dog in the performance of his or her duties and is actively certified pursuant to national or regional standards.

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ASSEMBLY BILL No. 1753

Introduced by Assembly Member Low

January 3, 2018

An act to amend Sections 11161.5, 11162.1, and 11165 of the Health and Safety Code, relating to controlled substances.

LEGISLATIVE COUNSEL'S DIGEST

AB 1753, as introduced, Low. Controlled substances: CURES database.

Existing law classifies certain controlled substances into designated schedules. Existing law requires the Department of Justice to maintain the Controlled Substance Utilization Review and Evaluation System (CURES) for the electronic monitoring of the prescribing and dispensing of Schedule II, Schedule III, and Schedule IV controlled substances by a health care practitioner authorized to prescribe, order, administer, furnish, or dispense a Schedule II, Schedule III, or Schedule IV controlled substance. Existing law requires prescription forms for controlled substance prescriptions to be obtained from security printers approved by the Department of Justice, as specified. Existing law requires a dispensing pharmacy, clinic, or other dispenser to report specified information to the Department of Justice.

This bill would, beginning January 1, 2020, require the Department of Justice to limit the number of approved printers to 3, as specified. The bill would require prescription forms for controlled substance prescriptions to have a uniquely serialized number, in a manner prescribed by the Department of Justice, and would require a printer to submit specified information to the Department of Justice for all prescription forms delivered. The bill would require the information

submitted by a dispensing pharmacy, clinic, or other dispenser to the Department of Justice to include the serial number for the corresponding prescription pad, if applicable.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares the following:

(a) The prevailing use of paper prescription pads to prescribe controlled substances leads to significant instances of theft and fraud each year, contributing to the prescription drug abuse crisis and fueling criminal enterprises engaged in drug diversion.

(b) Prescribing controlled substances by means of electronic transmission prescription, or e-prescribing, has long been considered the most effective way to combat prescription pad theft and fraud.

(c) Many states have begun to require that all controlled substances must be prescribed electronically as a means of addressing the public health and public safety crises associated with prescription drug abuse and diversion.

(d) Until mandatory e-prescribing is established in California, it is critical that tighter restrictions be placed on the manufacturing and tracking of prescription pads used within the state.

SEC. 2. Section 11161.5 of the Health and Safety Code is amended to read:

11161.5. (a) Prescription forms for controlled substance prescriptions shall be obtained from security printers approved by the Department of Justice.

(b) The department may approve security printer applications after the applicant has provided the following information:

(1) Name, address, and telephone number of the applicant.

(2) Policies and procedures of the applicant for verifying the identity of the prescriber ordering controlled substance prescription forms.

(3) Policies and procedures of the applicant for verifying delivery of controlled substance prescription forms to prescribers.

(4) (A) The location, names, and titles of the applicant's agent for service of process in this state; all principal corporate officers, if any; all managing general partners, if any; and any individual

owner, partner, corporate officer, manager, agent, representative, employee, or subcontractor of the applicant who has direct access to, or management or control of, controlled substance prescription forms.

(B) A report containing this information shall be made on an annual basis and within 30 days after any change of office, principal corporate officers, managing general partner, or of any person described in subparagraph (A).

(5) (A) A signed statement indicating whether the applicant, any principal corporate officer, any managing general partner, or any individual owner, partner, corporate officer, manager, agent, representative, employee, or subcontractor of the applicant who has direct access to, or management or control of, controlled substance prescription forms, has ever been convicted of, or pled no contest to, a violation of any law of a foreign country, the United States, or any state, or of any local ordinance.

(B) The department shall provide the applicant and any individual owner, partner, corporate officer, manager, agent, representative, employee, or subcontractor of the applicant who has direct access to, or management or control of, controlled substance prescription forms, with the means and direction to provide fingerprints and related information, in a manner specified by the department, for the purpose of completing state, federal, or foreign criminal background checks.

(C) Any applicant described in subdivision (b) shall submit his or her fingerprint images and related information to the department, for the purpose of the department obtaining information as to the existence and nature of a record of state, federal, or foreign level convictions and state, federal, or foreign level arrests for which the department establishes that the applicant was released on bail or on his or her own recognizance pending trial, as described in subdivision (*l*) of Section 11105 of the Penal Code. Requests for federal level criminal offender record information received by the department pursuant to this section shall be forwarded to the Federal Bureau of Investigation by the department.

(D) The department shall assess against each security printer applicant a fee determined by the department to be sufficient to cover all processing, maintenance, and investigative costs generated from or associated with completing state, federal, or foreign background checks and inspections of security printers pursuant

to this section with respect to that applicant; the fee shall be paid by the applicant at the time he or she submits the security printer application, fingerprints, and related information to the department.

(E) The department shall retain fingerprint impressions and related information for subsequent arrest notification pursuant to Section 11105.2 of the Penal Code for all applicants.

(c) The department may, within 60 calendar days of receipt of the application from the applicant, deny the security printer application.

(d) The department may deny a security printer application on any of the following grounds:

(1) The applicant, any individual owner, partner, corporate officer, manager, agent, representative, employee, or subcontractor for the applicant, who has direct access, management, or control of controlled substance prescription forms, has been convicted of a crime. A conviction within the meaning of this paragraph means a plea or verdict of guilty or a conviction following a plea of nolo contendere. Any action which a board is permitted to take following the establishment of a conviction may be taken when the time for appeal has elapsed, the judgment of conviction has been affirmed on appeal, or when an order granting probation is made suspending the imposition of sentence, irrespective of a subsequent order under the provisions of Section 1203.4 of the Penal Code.

(2) The applicant committed any act involving dishonesty, fraud, or deceit with the intent to substantially benefit himself, herself, or another, or substantially injure another.

(3) The applicant committed any act that would constitute a violation of this division.

(4) The applicant knowingly made a false statement of fact required to be revealed in the application to produce controlled substance prescription forms.

(5) The department determines that the applicant failed to demonstrate adequate security procedures relating to the production and distribution of controlled substance prescription forms.

(6) The department determines that the applicant has submitted an incomplete application.

(7) As a condition for its approval as a security printer, an applicant shall authorize the Department of Justice to make any examination of the books and records of the applicant, or to visit

and inspect the applicant during business hours, to the extent deemed necessary by the board or department to properly enforce this section.

(e) An approved applicant shall submit an exemplar of a controlled substance prescription form, with all security features, to the Department of Justice within 30 days of initial production.

(f) The department shall maintain a list of approved security printers and the department shall make this information available to prescribers and other appropriate government agencies, including the Board of Pharmacy.

(g) Before printing any controlled substance prescription forms, a security printer shall verify with the appropriate licensing board that the prescriber possesses a license and current prescribing privileges which permits the prescribing of controlled substances with the federal Drug Enforcement Administration (DEA).

(h) Controlled substance prescription forms shall be provided directly to the prescriber either in person, by certified mail, or by a means that requires a signature signifying receipt of the package and provision of that signature to the security printer. Controlled substance prescription forms provided in person shall be restricted to established customers. Security printers shall obtain a photo identification from the customer and maintain a log of this information. Controlled substance prescription forms shall be shipped only to the prescriber's address on file and verified with the federal Drug Enforcement Administration or the Medical Board of California.

(i) Security printers shall retain ordering and delivery records in a readily retrievable manner for individual prescribers for three years.

(j) Security printers shall produce ordering and delivery records upon request by an authorized officer of the law as defined in Section 4017 of the Business and Professions Code.

(k) Security printers shall report any theft or loss of controlled substance prescription forms to the Department of Justice via fax or e-mail within 24 hours of the theft or loss.

(*l*) (1) The department shall impose restrictions, sanctions, or penalties, subject to subdivisions (m) and (n), against security printers who are not in compliance with this division pursuant to regulations implemented pursuant to this division and shall revoke its approval of a security printer for a violation of this division or

action that would permit a denial pursuant to subdivision (d) of this section.

(2) When the department revokes its approval, it shall notify the appropriate licensing boards and remove the security printer from the list of approved security printers.

(m) The following violations by security printers shall be punishable pursuant to subdivision (n):

(1) Failure to comply with the Security Printer Guidelines established by the Security Printer Program as a condition of approval.

(2) Failure to take reasonable precautions to prevent any dishonest act or illegal activity related to the access and control of security prescription forms.

(3) Theft or fraudulent use of a prescriber's identity in order to obtain security prescription forms.

(n) A security printer approved pursuant to subdivision (b) shall be subject to the following penalties for actions leading to the denial of a security printer application specified in subdivision (d) or for a violation specified in subdivision (m):

(1) For a first violation, a fine not to exceed one thousand dollars ($1,000).

(2) For a second or subsequent violation, a fine not to exceed two thousand five hundred dollars ($2,500) for each violation.

(3) For a third or subsequent violation, a filing of an administrative disciplinary action seeking to suspend or revoke security printer approval.

(o) Beginning January 1, 2020, the Department of Justice shall limit the number of approved printers to three. The Department of Justice shall establish policies governing the selection of the three approved vendors based on ability to meet demand and prevent fraud and theft of prescription pads and the process of revoking approval for currently authorized printers in excess of three.

SEC. 3. Section 11162.1 of the Health and Safety Code is amended to read:

11162.1. (a) The prescription forms for controlled substances shall be printed with the following features:

(1) A latent, repetitive "void" pattern shall be printed across the entire front of the prescription blank; if a prescription is scanned

or photocopied, the word “void” shall appear in a pattern across the entire front of the prescription.

(2) A watermark shall be printed on the backside of the prescription blank; the watermark shall consist of the words “California Security Prescription.”

(3) A chemical void protection that prevents alteration by chemical washing.

(4) A feature printed in thermochromic ink.

(5) An area of opaque writing so that the writing disappears if the prescription is lightened.

(6) A description of the security features included on each prescription form.

(7) (A) Six quantity check off boxes shall be printed on the form so that the prescriber may indicate the quantity by checking the applicable box where the following quantities shall appear:

1–24

25–49

50–74

75–100

101–150

151 and over.

(B) In conjunction with the quantity boxes, a space shall be provided to designate the units referenced in the quantity boxes when the drug is not in tablet or capsule form.

(8) Prescription blanks shall contain a statement printed on the bottom of the prescription blank that the “Prescription is void if the number of drugs prescribed is not noted.”

(9) The preprinted name, category of licensure, license number, federal controlled substance registration number, and address of the prescribing practitioner.

(10) Check boxes shall be printed on the form so that the prescriber may indicate the number of refills ordered.

(11) The date of origin of the prescription.

(12) A check box indicating the prescriber’s order not to substitute.

(13) An identifying number assigned to the approved security printer by the Department of Justice.

(14) (A) A check box by the name of each prescriber when a prescription form lists multiple prescribers.

(B) Each prescriber who signs the prescription form shall identify himself or herself as the prescriber by checking the box by his or her name.

(15) (A) A uniquely serialized number, in a manner prescribed by the Department of Justice.

(B) Within the next working day following delivery, a security printer shall submit via Web-based application, as specified by the Department of Justice, all of the following information for all prescription forms delivered:

(i) Serial numbers of all prescription forms delivered.

(ii) All prescriber names and Drug Enforcement Administration Controlled Substance Registration Certificate numbers displayed on the prescription forms.

(iii) The delivery shipment recipient names.

(b) Each batch of controlled substance prescription forms shall have the lot number printed on the form and each form within that batch shall be numbered sequentially beginning with the numeral one.

(c) (1) A prescriber designated by a licensed health care facility, a clinic specified in Section 1200, or a clinic specified in subdivision (a) of Section 1206 that has 25 or more physicians or surgeons may order controlled substance prescription forms for use by prescribers when treating patients in that facility without the information required in paragraph (9) of subdivision (a) or paragraph (3) of this subdivision.

(2) Forms ordered pursuant to this subdivision shall have the name, category of licensure, license number, and federal controlled substance registration number of the designated prescriber and the name, address, category of licensure, and license number of the licensed health care facility the clinic specified in Section 1200, or the clinic specified in Section 1206 that has 25 or more physicians or surgeons preprinted on the form. Licensed health care facilities or clinics exempt under Section 1206 are not required to preprint the category of licensure and license number of their facility or clinic.

(3) Forms ordered pursuant to this section shall not be valid prescriptions without the name, category of licensure, license number, and federal controlled substance registration number of the prescriber on the form.

(4) (A) Except as provided in subparagraph (B), the designated prescriber shall maintain a record of the prescribers to whom the controlled substance prescription forms are issued, that shall include the name, category of licensure, license number, federal controlled substance registration number, and quantity of controlled substance prescription forms issued to each prescriber. The record shall be maintained in the health facility for three years.

(B) Forms ordered pursuant to this subdivision that are printed by a computerized prescription generation system shall not be subject to subparagraph (A) or paragraph (7) of subdivision (a). Forms printed pursuant to this subdivision that are printed by a computerized prescription generation system may contain the prescriber's name, category of professional licensure, license number, federal controlled substance registration number, and the date of the prescription.

(d) This section shall become operative on January 1, 2012. Prescription forms not in compliance with this division shall not be valid or accepted after July 1, 2012.

SEC. 4. Section 11165 of the Health and Safety Code is amended to read:

11165. (a) To assist health care practitioners in their efforts to ensure appropriate prescribing, ordering, administering, furnishing, and dispensing of controlled substances, law enforcement and regulatory agencies in their efforts to control the diversion and resultant abuse of Schedule II, Schedule III, and Schedule IV controlled substances, and for statistical analysis, education, and research, the Department of Justice shall, contingent upon the availability of adequate funds in the CURES Fund, maintain the Controlled Substance Utilization Review and Evaluation System (CURES) for the electronic monitoring of, and Internet access to information regarding, the prescribing and dispensing of Schedule II, Schedule III, and Schedule IV controlled substances by all practitioners authorized to prescribe, order, administer, furnish, or dispense these controlled substances.

(b) The Department of Justice may seek and use grant funds to pay the costs incurred by the operation and maintenance of CURES. The department shall annually report to the Legislature and make available to the public the amount and source of funds it receives for support of CURES.

(c) (1) The operation of CURES shall comply with all applicable federal and state privacy and security laws and regulations.

(2) (A) CURES shall operate under existing provisions of law to safeguard the privacy and confidentiality of patients. Data obtained from CURES shall only be provided to appropriate state, local, and federal public agencies for disciplinary, civil, or criminal purposes and to other agencies or entities, as determined by the Department of Justice, for the purpose of educating practitioners and others in lieu of disciplinary, civil, or criminal actions. Data may be provided to public or private entities, as approved by the Department of Justice, for educational, peer review, statistical, or research purposes, provided that patient information, including any information that may identify the patient, is not compromised. Further, data disclosed to any individual or agency as described in this subdivision shall not be disclosed, sold, or transferred to any third party, unless authorized by, or pursuant to, state and federal privacy and security laws and regulations. The Department of Justice shall establish policies, procedures, and regulations regarding the use, access, evaluation, management, implementation, operation, storage, disclosure, and security of the information within CURES, consistent with this subdivision.

(B) Notwithstanding subparagraph (A), a regulatory board whose licensees do not prescribe, order, administer, furnish, or dispense controlled substances shall not be provided data obtained from CURES.

(3) In accordance with federal and state privacy laws and regulations, a health care practitioner may provide a patient with a copy of the patient's CURES patient activity report as long as no additional CURES data is provided and keep a copy of the report in the patient's medical record in compliance with subdivision (d) of Section 11165.1.

(d) For each prescription for a Schedule II, Schedule III, or Schedule IV controlled substance, as defined in the controlled substances schedules in federal law and regulations, specifically Sections 1308.12, 1308.13, and 1308.14, respectively, of Title 21 of the Code of Federal Regulations, the dispensing pharmacy, clinic, or other dispenser shall report the following information to the Department of Justice as soon as reasonably possible, but not

more than seven days after the date a controlled substance is dispensed, in a format specified by the Department of Justice:

(1) Full name, address, and, if available, telephone number of the ultimate user or research subject, or contact information as determined by the Secretary of the United States Department of Health and Human Services, and the gender, and date of birth of the ultimate user.

(2) The prescriber's category of licensure, license number, national provider identifier (NPI) number, if applicable, the federal controlled substance registration number, and the state medical license number of any prescriber using the federal controlled substance registration number of a government-exempt facility.

(3) Pharmacy prescription number, license number, NPI number, and federal controlled substance registration number.

(4) National Drug Code (NDC) number of the controlled substance dispensed.

(5) Quantity of the controlled substance dispensed.

(6) International Statistical Classification of Diseases, 9th revision (ICD-9) or 10th revision (ICD-10) Code, if available.

(7) Number of refills ordered.

(8) Whether the drug was dispensed as a refill of a prescription or as a first-time request.

(9) Date of origin of the prescription.

(10) Date of dispensing of the prescription.

(11) The serial number for the corresponding prescription pad, if applicable.

(e) The Department of Justice may invite stakeholders to assist, advise, and make recommendations on the establishment of rules and regulations necessary to ensure the proper administration and enforcement of the CURES database. All prescriber and dispenser invitees shall be licensed by one of the boards or committees identified in subdivision (d) of Section 208 of the Business and Professions Code, in active practice in California, and a regular user of CURES.

(f) The Department of Justice shall, prior to upgrading CURES, consult with prescribers licensed by one of the boards or committees identified in subdivision (d) of Section 208 of the Business and Professions Code, one or more of the boards or committees identified in subdivision (d) of Section 208 of the Business and Professions Code, and any other stakeholder

identified by the department, for the purpose of identifying desirable capabilities and upgrades to the CURES Prescription Drug Monitoring Program (PDMP).

(g) The Department of Justice may establish a process to educate authorized subscribers of the CURES PDMP on how to access and use the CURES PDMP.

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Protection for Veterinarians: Discussing cannabis for pets, with clients
Proposed Legislative Counsel language

Sponsor: the California Veterinary Medical Association

Contact: Mike Dillon or Christina DiCaro, CVMA Lobbyists (KP Public Affairs - (916) 448-2162)

Background:

As per federal law, a healing arts practitioner is prohibited from prescribing, dispensing, administering or recommending cannabis for a patient under their care.

In 1996, the California Compassionate Use Act of 1996 gave physicians the authority to "recommend" marijuana to a patient under their care. The California Medical Board subsequently developed "guidelines" to help instruct physicians as to this authority.

The California Veterinary Medical Association (CVMA) is seeking legislation to declare that a veterinarian may discuss cannabis for animals with a client without fear of disciplinary action by the Veterinary Medical Board (VMB).

The Issue

- California veterinarians are presently restricted from discussing cannabis with their clients regarding their animal patients. This results in clients getting information and medical advice for their animals from unlicensed persons at cannabis dispensaries. This current situation does not provide protection for the consumer and can lead to sickness and death of their animals.

- The legalization of medical marijuana has led to California veterinarians treating numerous cases of cannabis toxicity in animals due to clients choosing to self-medicate their animals or due to accidental poisoning (e.g. ingestion of the owner's personal marijuana). These numbers will increase with the legalization of recreational marijuana in California.

- The VMB's attorney has opined in an October 5, 2017 memorandum to the Board that "to provide protection similar to that given to physicians recommending cannabis to a patient for medical purposes, the Board may wish to recommend to the Legislature a revision to the CUCSA (California Uniform Controlled Substances Act) that protects veterinarians from DEA discipline or prosecution from having discussions within the veterinarian-client-patient relationship regarding cannabis treatment….Until cannabis treatment for animals has been researched, a limited protection for discussing cannabis treatment, without recommendation of use on an animal patient, could be crafted to prohibit the punishment of a veterinarian, or denying any right or privilege, for discussions regarding cannabis treatment had between the veterinarian and client within the veterinarian-client-patient relationship." *(emphasis added)*

- This legislative proposal below seeks to provide California licensed veterinarians with critical protection from VMB disciplinary action for discussing cannabis with clients when treating their animal patients within the veterinarian-client-patient relationship. This does not include recommending cannabis.

- The CVMA is actively working with the VMB on this effort, as they are also seeking clarification of this complicated area of law.

- There is a lack of sufficient research on cannabis treatment of animals due to the drug's Schedule 1 classification. While not a component of this particular legislative fix, the CVMA strongly encourages the Legislature to support funding for targeted research regarding cannabis and its effects on companion animals, in a manner similar to the work of the California Cannabis Research Program within the University of California. We believe the University of California at Davis, School of Veterinary Medicine, as the leading veterinary school in the world, is best positioned to study the interaction between companion animals and cannabis, and then share their findings with the veterinary medical community.

Section 4826.3 is added to the California Business and Professions Code to read:

A California licensed veterinarian is prohibited from prescribing, dispensing, administering or recommending cannabis for an animal patient.

1) *The sole act of discussing the use of cannabis with a client regarding an animal patient shall not be grounds for discipline.*
2) *The Veterinary Medical Board shall not restrict a California licensed veterinarian from engaging in a discussion with a client regarding the use of cannabis for the animal patient.*
    a) *By July 1, 2019, the Veterinary Medical Board shall adopt guidelines that are reasonably necessary for veterinarians to follow in discussing the use of cannabis with clients within the veterinarian-client-patient relationship. These guidelines shall be posted to the Veterinary Medical Board's website*

STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY • GOVERNOR EDMUND G. BROWN JR.

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MEMORANDUM

DATE	October 5, 2017
TO	Members Veterinary Medical Board
FROM	Tara Welch Attorney III Legal Affairs Division, Department of Consumer Affairs
SUBJECT	**Cannabis Treatment for Animal Patients**

Questions Presented

1. How do federal and state laws regarding the use of cannabis affect veterinarians and their treatment of animal patients?

2. Can a veterinarian discuss with a client the use of cannabis treatment on animal patients?

3. Should the Veterinary Medical Board (Board) recommend statutory revisions or promulgate regulations to address cannabis treatment for animal patients?

Short Answers

1. A veterinarian is prohibited under both federal and state law from prescribing, dispensing, administering, or recommending or approving the use of cannabis on animal patients.

2. Although a veterinarian may lawfully discuss and administer treatment for cannabis toxicity, it is unclear whether a veterinarian is protected from DEA discipline or prosecution during discussions with a client regarding the use of cannabis treatment on an animal patient.

3. Due to the lack of extensive research regarding the effects of cannabis use on animals and increasing exposure of animal patients to cannabis products, the Board may wish to recommend statutory proposals to require animal cannabis treatment research and protection for veterinarians discussing animal cannabis treatment issues with a client.

Discussion

This memorandum reviews the federal and state laws affecting veterinarians relative to cannabis treatment on animal patients, compares physician and veterinarian authority regarding cannabis treatment of patients, discusses the legality of veterinarian discussions with clients regarding cannabis treatment of animal patients, and provides possible Board recommendations to address the issues raised herein.

A. Background

At the Board's July 26, 2017 meeting, the Board discussed the legality of prescribing or administering cannabis[1] to animal patients and heard public testimony in support of authorizing veterinarians to use cannabis treatments on animal patients. Several issues were raised, including the increased exposure of animals to cannabis products due to use by animal owners of medicinal and recreational cannabis products, the ability of a veterinarian to lawfully treat animal patients for cannabis toxicity, and the lack of medical research regarding cannabis treatments for animals. Following the discussion, the Board requested research by legal counsel of the federal and state laws regarding cannabis treatment of animals.

B. Federal and state laws regarding medical cannabis treatment

The federal Controlled Substances Act (CSA) (21 USC § 801 et seq.) and the California Uniform Controlled Substances Act (CUCSA) (Health & Saf. Code, § 11000 et seq.) regulate the manufacture, importation, possession, use, and distribution of certain substances. The purpose of these laws is to track the movement of controlled substances to reduce the instance of drug abuse.

The CSA requires a veterinarian, who prescribes, dispenses, or administers any controlled substance, to obtain registration from the United States Department of Justice, Drug Enforcement Administration (DEA). (21 USC §§ 802(2)(A), (10), (21), (22), and 822(a)(2).) The CUCSA authorizes a veterinarian to prescribe, furnish, or administer controlled substances to animal patients. (Health & Saf. Code, § 11210.) Controlled substances are listed on five different schedules according to their accepted medical use in treatment, relative abuse potential, and likelihood of causing dependence when abused.

Schedule I drugs are characterized as having a high potential for abuse, have no currently accepted medical use in treatment in the United States, and lack accepted safety for use under medical supervision. (21 USC § 812(b)(1).) Only Schedule II through V drugs may be prescribed or administered by a veterinarian upon receiving DEA registration approval. (Health & Saf. Code, § 11164.) Cannabis and its derivatives, classified as hallucinogenic substances, are listed as Schedule I drugs and prohibited from being prescribed, furnished, or administered to patients. (21 CFR § 1308.11(d)(23), (31), (58); Health & Saf. Code, § 11054, subds. (d)(13), (20).) A violation of federal or state law regarding controlled substances is grounds for licensure discipline under the Veterinary Medicine Practice Act. (Bus. & Prof. Code, § 4883, subd. (g)(3).) Accordingly, a veterinarian who prescribes, furnishes, or administers cannabis to animal patients, or conspires for or aids and abets the prescription, furnishing, or administration of cannabis to animal patients, is in violation of federal and state law. The veterinarian's DEA registration and/or California license would be subject to discipline.

C. Recommendation or approval of cannabis treatment for human patients vs. animal patients

Like veterinarians, physicians are required to register with the DEA to prescribe, dispense, or administer a controlled substance. However, only physicians have authority under state law to recommend or approve the use of medical cannabis by human patients.

[1] As of June 27, 2017, all references to "marijuana" under the California Uniform Controlled Substances Act (except those in the Medical Marijuana Program (Health and Saf. Code §11362.7 et seq.)) were changed to "cannabis," which is defined under Business and Professions Code section 26001(f). (See Senate Bill (SB) 94 (Comm. on Budget and Fiscal Review, Ch. 27, Stats. 2017).)

In 1996, California voters approved Proposition 215, the California Compassionate Use Act of 1996, which authorized physicians to recommend or approve of the use of medical marijuana treatment of human patients. (Health & Saf. Code, § 11362.5.) In 1999, the Legislature established the Marijuana Research Act of 1999, a three-year research program, initially referred to as the California Marijuana Research Program, to determine the safety and efficacy of marijuana as a therapeutic drug for use by human patients. (See SB 847 (Vasconcellos, Ch. 750, Stats. 1999); Health & Saf. Code, § 11362.9.)

In 2015, as part of a package of bills that provided a comprehensive licensing and statutory framework for the oversight of marijuana cultivation, manufacture, transportation, storage, distribution, and sales, the Legislature enacted requirements for physician recommendation of medical cannabis to human patients. (See SB 643 (McGuire, Ch. 719, Stats. 2015); Bus. & Prof. Code, § 2525 et seq.; Assembly Bill (AB) 266 (Bonta, Ch. 689, Stats. 2015; Bus. & Prof. Code, § 19300 et seq.; AB 243 (Wood, Ch. 688, Stats. 2015); Bus. & Prof. Code, § 19331 et seq.) Following the passage of those bills, collectively referred to as the Medical Cannabis Regulation and Safety Act (MCRSA), Proposition 64 (the Control, Regulate and Tax Adult Use of Marijuana Act (AUMA)) was approved by voters and legalized recreational use of marijuana by adults age 21 and older. (Health & Saf. Code, § 11362.1.) In 2017, the medicinal use of cannabis (MCRSA) and recreation use of marijuana (AUMA) laws were integrated under SB 94 (Committee on Budget and Fiscal Review, Chapter 27, Statutes of 2017) to provide for a single regulatory structure for both medicinal and adult-use cannabis. Although the cultivation, distribution, and human use of cannabis is legal in California, cannabis remains an illegal Schedule I controlled substance under federal law.

Other states, like Colorado, have similarly legalized medical and/or recreational use of cannabis. Out of a recognition that increased human exposure to cannabis products results in increased animal exposure to cannabis products, veterinarians at Colorado State University, College of Veterinary Medicine and Biomedical Sciences, are researching and performing clinical trials regarding the use and effects of cannabis products for animals. (L. Kogan, P. Hellyer, N. Robinson, *Consumers' Perceptions of Hemp Products for Animals*, Journal of the American Holistic Veterinary Medical Assoc. (Spring 2016), https://www.ahvma.org/wp-content/uploads/AHVMA-2016-V42-Hemp-Article.pdf [as of Sept. 14, 2017]; N. Coltrain, *Not yet pot for pets: CSU starts study of cannabis extract*, Coloradoan (May 6, 2017) http://www.coloradoan.com/story/news/2017/05/06/csu-vet-school-starts-study-cannabis/306650001/ [as of Sept. 14, 2017].) In California, extensive research on cannabis treatment of human patients continues through the California Cannabis Research Program, and California's Legislature has enacted comprehensive oversight of human cannabis use and treatment; however, California has not yet studied or enacted legislation to address cannabis use or treatment for animal patients.

D. Discussions with clients and lawful treatment of animal patients

Pursuant to the Veterinary Practice Act, a veterinarian may diagnose or prescribe a drug, medicine, appliance, application, or treat an animal to prevent, cure, or relieve a wound, fracture, bodily injury, or disease. (Bus. & Prof. Code, § 4826(b).) As discussed above, a veterinarian may not prescribe, administer, or recommend or approve the use of cannabis for treatment of any condition. If the animal patient presents as having cannabis toxicity, the veterinarian may diagnose and treat the animal patient to prevent, cure, or relieve bodily injury due to the ingestion of or exposure to cannabis or cannabis products. However, as expressed by the Board members at the July 27, 2017 board meeting, without research on the effects of cannabis treatment and overdoses, it is difficult for veterinarians to know what to advise their clients regarding toxicity treatment.

Further, it is uncertain as to whether a veterinarian may also discuss cannabis treatment options with the client. Following California's enactment of physician cannabis treatment recommendation authority under Proposition 215, case law determined that physicians would not place their DEA registrations in

jeopardy for discussing cannabis treatment options with their patients. In *Conant v. Walters* (2002) 309 F.3d 629, the United States Court of Appeals, Ninth Circuit, determined that an integral part of the practice of medicine is the frank and open communication between a patient and doctor because barriers to full disclosure by the patient to the physician would impair diagnosis and treatment. The court held that physician speech with a patient regarding cannabis treatment is entitled to First Amendment protection because of the significance of the doctor-patient relationship. Accordingly, the federal government could not justify revoking a physician's DEA registration for merely recommending medical use of cannabis.

As with the physician-patient relationship, a veterinarian-client-patient relationship depends upon open and frank communication for the proper treatment of the animal patient. However, legal protection of veterinarians and their discussions with clients of cannabis treatment for animal patients has yet to be codified in statute or challenged in court.

E. Possible Board recommendations

California consumers have increased access to cannabis products following the enactment of medical and recreational cannabis use statutes. Consequently, more animals are being exposed to cannabis products in the household. Additionally, consumers are turning to cannabis to treat their pets' medical conditions. As such, it appears that veterinarians, consumers, and animal patients would all benefit from statutory or regulatory provisions that would address animal cannabis treatment.

With respect to regulatory provisions, the issues to be resolved concern CUCSA Schedule I drug research and DEA registration requirements under the Health and Safety Code. As such, it does not appear that the Board has authority to promulgate regulations to provide protection from DEA enforcement for veterinarians discussing animal cannabis treatment or require a state entity to perform research of a Schedule I drug. Instead of regulations, the Board may wish to consider recommending to the Legislature two proposals to revise the CUCSA statutes for the protection of consumers and animal patients, as follows.

First, to address concerns regarding the lack of sufficient research and study of cannabis treatment on animals, the Board may wish to recommend to the Legislature that cannabis treatment on animals be studied in a manner similar to the study required for cannabis treatment on humans under the CUCSA and performed by the University of California through the California Cannabis Research Program. (See Health & Saf. Code, § 11362.9.)

Second, to provide protection similar to that given to physicians recommending cannabis to a patient for medical purposes, the Board may wish to recommend to the Legislature a revision to the CUCSA that protects veterinarians from DEA discipline or prosecution for having discussions within the veterinarian-client-patient relationship regarding cannabis treatment. Notably, the CUCSA statute providing physician protection for cannabis treatment recommendations states: "Notwithstanding any other provision of law, no physician in this state shall be punished, or denied any right or privilege, for having recommended marijuana to a patient for medical purposes." (Health & Saf. Code, § 11362.5, subd. (c).) Until cannabis treatment for animals has been researched, a limited protection for discussing cannabis treatment, without recommendation of use on an animal patient, could be crafted to prohibit the punishment of a veterinarian, or denying any right or privilege, for discussions regarding cannabis treatment had between the veterinarian and client within the veterinarian-client-patient relationship.

Conclusion

Veterinarians are not authorized to prescribe, administer, or recommend or approve of the use of cannabis to treat animal patients. It is unclear whether veterinarians have any protection from DEA discipline or prosecution for having discussions with clients regarding cannabis treatment of animal patients. Due to the increasing exposure of animals to cannabis products and the need for veterinarians to properly treat animal patients suffering from cannabis toxicity or medical maladies for which animal owners are treating with cannabis products, the Board may wish to recommend legislative proposals to address these issues.

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University of California Davis
Qualtrics Survey Software - Pet Survey

Pet Information

What kind of pet do you have?

- Dog
- Cat
- Bird
- Other

What is your pet's age?

What is your pet's breed?

Approximately how long have you owned your pet?

Why does your pet need a cannabis product? Please check all conditions that apply.

- [ ] Pain
- [ ] Anxiety
- [ ] Dementia
- [ ] Seizures
- [ ] Nausea/Poor appetite
- [ ] Other

Pet's Current Condition(s)

Does your pet have a specific diagnosis?

- ( ) Yes
- ( ) No

If Yes, please indicate the diagnosis.

How was the condition diagnosed?

- [ ] Bloodwork
- [ ] X-rays
- [ ] Special Tests
- [ ] Surgery

Is your pet currently taking medication for this condition?

- ( ) Yes
- ( ) No

Medication #1

Name	
Amount	
Frequency	
Duration of time on medication	

Medication #2

Name	
Amount	
Frequency	
Duration of time on medication	

Medication #3

Name	
Amount	
Frequency	
Duration of time on medication	

Have you tried any other medications for this condition in the past that did not work for your pet?

Yes

No

Is your pet currently on any other medications for other conditions (please list)?

Products that You are Currently Giving your Pet

What is the name of the hemp/cannabis product?

What is the product made of?

Hemp

Cannabis

Unknown

Is the amount of Cannabidiol (CBD), Tetrahydrocannabinol (THC), or other cannabinoids in the product listed?

Yes

No

If Yes, how much CBD, THC or other cannabinoids is in the product (e.g., 2 mg CBD/ml, 1 mg CBD/cookie, 1 mg THC/ml)?

What form does the product come in?

- Oil tincture
- Pill
- Topical Spray
- Cookie
- Other

How much are you giving your pet (i.e., dose)?

How often are you giving the product to your pet?

- Once per day
- Twice per day
- Three times per day
- Four times per day
- Other

Who recommended this dose?

- Company
- Friend
- Budtender
- Other

How do you give the product to your pet?

- [ ] By mouth
- [ ] In their food
- [ ] On their skin
- [ ] Under the tongue
- [ ] Other

How long has your pet been on the product?

Where do you purchase your product?

- ○ Online
- ○ Dispensary
- ○ Friend
- ○ Grow your own
- ○ Other

Improvement/Side Effects

Since giving your product, what improvements (if any) in your pet's condition have you observed? Check all that apply.

- [ ] Decrease pain
- [ ] Decrease anxiety
- [ ] Increased happiness
- [ ] Sleeping better
- [ ] Increased appetite
- [ ]

- [ ] Decreased seizures
- [ ] None
- [ ] Other

Since giving the product, what side effects (if any) have you observed? Check all that apply.

- [ ] Sedation
- [ ] Diarrhea
- [ ] Itching
- [ ] Vomiting
- [ ] None
- [ ] Other

Have you discussed the use of these products with your veterinarian?

- ( ) Yes
- ( ) No

Would you support further research in medical cannabis for pets?

- ( ) Yes
- ( ) No

If one were available, would you be interested in involving your pet in a study?

- ( ) Yes
- ( ) No

Other Comments:

Survey Powered By Qualtrics

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Proposed Disaster Response language – Veterinary Medicine Practice Act

Section 4826.4 is added to the California Business and Professions Code to read:

4826.4 Rendering Veterinary Medical Services During an Emergency

A California licensed veterinarian at a registered premises, in accordance with Section 4853 of the Business and Professions Code, that is located within a 25 mile radius of a federal, state, or local emergency impact zone, may perform the following:

1) A veterinarian is authorized to render necessary and prompt care and treatment to an animal patient without establishing a veterinarian-client patient relationship if conditions are such that one cannot be established in a timely manner.
2) A veterinarian may, in good faith, dispense or prescribe a dangerous drug or dangerous device in reasonable quantities to further the health and welfare of the animal patient.
    a) Prior to refilling a prescription pursuant to this section, the veterinarian shall make a reasonable effort to contact the prescriber. The veterinarian shall make an appropriate record, including the basis for proceeding under this section.

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Veterinary Medical Board
Licensee Manager Statutes

Amend Business and Professions Code Sections 4853.1 and 4853.6 as follows:

4853.

(a) All premises where veterinary medicine, veterinary dentistry, veterinary surgery, and the various branches thereof is being practiced shall be registered with the board. The certificate of registration shall be on a form prescribed in accordance with Section 164.
(b) "Premises" for the purpose of this chapter shall include a building, kennel, mobile unit, or vehicle. Mobile units and vehicles shall be exempted from independent registration with the board when they are operated from a building or facility which is the licensee manager's principal place of business and the building is registered with the board, and the registration identifies and declares the use of the mobile unit or vehicle.
(c) Every application for registration of veterinary premises shall set forth in the application the name of the responsible licensee manager who is to act for and on behalf of the licensed premises. Substitution of the responsible licensee manager may be accomplished by application to the board if the following conditions are met:
(1) The person substituted qualifies by presenting satisfactory evidence that he or she possesses a valid, unexpired, and unrevoked license as provided by this chapter and that the license is not currently under suspension.
(2) No circumvention of the law is contemplated by the substitution.
(Amended by Stats. 1997, Ch. 642, Sec. 21. Effective January 1, 1998.)

Commented [WT1]: No change to this statute; provided for context.

4853.1.

(a) Each application to register a premises pursuant to Section 4853 shall be made on a form provided by the board. An application for renewal of that registration shall be made annually.
(b) The application shall contain a statement to the effect that the ~~applicant~~premises owner and licensee manager have ~~has~~ not been convicted of a felony, ~~has~~have not been the subject of professional disciplinary action taken by any public agency in California or any other state or territory, and ~~has~~have not violated any of the provisions of this chapter. If the ~~applicant~~premises owner and licensee manager are ~~is~~ unable to make that statement, the application shall contain a statement of the conviction, professional discipline, or violation.
(c) The board may, as part of the renewal process, make necessary inquiries of the ~~applicant~~premises owner and licensee manager and conduct an investigation in order to determine if cause for disciplinary action exists.
(Added by Stats. 1988, Ch. 1007, Sec. 3.)

Commented [WT2]: Proposed revisions to clarify who is the applicant and that both the premises owner and licensee manager have to disclose.

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4853.6.

The board shall withhold, suspend or revoke registration of veterinary premises:
(a) When the licensee manager set forth in the application in accordance with Section 4853 ceases to become responsible for management of the registered premises and no substitution of the responsible licensee manager has been made by application as provided for in Section 4853.
(b) When the licensee manager, regardless if he or she is subsequently removed and replaced as the licensee manager, has, under proceedings conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, the license to practice veterinary medicine, surgery, and dentistry revoked or suspended.
(Added by Stats. 1978, Ch. 1314.)

Commented [WT3]: Proposed revisions to clarify discipline when licensee manager is found to have violated the Act, even though that licensee manager is subsequently removed and replaced by a new licensee manager.

ASSEMBLY BILL No. 2300

Introduced by Assembly Member Maienschein
(Coauthor: Assembly Member Acosta)
(Coauthor: Senator Wilk)

February 13, 2018

An act to amend Section 4846.5 of the Business and Professions Code, relating to healing arts.

LEGISLATIVE COUNSEL'S DIGEST

AB 2300, as introduced, Maienschein. Continuing education: veterinarians.

Existing law creates a Veterinary Medical Board in the Department of Consumer Affairs whose highest priority is to protect the public in exercising its licensing, regulatory, and disciplinary functions. Existing law requires applications for a veterinarian license to be furnished on a form and accompanied by a diploma or other verification of graduation from a veterinary college recognized by the board. Existing law requires each veterinarian licensed by the board to biennially apply for renewal of his or her license. Existing law requires the board to issue renewal licenses to those applicants that have completed a minimum of 36 hours of continuing education in the preceding 2 years, including no more than 6 hours of self-study courses.

This bill would instead authorize an applicant for renewal to earn a total of 6 hours or less of the 36 hours of continuing education doing either self-study courses or providing pro bono spaying or neutering services to benefit residents of low-income communities, as defined.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 4846.5 of the Business and Professions Code is amended to read:

4846.5. (a) Except as provided in this section, the board shall issue renewal licenses only to those applicants that have completed a minimum of 36 hours of continuing education in the preceding two years.

(b) (1) Notwithstanding any other law, continuing education hours shall be earned by attending courses relevant to veterinary medicine and sponsored or cosponsored by any of the following:

(A) American Veterinary Medical Association (AVMA) accredited veterinary medical colleges.

(B) Accredited colleges or universities offering programs relevant to veterinary medicine.

(C) The American Veterinary Medical Association.

(D) American Veterinary Medical Association recognized specialty or affiliated allied groups.

(E) American Veterinary Medical Association's affiliated state veterinary medical associations.

(F) Nonprofit annual conferences established in conjunction with state veterinary medical associations.

(G) Educational organizations affiliated with the American Veterinary Medical Association or its state affiliated veterinary medical associations.

(H) Local veterinary medical associations affiliated with the California Veterinary Medical Association.

(I) Federal, state, or local government agencies.

(J) Providers accredited by the Accreditation Council for Continuing Medical Education (ACCME) or approved by the American Medical Association (AMA), providers recognized by the American Dental Association Continuing Education Recognition Program (ADA CERP), and AMA or ADA affiliated state, local, and specialty organizations.

~~(2) Continuing education credits shall be granted to those veterinarians taking self-study courses, which may include, but are not limited to, reading journals, viewing video recordings, or listening to audio recordings. The taking of these courses shall be limited to no more than six hours biennially.~~

(2) Notwithstanding paragraph (1), a total of six hours or less of the required 36 hours of continuing education may be earned doing either of the following, or a combination of either:

(A) Taking self-study courses, which may include, but are not limited to, reading journals, viewing video recordings, or listening to audio recordings.

(B) (i) Providing pro bono spaying or neutering services to benefit residents of low-income communities. Services shall be provided under the supervision of a public animal control agency or shelter, society for the prevention of cruelty to animals shelter, humane society shelter, or rescue group. Services shall be administered at a facility that is appropriately equipped and staffed to provide those services.

(ii) For purposes of clause (i), "low-income communities" means census tracts with median household incomes at or below 80 percent of the statewide median income or with median household incomes at or below the threshold designated by the Department of Housing and Community Development as low income on its list of state income limits adopted pursuant to Section 50093 of the Health and Safety Code.

(3) The board may approve other continuing veterinary medical education providers not specified in paragraph (1).

(A) The board has the authority to recognize national continuing education approval bodies for the purpose of approving continuing education providers not specified in paragraph (1).

(B) Applicants seeking continuing education provider approval shall have the option of applying to the board or to a board-recognized national approval body.

(4) For good cause, the board may adopt an order specifying, on a prospective basis, that a provider of continuing veterinary medical education authorized pursuant to paragraph (1) or (3) is no longer an acceptable provider.

(5) Continuing education hours earned by attending courses sponsored or cosponsored by those entities listed in paragraph (1) between January 1, 2000, and January 1, 2001, shall be credited toward a veterinarian's continuing education requirement under this section.

(c) Every person renewing his or her license issued pursuant to Section 4846.4, or any person applying for relicensure or for reinstatement of his or her license to active status, shall submit

proof of compliance with this section to the board certifying that he or she is in compliance with this section. Any false statement submitted pursuant to this section shall be a violation subject to Section 4831.

(d) This section shall not apply to a veterinarian's first license renewal. This section shall apply only to second and subsequent license renewals granted on or after January 1, 2002.

(e) The board shall have the right to audit the records of all applicants to verify the completion of the continuing education requirement. Applicants shall maintain records of completion of required continuing education coursework for a period of four years and shall make these records available to the board for auditing purposes upon request. If the board, during this audit, questions whether any course reported by the veterinarian satisfies the continuing education requirement, the veterinarian shall provide information to the board concerning the content of the course; the name of its sponsor and cosponsor, if any; and specify the specific curricula that was of benefit to the veterinarian.

(f) A veterinarian desiring an inactive license or to restore an inactive license under Section 701 shall submit an application on a form provided by the board. In order to restore an inactive license to active status, the veterinarian shall have completed a minimum of 36 hours of continuing education within the last two years preceding application. The inactive license status of a veterinarian shall not deprive the board of its authority to institute or continue a disciplinary action against a licensee.

(g) Knowing misrepresentation of compliance with this article by a veterinarian constitutes unprofessional conduct and grounds for disciplinary action or for the issuance of a citation and the imposition of a civil penalty pursuant to Section 4883.

(h) The board, in its discretion, may exempt from the continuing education requirement any veterinarian who for reasons of health, military service, or undue hardship cannot meet those requirements. Applications for waivers shall be submitted on a form provided by the board.

(i) The administration of this section may be funded through professional license and continuing education provider fees. The fees related to the administration of this section shall not exceed the costs of administering the corresponding provisions of this section.

(j) For those continuing education providers not listed in paragraph (1) of subdivision (b), the board or its recognized national approval agent shall establish criteria by which a provider of continuing education shall be approved. The board shall initially review and approve these criteria and may review the criteria as needed. The board or its recognized agent shall monitor, maintain, and manage related records and data. The board may impose an application fee, not to exceed two hundred dollars ($200) biennially, for continuing education providers not listed in paragraph (1) of subdivision (b).

(k) (1) Beginning January 1, 2018, a licensed veterinarian who renews his or her license shall complete a minimum of one credit hour of continuing education on the judicious use of medically important antimicrobial drugs every four years as part of his or her continuing education requirements.

(2) For purposes of this subdivision, "medically important antimicrobial drug" means an antimicrobial drug listed in Appendix A of the federal Food and Drug Administration's Guidance for Industry #152, including critically important, highly important, and important antimicrobial drugs, as that appendix may be amended.

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AB ---- (Maienschein): Veterinarian Continuing Education: Spay and Neutering

THE ISSUE

Voluntary spay and neuter (S/N) for cats and dogs has consistently been proven as an effective method in reducing shelter intake and euthanasia rates.

Unfortunately, cost is a primary barrier to S/N surgery in many communities. Lower income households are statistically associated with having higher rates of sexually intact cats. A 2009 peer-reviewed scientific study published in the Journal of the American Veterinary Medical Association found that the S/N rate is significantly lower for cats living in households earning $35,000 or less annually. For the lower-income owners of intact cats interviewed in the study, high cost was the most commonly cited reason for not altering their cats.

Some California jurisdictions have adopted laws that require mandatory alteration of dogs and/or cats. The unintended consequence of these laws for many lower income households is the relinquishment of a beloved family pet to a local shelter due to the cost of alteration, which can be in the hundreds of dollars. Research indicates that relinquishment of pets to shelters and intake into shelters are greatest from areas where human poverty levels are high.

These unfortunate outcomes could be avoided by making pro bono services more readily available to lower income households. Allowing veterinarians to obtain continuing education credit by performing qualified S/N surgeries is likely to increase the number of veterinarians willing to provide such services. By incentivizing veterinarians to perform volunteer S/N services, shelter intakes and euthanasia, and thus, shelter costs, could be reduced.

Both New Jersey and New York have successfully implemented similar state laws. (New Jersey Statutes Title 45:16-9.4a; (New York Education Code Section 6704-a). These programs have shown that while veterinarians are incentivized by the opportunity to earn continuing education credits, they also gain multiple educational benefits from participation. Veterinarians engaged in the program are provided the opportunity to gain the latest knowledge in pen-operative procedures, effective anesthesia protocols and more efficient surgical techniques. And, new scientific perspectives on sterilization are still emerging and that information is typically shared among veterinary professionals participating in spay/neuter programs.

EXISTING LAW

Existing law requires all active veterinarians to complete 36 hours of continuing education every two years in order to maintain their license. As part of their continuing education obligations, a veterinarian may complete up to 6 hours of self-study coursework. Self-study coursework may include reading journals, viewing video recordings, or listening to audio recordings. (Business and Professions Code Section 4846.5).

THE PROPOSAL

The proposed legislation would authorize veterinarians the option to fulfill all or part of their self-study continuing education coursework associated with pro bono S/N services. Allowing veterinarians to voluntarily utilize their continuing education activities to perform community service would reduce the animal shelter overcrowding that leads to euthanasia as well as the economic burden for jurisdictions experiencing budget limitations.

SUPPORT

ASPCA (Sponsor)

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Veterinary Medical Board
Electronic Administration of the Veterinary Law Examination (VLE)

Amend Business and Professions Code (BPC) Section 4848(2)(C) as follows:

4848
(2)(C) An examination concerning those statutes and regulations of the Veterinary Medicine Practice Act administered by the board. The examination shall be administered by regular mail, email, or by both regular mail and email, and provided to applicants within 10 to 20 days of eligibility determination. The board shall have 10 to 20 days from the date of receipt to process the examination and provide candidates with the results of the examination. The applicant shall certify that he or she personally completed the examination. Any false statement is a violation subject to Section 4831. University of California and Western University of Health Sciences veterinary medical students who have successfully completed a board-approved course on veterinary law and ethics covering the Veterinary Medicine Practice Act shall be exempt from this provision.

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Senate Business, Professions and Economic Development Committee
COMMITTEE BILL: PROPOSED LEGISLATION
Veterinary Medical Board 2018 Request

DATE SUBMITTED: February 7, 2018

REQUESTOR & CONTACT INFORMATION: Annemarie Del Mugnaio, Executive Officer (916) 515-5222/ Annemarie.delmugnaio@dca.ca.gov

I. Veterinary Assistant Controlled Substance Permit (VACSP) - Probationary License

Summary:
Amending BPC section 4836.2 would enable the Veterinary Medical Board (Board) to offer a probationary permit to an applicant who may otherwise be denied a permit for convictions of criminal acts or acts substantially related to the qualifications, duties, or functions of veterinary medicine. Currently, the Board has the authority to issue a probationary license to a Registered Veterinary Technician (RVT) by Business and Professions Code (BPC) section 4845. The administrative process of issuing a probationary permit would save the Board and the applicant time and expense preparing for, and proceeding with a legal hearing. The offer of the probationary license does not preclude the applicant from requesting a hearing to argue for a free and clear permit. All due process rights are still afforded the applicant. The Board would review and must approve the offer of probation and specific terms through a stipulated agreement prior to the issuance of the probationary VACSP. Also, the implementing law for the VACSP category did not include the substantial relationship criteria language that is included in BPC Section 4883 for veterinarian licenses and RVT registrations.

Identification of Problem:
The Board has accrued additional expenses due to the number of VACSP applicants being denied based on prior convictions. When denied, applicants have the right to appeal the decision, which is a time-consuming and expensive process to both the applicant and the Board. Since the Board already employs a similar process of issuing a probationary registration for RVTs for offenses that do not pose a substantial risk to the public, it makes sense to implement similar authority to offer applicants for the VACSP a similar pathway.

Proposed Solution:
Authorizing the Board to issue a probationary permit to a VACSP, reduces the amount of appeals that must be transmitted to the AG's Office and the potentially set for hearing. The current process of denying an applicant a permit which could otherwise be monitored by the Board, places an additional strain on an already backlogged system when in some cases, the most appropriate course action is to offer a probationary permit to the applicant. The authority to issue the probationary permit will save both time and money for applicants and the Board. Probationary VACSPs enable the applicant to work, while being monitored by the Board to ensure any fitness the practice concerns are being addressed and that the VACSP is complying with the terms of their probation.

Program Background and Legislative History:
The implementation of probationary VACSPs would be similar to the probationary RVT registrations, which are identified in BPC section 4845 [see below].

Justification:
By amending BPC section 4836.2, the Board will have the authority to offer VACSPs a probationary license as deemed appropriate. The amendment will serve to decrease the number of appeals being handled by the AG's Office and will save both time and money for the Board and the applicant. The amendment is consistent with the authority the Board has in place for RVTs, and does not compromise public protection since it allows for appropriate monitoring and oversight of VACSPs issued probationary licenses for past violations of the law. Furthermore, the amendment does not circumvent any due process rights, but instead offers another option for obtaining a restricted permit.

Arguments (Pro and Con):
Pro: By approving probationary VACSPs, the Board continues to protect California consumers and their pets through probationary monitoring, while enabling a qualified applicant a path to enter the workforce. In addition to this, the Board and applicants will be saving time and money by reducing the amount of cases that go to hearings.
Con: The Board does not see a downside to providing the opportunity to issue a probationary permit in cases where monitoring the applicant serves to protect the public while allowing a qualified applicant to work.

Probable Support and Opposition:
Support: The Board anticipates support of this regulation. There is probable support from VACSP applicants who would otherwise be denied due to past convictions, as well as support from the veterinary community who employ these individuals in their practices.
Opposition: The Board does not anticipate opposition to this proposal.

Fiscal Impact:
The Board anticipates a savings to both applicants and the Board, due to a decrease in the number of denials that would result in hearings and extensive costs.

Economic Impact:
The Board anticipates that there will be an increase in the amount of VACSPs working, due to the Board approving probationary VACSPs. This will provide additional opportunities for individuals who would otherwise be denied and would potentially create new jobs.

Proposed Text:
Amend BPC section 4836.2:
(a) Applications for a veterinary assistant controlled substance permit shall be upon a form furnished by the board.
(b) The fee for filing an application for a veterinary assistant controlled substance permit shall be set by the board in an amount the board determines is reasonably necessary to provide sufficient funds to carry out the purposes of this section, not to exceed one hundred dollars ($100).

(c) The board may, suspend, or revoke the controlled substance permit of a veterinary assistant after notice and hearing for any cause provided in this subdivision. The proceedings under this section shall be conducted in accordance with the provisions for administrative adjudication in Chapter 5 (commencing with section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, and the board shall have all the powers granted therein. The board may deny, issue a probationary registration to an applicant subject to terms and conditions deemed appropriate by the board, revoke or suspend a veterinary assistant controlled substance permit for any of the following reasons:
(1) The employment of fraud, misrepresentation, or deception in obtaining a veterinary assistant controlled substance permit.
(2) Chronic inebriety or habitual use of controlled substances.
(3) The applicant or permit holder ~~veterinary assistant to whom the permit is issued~~ has been convicted of a state or federal felony controlled substance violation.
(4) Violating or attempts to violate, directly or indirectly, or assisting in or abetting the violation of, or conspiring to violate, any provision of this chapter, or of the regulations adopted under this chapter.
(5) Conviction of a crime substantially related to the qualifications, functions, or duties of veterinary medicine, surgery, or dentistry, in which case the record of the conviction shall be conclusive evidence.
(d) The board shall not issue a veterinary assistant controlled substance permit to any applicant with a state or federal felony controlled substance conviction.
(e) (1) As part of the application for a veterinary assistant controlled substance permit, the applicant shall submit to the Department of Justice fingerprint images and related information, as required by the Department of Justice for all veterinary assistant applicants, for the purposes of obtaining information as to the existence and content of a record of state or federal convictions and state or federal arrests and information as to the existence and content of a record of state or federal arrests for which the Department of Justice establishes that the person is free on bail or on his or her own recognizance pending trial or appeal.
(2) When received, the Department of Justice shall forward to the Federal Bureau of Investigation requests for federal summary criminal history information that it receives pursuant to this section. The Department of Justice shall review any information returned to it from the Federal Bureau of Investigation and compile and disseminate a response to the board summarizing that information.
(3) The Department of Justice shall provide a state or federal level response to the board pursuant to paragraph (1) of subdivision (p) of section 11105 of the Penal Code.
(4) The Department of Justice shall charge a reasonable fee sufficient to cover the cost of processing the request described in this subdivision.
(f) The board shall request from the Department of Justice subsequent notification service, as provided pursuant to section 11105.2 of the Penal Code, for persons described in paragraph (1) of subdivision (e).
(g) This section shall become operative on July 1, 2015.

[Reference to Similar RVT Provisions BPC section 4845]:
(a) Notwithstanding any other provision of law, the board may, in its sole discretion, issue a probationary registration to an applicant subject to terms and conditions deemed appropriate by the board, including, but not limited to, the following:
(1) Continuing medical, psychiatric, or psychological treatment.
(2) Ongoing participation in a specified rehabilitation program.

(3) Abstention from the use of alcohol or drugs.
(4) Compliance with all provisions of this chapter.
(b) (1) Notwithstanding any other provision of law, and for purposes of this section, when deciding whether to issue a probationary registration, the board shall request that an applicant with a dismissed conviction provide proof of that dismissal and shall give special consideration to applicants whose convictions have been dismissed pursuant to section 1203.4 or 1203.4a of the Penal Code.
(2) The board shall also take into account and consider any other reasonable documents or individual character references provided by the applicant that may serve as evidence of rehabilitation as deemed appropriate by the board.
(c) The board may modify or terminate the terms and conditions imposed on the probationary registration upon receipt of a petition from the applicant or registrant.
(d) For purposes of issuing a probationary license to qualified new applicants, the board shall develop standard terms of probation that shall include, but not be limited to, the following:
(1) A three-year limit on the individual probationary registration.
(2) A process to obtain a standard registration for applicants who were issued a probationary registration.
(3) Supervision requirements.
(4) Compliance and quarterly reporting requirements.
(Added by Stats. 2008, Ch. 675, Sec. 5. Effective January 1, 2009.)

II. Veterinary Student Exemption

Summary:
Originally included in Senate Bill (SB) 546 (Hill 2017), this regulatory proposal would specify the exemption for veterinary students to obtain critical clinical experience under veterinary supervision during their formal training program. The amendments originally included in SB 546 have been revised to remove duplicative program accreditation language. The provisions as approved by the Board in consultation with University of California (UC) Davis and Western University specify that the clinical training must be approved by the University where the student is enrolled and requires the student to have prior training before being placed in an externship to provide care and treatment to the public's animals under the supervision of a licensed veterinarian. While current law restricts the exemption to students at UC Davis and Western; this amendment would add students from out of state accredited schools to the exemption.

Identification of Problem:
Veterinary students, in their final year or two of study, are required to obtain clinical experience by working at veterinary practices on the public's animals. The law restricts the exemption to students at UC Davis and Western; this amendment would add students from out of state accredited schools to the exemption. In addition, current statute is silent on the responsibilities of the off-site veterinary premises to coordinate the student externship. As such, clinical sites may not be coordinating the student externship with the University in compliance with the Council on Education's (COE) requirements.

Proposed Solution:
By amending BPC section 4830(a), students from accredited veterinary programs may obtain critical experience under a licensing exemption so long as the clinical experience is part of their formal education. The language requires that the sites are appropriate vetted through the university and also requires the student to have formal training in diagnosis, treatment, and surgery prior to working on the public's animals.

Program Background and Legislative History:
The legislation was originally introduced in SB 546 (Hill 2017), but was ultimately removed from the bill following concern from both UC Davis and Western University. This topic was further discussed with the universities the proposed language is product of the recent discussions.

Justification:
The proposed amendment promotes responsible training of veterinary students while protecting California consumers and their pets. By amending BPC section 4830(a) to require students to have prior training in diagnosis, treatment, and surgery before being placed in a clinical setting, risk of harm to an animal treated by a veterinary student is dramatically reduced. The language also clarifies the responsibility of the university to formally approve the clinical training site and specifies supervision parameters.

Arguments (Pro and Con):

Pro: Amending BPC section 4830(a) protects California consumers and their pets by allowing veterinary students to obtain valuable clinical experience for entry-level practice while ensuring that they are being properly supervised at off-site veterinary premises.

Con: There are no negative impacts to the amendment as it provides further clarity regarding the intent of the clinical training that should be afforded a veterinary student prior to obtaining a license for independent practice.

Probable Support and Opposition:

Support: The Board anticipates support of the amendment from both universities in the state and from the profession.

Opposition: The Board does not anticipate any further opposition from UC Davis or Western University of Health Sciences as both campuses participated in the formulation of the proposed changes.

Fiscal Impact:

The Board does not anticipate any fiscal impact due to the requested amendments.

Economic Impact:

The Board does not anticipate any economic impact since placing veterinary students at clinical sites is already part of the universities' formal training program.

Findings from Other States:

Proposed Text:

Amend BPC section 4830(a):

(4) Students of an American Veterinary Medical Association Council on Education accredited veterinary medical program ~~in the School of Veterinary Medicine of the University of California or the College of Veterinary Medicine of the Western University of Health Sciences~~ who participate, as part of their formal curriculum, in diagnosis and treatment with direct supervision or in surgery with immediate supervision, provided the following requirements are met: (A) the clinical training site has been approved by the University where the student is enrolled; (B) the student has prior training in diagnosis, treatment, and surgery as part of the formal curriculum ~~their educational experience, including those in off-campus educational programs under~~; and the ~~direct~~ supervision of the student is provided by a California licensed veterinarian in good standing, as defined in subparagraphs (A) and (B) of paragraph (1) of subdivision (b) of Section 4848~~, appointed by the University of California, Davis, or the Western University of Health Sciences~~.

III. Veterinary Graduate – RVT Duties

Summary:

Existing regulations CCR 2027, created a loophole veterinary graduates to work unregistered and function as Registered Veterinary Technicians (RVTs). Historically, the regulation was intended to provide graduates who were unable to pass the national or state veterinary license examination, practical experience and additional time to pass the requisite exam. However, the regulation has no statutory authority under BPC 4830 providing an exemption to RVT practice, and this provision has enabled veterinary graduates to function as RVTs indefinitely without having to seek registration or licensure. The proposed language includes a delayed implementation so that it affords appropriate notice and due process for veterinary graduates currently performing RVT tasks to take and pass the RVT examinations and seek registration.

Identification of Problem:

Existing regulations currently allow DVM graduates to perform RVT tasks without seeking registration. Since the regulations are not based on statutory authority and there is no term to the unlicensed practice, the Board has no license or registration to oversee and no authority to take disciplinary action over these graduates should there be an issue with the care and treatment provided to an animal patient.

Proposed Solution:

By adopting BPC section 4841.2, the Board will prevent future veterinary graduates from performing RVT tasks until licensure is obtained by the Board. For existing graduates already performing these tasks, this regulation would allow them to continue to perform these tasks until January 1, 2020, allowing them time to become licensed or registered by the Board.

Program Background and Legislative History:

At the April 2017 Board meeting, the Board reviewed a memo by Tara Welch, Legal Counsel, which included the following background:

> Although the existing regulation [California Code of Regulations (CCR) 2027] created a registration exemption, the Board does not appear to have any statutory authority to create such exemptions. Notably, BPC section 4830 provides a list of licensure and registration exemptions, which suggests the Legislature has assumed control over such exemptions. Subdivision (a)(4) provides an exemption for students of specified veterinary programs; however, this provision does not include any exemption for graduates of these programs. Accordingly, the Board may wish to consider proposed legislation to address the regulatory exemption for veterinary graduates. To provide appropriate notice and due process to the graduates who may have been working in settings in which they perform RVT tasks without having obtained veterinary licensure or RVT registration, the proposed statute should provide a delayed effective date. With a delayed effective date, those graduates would be afforded appropriate time to obtain veterinary licensure or RVT registration. Additionally, the statute should make clear that future veterinary graduates who seek to perform RVT tasks must be duly licensed or registered.

Justification:
Adopting BPC section 4841.2 will protect California consumers and their pets. The Board will be allowing ample time for veterinary graduates already performing RVT tasks to become licensed by the Board, and prevent new graduates from performing these services without first being licensed by the Board. The Board is mandated to protect the public and in this case, animal patients. If a veterinary student graduate is providing services without the benefit of licensure, the Board is limited in its ability to regulate and enforce the laws governing the practice of veterinary medicine.

Arguments (Pro and Con):
Pro: By adopting BPC section 4841.2, the Board will be removing an inadvertent veterinary graduate exemption which was created by CCR 2027. This proposal will protect California consumers and their pets by ensuring that future graduates are not able to perform RVT tasks until licensure is obtained by the Board, thus providing Board oversight of the individual, and minimizing the time a graduate performs RVT tasks without the benefit of licensure.
Con: There is an estimated 25 graduate students who fail in this licensing loophole who would have to discontinue providing RVT tasks under the new provision.

Probable Support and Opposition:
Support: The Board anticipates support for this proposal from the veterinary profession and consumers.
Opposition: The Board anticipates minimal opposition veterinary graduates already performing RVT tasks.

Fiscal Impact:
The Board does not anticipate any major fiscal impact, however, there may be a negligible increase in revenue from the increase in applications for RVT registration or veterinary licenses.

Economic Impact:
The Board anticipates minimal economic impact to individuals who must discontinue providing RVT duties as of January 1, 2020 and seek a license or registration to practice veterinary medicine.

Findings from Other States: No similar provisions from other states were found.

Proposed Text:
Proposed Business and Professions Code section 4841.2:
(a) If, on or before January 1, 2020, a graduate of a recognized veterinary college has performed animal health care tasks otherwise performed by a registered veterinary technician, the graduate shall discontinue performing such duties on or after January 1, 2020, unless the graduate is issued a license or registration as otherwise required under this chapter.
(b) Except as provided in subdivision (a), a graduate of a recognized veterinary college shall not perform animal health care tasks otherwise performed by a registered veterinary technician unless the graduate has obtained licensure or registration as otherwise required under this chapter.

IV. Mandatory Hospital Inspection

Summary:
Amendments to the statute regarding mandatory hospital inspection of at least 20% of the registered veterinary premises annually was originally part of SB 546 (Hill, 2017) at the request of the Board. The provisions were removed after concerns were raised by Appropriations' Committee staff regarding the potential fiscal impact to the Board and its Fund. The Board has been unsuccessful in securing funding for the its Hospital Inspection Program through the Department of Finance as current statutory language is not stated as a mandate, but rather encourages the Board to make every effort to reach a 20% inspection goal of all registered premises annually.

Identification of Problem:
The Board is having difficulty obtaining funding from the Department of Finance for the Hospital Inspection Program, which inspects veterinary premises to ensure the premises comply with minimum standards as provided in regulation. Without this funding, the Board is unable to conduct a sufficient number of inspections. In the past two fiscal years, the Board has had to discontinue its routine hospital inspection program falling far short of the 20% goal, due to a lack of funding. Conducting regular inspections of a veterinary premises provides critical outreach and education to the veterinary profession regarding facility standards that address sanitation, proper drug storage, equipment maintenance, and disease control.

Proposed Solution:
By amending BPC section 4809.7, the Board will be mandated to inspect at least 20% of veterinary premises annually. Amending this section will assist in obtaining necessary funding from the Department of Finance for the Hospital Inspection Program and allow the Board to conduct regular inspections of facilities, thus ensuring regulation compliance within those facilities.

Program Background and Legislative History:
This proposal was originally included in SB 546 but as ultimately removed due to concern of the potential fiscal impact to the Board Fund.

Justification:
Hospital Inspection is a critical piece to the Board's public protection mandate, as regular inspection of veterinary premises educates and enforces compliance with minimum standards which address sanitation, drug storage, equipment maintenance, and appropriate licensure of staff to name just a few standards.

Arguments (Pro and Con):
Pro: By establishing a 20% inspection mandate, the Board will be able to seek necessary funding from the Department of Finance to conduct regular inspections of veterinary premises, which will increase regulatory compliance and protect California consumers and their pets. In addition, regular inspections of facilities would educate the veterinary profession regarding facility standards which should increase compliance and reduce the number of complaint driven inspections and disciplinary actions against premises

Con: The regulatory proposal will mandate that the Board inspect a minimum of 20% of facilities annually, which does require additional resources.

Probable Support and Opposition:
Support: The Board anticipates support for this proposal.
Opposition: The Board does not anticipate opposition.

Fiscal Impact:
This proposal would increase costs to the Board for routine hospital inspections. However, such costs would be sufficiently funded through the fee increase the Board is currently pursing by regulation. In addition, regular inspections of facilities would educate the veterinary profession regarding facility standards which should increase compliance and reduce the number of complaint driven inspections and disciplinary actions against premises, which would be a cost savings to the Board.

Economic Impact:
The Board does not anticipate any economic impact by amending BPC section 4809.7.

Findings from Other States:

Proposed Text:
Amend Business and Professions Code section 4809.7:
The board shall establish a regular inspection program that will provide for random, unannounced inspections. The board shall ~~make every effort to~~ inspect at least 20 percent of veterinary premises on an annual basis.

Tactical Medical Rescue Options, LLC
Consulting, Instruction, Direct Support
FEIN: 29-0390827

TP-C Michael Meoli, CEO
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04 October 2017

Dear California Veterinary Medical Board,

This letter will serve to respectfully request that you place a topic on your next agenda to consider a change of legislation to allow licensed California paramedics, certified in "Canine Casualty Care" to use their Advanced Life Support (ALS) skills, equipment and medications to treat critically injured working canines, in particular, badged law enforcement canines (LE K9s) injured in the line of duty. Some of the professionals who wish to be present for comment and available for questions are the following:

1. Tactical Paramedic Michael Meoli, Coordinator and Lead Instructor of Strategic Operations "Tactical Medicine – Technician" (TM-T) Course San Diego
2. Dr. Lori Martin DVM, Director of Cuyamaca Animal Hospital, LE K9 specialist, Instructor of ALS skills on canines
3. Peter Ordille, Director of Palomar College Paramedic School and the 2-day K9 TCCC class, Tactical Paramedic Captain (Ret)

The scope of practice changes we would respectfully request would be very limited and manageable and nothing as open-ended as the current Veterinary Technician scope. For example, the only animal we would train for would be a 30-60 kg canine. The only medical procedures would be in cases of life-threatening traumatic or environmental emergencies. The actual procedures would be those procedures already in the California Paramedic scope of practice for humans, such as hemorrhage control, basic and advanced airway procedures, chest decompression, fluid resuscitation, IM and IV administration of appropriate medications including sedation meds. We would anticipate that you would mandate the classes taught be required to have a California licensed DVM as the medical director and lead instructor, preferably experienced in treating LE K9s.

Some of the justifications to be discussed might include:

1. Case studies of critically injured working canines, especially LE K9s;
2. The unique and precious status of working canines, especially badged LE K9s who cost more to train than their human LE officer partners;
3. Testimony from K9 officers who send their "partner" into situations human officers don't go, and whom already believe their on-scene tactical paramedics can treat if their partner K9 is critically injured (which we cannot at this time);
4. Review of other approved programs in other states within the U.S., and Canada;
5. Review of certified K9 Tactical Casualty Care (TCC) courses already taught in California but of no practical use to California paramedics until legislative changes occur in the State scope of practice.

Thank you for your consideration in advancing the care for these noble animals in harm's way.

Very respectfully submitted with attached references,

Michael Meoli

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NOTE: The governor signed this measure on 3/20/2014.

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SENATE BILL 14-039

BY SENATOR(S) Balmer, Guzman, Aguilar, Crowder, Grantham, Heath, Herpin, Jahn, Johnston, Jones, Kefalas, Kerr, Lundberg, Marble, Newell, Nicholson, Steadman, Tochtrop, Todd, Zenzinger;
also REPRESENTATIVE(S) McCann and Court, Conti, Fischer, Garcia, Ginal, Hullinghorst, Lebsock, Melton, Pabon, Pettersen, Primavera, Rosenthal, Ryden, Salazar, Singer, Tyler, Williams, Young.

CONCERNING A GRANT OF LIMITED AUTHORITY TO EMERGENCY MEDICAL SERVICE PROVIDERS TO VOLUNTARILY PROVIDE PREVETERINARY EMERGENCY CARE TO CERTAIN DOMESTICATED ANIMALS.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. Legislative declaration. (1) The general assembly finds, determines, and declares that:

(a) As with persons throughout the nation, Colorado residents are fortunate to receive comfort and unconditional love on a daily basis from their household pets, particularly dogs and cats;

(b) In addition to the advantages of maintaining household pets, Colorado residents benefit from all forms of assistance that pets perform for their owners, especially the special comfort, support, and guidance

_____
Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.

uniquely provided by the many therapy and companion dogs and cats around the state;

(c) In addition to the assistance these pets provide for their owners in or around households and while navigating daily life, military dogs, drug-sniffing dogs, bomb-sniffing dogs, and other service animals provide critical assistance to persons with disabilities and to aid the performance of official duties by military personnel, peace officers, law enforcement agencies, fire departments, fire protection districts, or search-and-rescue agencies; and

(d) The personnel of some fire districts currently provide stabilizing, life-saving emergency care to dogs and cats, which violates the "Colorado Veterinary Practice Act", article 64 of title 12, Colorado Revised Statutes.

(2) By enacting this legislation, the general assembly intends to authorize emergency medical service providers to provide, on a voluntary basis, emergency medical care for dogs and cats in accordance with policies and procedures designed and implemented by the employers of the emergency medical service providers.

SECTION 2. In Colorado Revised Statutes, 25-3.5-203, **add** (4.5) as follows:

25-3.5-203. Emergency medical service providers - certification - renewal of certificate - duties of department - rules - criminal history record checks - definitions. (4.5) (a) AS USED IN THIS SUBSECTION (4.5), UNLESS THE CONTEXT OTHERWISE REQUIRES:

(I) "CAT" MEANS A SMALL, DOMESTICATED FELINE ANIMAL THAT IS KEPT AS A PET. "CAT" DOES NOT INCLUDE A NONDOMESTICATED WILD ANIMAL.

(II) "DOG" MEANS ANY CANINE ANIMAL OWNED FOR DOMESTIC, COMPANIONSHIP, SERVICE, THERAPEUTIC, OR ASSISTANCE PURPOSES.

(III) "EMERGENCY MEDICAL SERVICE PROVIDER" MEANS AN EMERGENCY MEDICAL SERVICE PROVIDER THAT IS CERTIFIED OR LICENSED BY THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, CREATED

UNDER SECTION 25-1-102.

(IV) "EMPLOYER" MEANS AN ENTITY OR ORGANIZATION THAT EMPLOYS OR ENLISTS THE SERVICES OF AN EMERGENCY MEDICAL SERVICE PROVIDER, REGARDLESS OF WHETHER THE PROVIDER IS PAID OR IS A VOLUNTEER. THE EMPLOYER MAY BE A PUBLIC, PRIVATE, FOR-PROFIT, OR NONPROFIT ORGANIZATION OR ENTITY; OR A SPECIAL DISTRICT.

(V) "PREVETERINARY EMERGENCY CARE" MEANS THE IMMEDIATE MEDICAL STABILIZATION OF A DOG OR CAT BY AN EMERGENCY MEDICAL SERVICE PROVIDER, IN AN EMERGENCY TO WHICH THE EMERGENCY MEDICAL SERVICE PROVIDER IS RESPONDING, THROUGH MEANS INCLUDING OXYGEN, FLUIDS, MEDICATIONS, OR BANDAGING, WITH THE INTENT OF ENABLING THE DOG OR CAT TO BE TREATED BY A VETERINARIAN. "PREVETERINARY EMERGENCY CARE" DOES NOT INCLUDE CARE PROVIDED IN RESPONSE TO AN EMERGENCY CALL MADE SOLELY FOR THE PURPOSE OF TENDING TO AN INJURED DOG OR CAT, UNLESS A PERSON'S LIFE COULD BE IN DANGER ATTEMPTING TO SAVE THE LIFE OF A DOG OR CAT.

(b) NOTWITHSTANDING ANY OTHER PROVISION OF LAW, AN EMERGENCY MEDICAL SERVICE PROVIDER MAY PROVIDE PREVETERINARY EMERGENCY CARE TO DOGS AND CATS TO THE EXTENT THE PROVIDER HAS RECEIVED COMMENSURATE TRAINING AND IS AUTHORIZED BY THE EMPLOYER TO PROVIDE THE CARE. REQUIREMENTS GOVERNING THE CIRCUMSTANCES UNDER WHICH EMERGENCY MEDICAL SERVICE PROVIDERS MAY PROVIDE PREVETERINARY EMERGENCY CARE TO DOGS AND CATS MAY BE SPECIFIED IN THE EMPLOYER'S POLICIES GOVERNING THE PROVISION OF CARE.

(c) NOTWITHSTANDING ANY OTHER PROVISION OF LAW, NOTHING IN THIS SUBSECTION (4.5) IMPOSES UPON AN EMERGENCY MEDICAL SERVICE PROVIDER ANY OBLIGATION TO PROVIDE CARE TO A DOG OR CAT, OR TO PROVIDE CARE TO A DOG OR CAT BEFORE A PERSON.

SECTION 3. In Colorado Revised Statutes, 12-64-104, **add** (3) as follows:

12-64-104. License requirements and exceptions - definitions - rules. (3) (a) AS USED IN THIS SUBSECTION (3), UNLESS THE CONTEXT OTHERWISE REQUIRES:

(I) "CAT" MEANS A SMALL, DOMESTICATED FELINE ANIMAL THAT IS KEPT AS A PET. "CAT" DOES NOT INCLUDE A NONDOMESTICATED WILD ANIMAL.

(II) "DOG" MEANS ANY CANINE ANIMAL OWNED FOR DOMESTIC, COMPANIONSHIP, SERVICE, THERAPEUTIC, OR ASSISTANCE PURPOSES.

(III) "EMERGENCY MEDICAL SERVICE PROVIDER" MEANS AN EMERGENCY MEDICAL SERVICE PROVIDER WHO IS CERTIFIED OR LICENSED BY THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, CREATED UNDER SECTION 25-1-102, C.R.S.

(IV) "EMPLOYER" MEANS AN ENTITY OR ORGANIZATION THAT EMPLOYS OR ENLISTS THE SERVICES OF AN EMERGENCY MEDICAL SERVICE PROVIDER, REGARDLESS OF WHETHER THE PROVIDER IS PAID OR IS A VOLUNTEER. THE EMPLOYER MAY BE A PUBLIC, PRIVATE, FOR-PROFIT, OR NONPROFIT ORGANIZATION OR ENTITY; OR A SPECIAL DISTRICT.

(V) "PREVETERINARY EMERGENCY CARE" MEANS THE IMMEDIATE MEDICAL STABILIZATION OF A DOG OR CAT BY AN EMERGENCY MEDICAL SERVICE PROVIDER, IN AN EMERGENCY TO WHICH THE EMERGENCY MEDICAL SERVICE PROVIDER IS RESPONDING, THROUGH MEANS INCLUDING OXYGEN, FLUIDS, MEDICATIONS, OR BANDAGING, WITH THE INTENT OF ENABLING THE DOG OR CAT TO BE TREATED BY A VETERINARIAN. "PREVETERINARY EMERGENCY CARE" DOES NOT INCLUDE CARE PROVIDED IN RESPONSE TO AN EMERGENCY CALL MADE SOLELY FOR THE PURPOSE OF TENDING TO AN INJURED DOG OR CAT UNLESS A PERSON'S LIFE COULD BE IN DANGER ATTEMPTING TO SAVE THE LIFE OF A DOG OR CAT.

(b) NOTWITHSTANDING ANY OTHER PROVISION OF LAW, AN EMERGENCY MEDICAL SERVICE PROVIDER MAY PROVIDE PREVETERINARY EMERGENCY CARE TO DOGS AND CATS TO THE EXTENT THE PROVIDER HAS RECEIVED COMMENSURATE TRAINING AND IS AUTHORIZED BY THE EMPLOYER TO PROVIDE THE CARE. THE PROVISION OF PREVETERINARY EMERGENCY CARE TO DOGS AND CATS BY EMERGENCY MEDICAL SERVICE PROVIDERS IN ACCORDANCE WITH THIS PARAGRAPH (b) IS NOT A VIOLATION OF THIS ARTICLE. REQUIREMENTS GOVERNING THE CIRCUMSTANCES UNDER WHICH EMERGENCY MEDICAL SERVICE PROVIDERS MAY PROVIDE PREVETERINARY EMERGENCY CARE TO DOGS AND CATS MAY BE SPECIFIED IN THE EMPLOYER'S POLICIES GOVERNING THE PROVISION OF CARE.

(c) NOTWITHSTANDING ANY OTHER PROVISION OF LAW, NOTHING IN PARAGRAPH (b) OF THIS SUBSECTION (3) IMPOSES UPON AN EMERGENCY MEDICAL SERVICE PROVIDER ANY OBLIGATION TO PROVIDE CARE TO A DOG OR CAT, OR TO PROVIDE CARE TO A DOG OR CAT BEFORE A PERSON.

SECTION 4. No appropriation. The general assembly has determined that this act can be implemented within existing appropriations, and therefore no separate appropriation of state moneys is necessary to carry out the purposes of this act.

SECTION 5. Act subject to petition - effective date. This act takes effect at 12:01 a.m. on the day following the expiration of the ninety-day period after final adjournment of the general assembly (August 6, 2014, if adjournment sine die is on May 7, 2014); except that, if a referendum petition is filed pursuant to section 1 (3) of article V of the state constitution against this act or an item, section, or part of this act within such period, then the act, item, section, or part will not take effect unless

approved by the people at the general election to be held in November 2014 and, in such case, will take effect on the date of the official declaration of the vote thereon by the governor.

Morgan Carroll PRESIDENT OF THE SENATE	Mark Ferrandino SPEAKER OF THE HOUSE OF REPRESENTATIVES
Cindi L. Markwell SECRETARY OF THE SENATE	Marilyn Eddins CHIEF CLERK OF THE HOUSE OF REPRESENTATIVES

APPROVED_____

John W. Hickenlooper
GOVERNOR OF THE STATE OF COLORADO

JOURNAL OF Veterinary Emergency AND Critical Care

Editorial

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Prehospital Trauma Life Support for Companion Animals and 'Operational Canines'

This issue of the *Journal of Veterinary Emergency and Critical Care* features the Veterinary Committee on Trauma's (VetCOT) Prehospital Trauma Care Best Practice recommendations for dogs and cats. The guidelines were developed under the purview of ACVECC's VetCOT Prehospital Subcommittee that consists of subject matter experts in the various fields of prehospital medicine. For further information on VetCOT's overarching mission, readers are referred to the following website https://sites.google.com/a/umn.edu/vetcot/home.

These guidelines should be considered as best practice clinical recommendations for the most common veterinary conditions that may be encountered in a prehospital scenario. The guidelines are applicable to all populations of dogs and cats with special considerations provided for the distinct sub-population of working dogs referred to as '*Operational Canines*' or ***K9s*** (OpK9). Operational K9s encompass that special population of civilian working dogs specifically trained to serve society in a variety of settings and circumstances such as federal and civilian law enforcement (eg, Police K9s, US Marshals service), force protection (eg, U.S. Customs and Border Patrol, Transportation Security Administration), and search and rescue (SAR) operations. This unique group of dogs distinguish themselves from other categories of 'working dogs' (eg, sports and agility, guide, therapy, sled dogs) as they continuously place themselves in harm's way to protect us, defend us, and preserve our freedoms. They have continuously proven to be a force multiplier in the success of many military, law enforcement, SAR, and humanitarian operations; therefore, the term "Operational Canine or OpK9" seems a more befitting term to distinguish this unique population of dogs from the rest of working dog community. The terms military working dogs (MWDs) and multipurpose canines (MPCs) specifically refer to the population of working dogs that serve the U.S. Armed Forces.

Unintentional injuries still remains one of the leading causes of death worldwide in people 1–44 years of age.[1–5] For civilian trauma and military combat casualties about 40–70% of post-traumatic fatalities occur during *the prehospital period* before the casualty ever reaches a medical treatment facility.[6–11] Many of these prehospital fatalities occur within minutes of the injury as a result of either massive exsanguination or severe brain injury.[7–11] Unfortunately for this subset of patients, very little may be provided in the way of medical aid at the point of injury (POI) to change this proportion of prehospital deaths. On the other hand, approximately 20–25% of prehospital fatalities are due to what is termed '*preventable deaths*,' or deaths that can be prevented simply by implementing **early** and **appropriate** basic first aid techniques.[10–16] For the human combat casualty, the three most commonly observed trauma-related *preventable death*s are: hemorrhage from extremity wounds, tension pneumothorax, and airway obstruction.

The most common out-of-hospital preventable deaths for companion animals remains completely unknown. A retrospective analysis of 235 dogs presenting to a university teaching hospital for blunt trauma revealed that most dogs involved in this population were young, medium-sized dogs and suffered blunt trauma subsequent to vehicular trauma.[17] The most commonly traumatized area was the chest followed by the abdomen. A large proportion of population (72.3%) suffered multiple injuries with the chest and abdomen being the most common concurrently traumatized areas. As of October 2015, the *K9 Officer Down Memorial Page* (K9 ODMP) (http://www.odmp.org/k9) has reported 26 Line of Duty OpK9 deaths for 2015. The causes of K9 deaths listed were classified into: *Animal related*: 2; *Automobile accident*: 1; *Drowned*: 1; *Fire*: 2; *Gunfire*: 4; *Heat exhaustion*: 11; *Poisoned*: 1; *Stabbed* 1; *Struck by vehicle*: 2; and *Training accident*: 1. These are just a few of the OpK9 deaths that have been reported on the K9 ODMP; no doubt, there are more OpK9 deaths that have not been made public. Per the K9 ODMP website, heat-related injuries contribute to the greatest cause of deaths in OpK9s; this prevalence coincides with the personal experience of many of those that routinely work with and support the OpK9 population. Many of these heat-related deaths were non-duty related, but rather were subsequent to OpK9s being left unattended in patrol vehicles in which the air conditioning unit shut-off or was not even running and or the electronic heat monitoring alarm failed to properly work. Stojsih et al[18] extracted data from two working dog and law enforcement officer memorial websites evaluating the causes of death of civilian law enforcement dogs from 2002 to 2012. Their analyses revealed 36.7% (318/867) of reported OpK9s deaths were categorized as traumatic in nature with the three leading reported causes of traumatic OpK9 deaths being:

vehicular trauma, 25.8% (82/318); heatstroke, 24.8% (79/318); and penetrating ballistic trauma, 23.0% (73/318). "Most heat-related deaths, particularly those subsequent to the K9 being left unattended in a patrol vehicle, would be considered a preventable death, by most." Despite the limitations of extracting data from these memorial websites (eg, retrospective in nature, inability to validate the data), the data do provide some insight into the nature and risk of injury OpK9s are exposed to while in the Line of Duty.

In the human trauma care community, history has demonstrated that expedient recognition of life-threatening conditions and provision of timely first aid at the POI can be life-saving.[12–16, 19] The need for timely prehospital trauma care and rapid transport to a definitive care facility led to the development of formalized Emergency Medical Systems (EMS) that now exist in most developed countries today. EMS' mission is based on six general key functions: *detection, reporting, response, on-scene care, care in transit, and transfer to definitive care*. These six key functions are represented on the EMS '*Star of Life*' symbol created by the National Highway Traffic Safety Administration.[20] The '*Star of Life*' has become recognized around the globe as being synonymous with emergency medical care. Early on, prehospital trauma care training for EMS personnel, to include military combat and law enforcement medics, were primarily based off the principles taught in the Advanced Trauma Life Support (ATLS) course.[15,21] Although ATLS principles have proven to be a very successful standardized approach for managing civilian trauma patients, it is most effective when applied in the setting of a well-resourced hospital emergency department or trauma center. As many of us know, the prehospital setting is a much different situational and logistical environment. Even in an urban civilian sector with established, well-resourced EMS teams and short transport times, the absolute value of applying ATLS principles to prehospital care remains questionable.[15,21]

In 1981, the American College of Surgeons Committee on Trauma in cooperation with the National Association of Emergency Medical Technicians developed an ATLS Course for prehospital providers; this in turn was renamed *Prehospital Trauma Life Support (PHTLS)*.[22] The PHTLS has the main goals of: a) gaining access to the patient, b) rapidly identifying and rendering aid of life-threatening injuries until the casualty can be evacuated to a higher level of definitive care, and then c) packaging and transporting the casualty to a designated trauma care center in the shortest amount of time possible.[22] PHTLS principles focus on early, simple, and well-conducted medical interventions that will eliminate or mitigate the severity of preventable deaths and contribute most to improving survival and overall outcome. Considering each situation is unique, PHTLS incorporates flexibility allowing the first responder the ability to adapt its principles to the scenario at hand. PHTLS does not require advanced medical knowledge or technical training; therefore, the skills can be easily learned and implemented by a wide range of paramedical personnel with varying degrees of medical knowledge and experience. PHTLS remains one of the leading training programs for prehospital emergency trauma care throughout the world. In low-income countries that do not have adequately established EMS services, the implementation of even basic PHTLS principles (eg, direct pressure hemostasis, simple airway techniques) has been shown to provide a beneficial effect in reducing trauma-related mortalities.[20,23–25] Up until now, peer-reviewed veterinary-based PHTLS guidelines have not been developed or made available. One reason for this is that veterinary-specific EMS services have also not been (and still currently are not) available in most places. When an animal is injured, it is typically the owner or by-stander that witnesses the trauma (neither of which are usually medically inclined) that scoops the animal up and drives it to the nearest veterinary treatment facility. Some may feel that the continued lack of a veterinary EMS system precludes the need for developing veterinary-based PHTLS guidelines; however, there are many situations when paraprofessionals (eg, EMTs, paramedics) or other civilian personnel trained in human first responder care are first on scene and in a position to provide life-saving care to an injured animal. This is particularly true for the OpK9 in which their handler (unless injured themselves) is often the first responder. With that in mind and in an effort to decrease veterinary prehospital case fatality rates (CFR), then it is prudent that the veterinary community develop a set of evidence-based, prehospital care guidelines that first responders have access to and may be trained to utilize.

The prehospital guidelines included in this edition were developed based on the available evidence and clinical experience from those active in the field of prehospital medicine. On the whole, however, the veterinary community has not addressed many large gaps in relation to prehospital trauma care (eg, the lack of standardized guidelines, funding, training, logistical resources, research). Some important knowledge gaps include the lack of data regarding the types of prehospital injuries that are most prevalent, the proportion of veterinary casualties that succumb to prehospital injuries, and the data to objectively analyze what effects first provider interventions have on CFRs. Although we may expect a similar out-of-hospital CFR between people and veterinary patients, we probably should expect a different prevalence in the type of injury-related fatalities animals experience simply based on the inherent differences

between species (eg, anatomy, conformation, locomotion). The lack of veterinary-specific EMS services has precluded the gathering of prehospital trauma-related data and, therefore, has been a main contributor for some of this knowledge gap. In addition and up until recently, the lack of an established national veterinary trauma registry has served as another contributor for the insufficient gathering of data. To help close this knowledge gap, VetCOT has incorporated data fields into its trauma registry for recording applicable information related to the prehospital period (eg, injury type, resuscitative care provided). The prehospital data collected can be analyzed to help answer the many unknowns about the prehospital period that currently plagues the veterinary community and, therefore, will foster improvements in our recommendations for out-of-hospital care.

The Operational K9 and the Need for K9 Tactical Emergency Casualty Care

Despite marked advancements over the past 20 years in human EMS for high-threat scenarios (eg, active shooter events), advances in casualty care for the civilian OpK9 operating in a high threat environment have remained severely deficient. In 2009, a US Special Operations Command sub-committee convened to develop the Canine–Tactical Combat Casualty Care (Canine-TCCC) principles to help guide field care for MWDs injured on the battlefield.[26] In spite of their usefulness for providing care to MWDs in a combat environment, Canine–TCCC principles have limitations when attempting to apply them to the civilian OpK9. Since Canine–TCCC principles were developed with medical operations distinct to a 'battlefield' environment in mind, they fail to address factors that are unique to the civilian tactical environment (eg, available resources, operational environment, occupational hazards, injury risks). In addition, Canine–TCCC only addresses interventions for mitigating the three major preventable causes of death for human battlefield casualties (massive hemorrhage, upper airway obstruction, and tension pneumothorax). Canine–TCCC principles do not address other life-threatening conditions unique to all OpK9s such as heat-related injuries, gastric dilatation and volvulus, and illicit drug or explosive compound exposures. Finally, the original sub-committee that was formed to develop Canine–TCCC principles does not convene anymore; therefore, no process currently exist to review and update the Canine–TCCC principles in accordance with new available evidence-based data.

In 2014, the K9 Tactical Emergency Casualty Care (K9 TECC) working group was developed under the auspice of the human Committee for Tactical Emergency Casualty Care (www.c-tecc.org). The K9 TECC working group's primary intent is develop best practice prehospital care guidelines for civilian OpK9s injured under high threat situations.[27] A diversified group of subject matter experts consisting of emergency physicians, veterinarians, EMS paraprofessionals, military professionals, tactical medics, law enforcement officers, K9 Handlers (law enforcement and SAR), and fire fighters make up the working group. The K9 TECC guidelines are written primarily to be utilized by civilian EMS/Fire, Tactical EMS, law enforcement officers and K9 Handlers. They are modeled off the human TECC guidelines (available at http://www.c-tecc.org/guidelines) and focus on interventions that are affordable, sustainable, and require minimal training and resources. Similar to the human guidelines, K9 TECC principles are incorporated into three dynamic phases of care: Direct Threat Care (DTC)/Hot Zone, Indirect Threat Care (ITC)/Warm Zone, and Evacuation (EVAC)/ Cold Zone. Fundamentally, the goals and principles for each phase of care will remain relatively same as human TECC; however, modifications are made to account for K9-related anatomical and physiological uniqueness. Since they are modeled after human-based TECC principles, K9-TECC should be easily learned and applied by various first responders. In developing their best practice recommendations, the working group extracted and translated data from available evidence-based medicine, lessons learned from MWD combat casualties, and end-user experience from the front lines to mold their final recommendations. K9-TECC principles will remain flexible, thus allowing the provider to adapt to any particular operational task or situational threat risk based on the organization's operational doctrine.

Other projects that the K9 TECC working group is tasked with include: developing a trauma registry and electronic patient care record specifically for OpK9s that non-veterinary EMS paraprofessionals may utilize; providing white papers and positional papers on important aspects related to OpK9 prehospital care; developing best practice recommendations for prolonged field care; evaluating components and making recommendations for K9 Individual First Aid Kits; fostering scientific research related to OpK9 prehospital care; and providing resources for first responders to facilitate their ability in providing appropriate and timely prehospital care to the injured OpK9. The K9 TECC group is also petitioning the AVMA and state veterinary regulatory agencies to legally allow human EMS paraprofessionals the ability to render emergency out-of-hospital aid to injured OpK9s. The working group has published two white papers entitled: "*Operational K9 Tactical Emergency Casualty Care (K9-TECC) Training and K9 Individual First Aid Kits (K9-IFAK) White Paper*" and "*Challenges Facing Prehospital Care for Operational K9s Injured in the Line of Duty.*" Both

white papers as well as more information about the K9 TECC working group may be found at www.k9tecc.org.

Final Disclaimer

The reader should remain aware that in the United States "practice of veterinary medicine" is defined and governed on a state-to-state basis. The requirements and exemptions for practicing veterinary medicine may be found in the respective state's Veterinary Practice Act or in a section of the state's laws that regulates veterinary medicine. As a result, the information provided in Prehospital Trauma Care Best Practice recommendations does not provide authorization for non-veterinary licensed personnel to practice veterinary medicine without the direct or indirect supervision from a licensed veterinarian. When used by non-veterinary licensed personnel (eg, EMS/Fire paraprofessionals, law enforcement officers, or K9 Handlers), these guidelines should only be implemented:

- For providing preveterinary emergency care to injured animals when licensed veterinary professionals are not readily available to render such care, AND
- In accordance with:
    - Their legal scope of practice for providing medical care to human casualties,
    - The laws of their respective state's Veterinary Practice Act or statutes regulating veterinary medicine, AND
    - The laws of their respective state's Practice Acts or statutes of their respective profession (eg, State EMS statutes)

To ensure the most appropriate and non-harmful care is provided to the injured animal, non-veterinary personnel with a high occupational likelihood for rendering out-of-hospital care to injured animals (eg, EMS/Fire, LE officers, and K9 Handlers) should pursue training in K9 anatomy, K9 first responder care, and K9 TECC procedures. Their training should be conducted under the direction of a licensed veterinary professional or a professional veterinary training organization that employs a licensed veterinarian as their medical director to oversee their training curriculum.

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Best practice recommendations for prehospital veterinary care of dogs and cats

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Abstract

Objective – To examine available evidence on prehospital care in human and veterinary trauma and emergency medicine and develop best practice guidelines for use by both paramedical and nonparamedical personnel in the approach to the prehospital care of dogs and cats.
Design – Systematic evaluation of the literature gathered via medical databases searches of Medline, CAB abstracts, and Google Scholar.
Synthesis – From a review and systematic evaluation of the available evidence, consensus guidelines on the approach to prehospital care of dogs and cats in 18 scenarios were developed.
Conclusions – Due to the lack of current evidence in the veterinary prehospital arena, best practice guidelines were developed as an initial platform. Recommendations were based on a review of pertinent human and available veterinary literature as well as a consensus of the authors' professional opinions. It is anticipated that evidence-based additions will be made in the future.

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Keywords: cat, dog, first response, trauma, VetCOT

Abbreviations

ALS	advanced life support
ATLS	advanced trauma and life support
BLS	basic life support
BSI	body substance isolation
BVM	Bag Valve Mask
CNS	central nervous system
CPA	cardiopulmonary arrest
CRI	continuous rate infusion
C-TCCC	canine tactical combat and casualty care
CV	cardiovascular
EMS	emergency medical services
EMT	emergency medical technician
ET	endotracheal
ETT	endotracheal tube
FB	foreign body
GDV	gastric dilatation and volvulus
GI	gastrointestinal
GSW	gunshot wound
HTS	hypertonic saline
IO	intraosseous
K9	canine
K9 TECC	canine tactical emergency casualty care
LRS	lactated ringers solution

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LOC/LOR	level of consciousness/responsiveness
MDI	metered dose inhaler
MOI	mechanism of injury
MTA	medical threat assessment
MWD	military working dog
NOI	nature of illness
NS	normal saline
OpK9	operational canine
PHTLS	prehospital trauma life support
PPE	personal protective equipment
PPV	positive pressure ventilation
SACS	small animal coma score
SAR	search and rescue
SCI	spinal cord injury
TBI	traumatic brain injury
TBSA	total body surface area
TCCC	tactical combat and casualty care
TQ	tourniquet
TXA	tranexamic acid
VetCOT	veterinary committee on trauma

Background

The American College of Veterinary Emergency and Critical Care's Veterinary Committee on Trauma (VetCOT) has recognized the need for the development of prehospital care in veterinary trauma medicine. To address this void, the Prehospital Committee was formed, incorporating members interested or currently involved in veterinary prehospital training of human responders. The goal of the committee is to improve the availability and quality of prehospital care to injured small animals, which may incorporate individuals trained in either or both human and veterinary medical trauma care. The first step identified by the committee was the development of guidelines, similar to those present in human trauma care, to be utilized by responders. The following paragraphs outline historical and organizational concepts taken into consideration by the committee.

Unintentional injuries remain one of the leading causes of death worldwide in people 1–44 years of age. Many (40–70%) posttraumatic fatalities occur before the patient ever reaches a medical treatment facility (ie, the prehospital period). These prehospital fatalities often occur within minutes of the injury as a result of massive exsanguination or severe brain injury. Expedient recognition of life-threatening conditions and provision of timely first aid at the point of injury can often be lifesaving. It is estimated that 20–25% of all prehospital fatalities are preventable simply by implementing early and appropriate basic first aid techniques. The three most commonly observed trauma-related preventable deaths in people are: (1) hemorrhage from extremity wounds, (2) tension pneumothorax, and (3) airway obstruction. Unfortunately, these statistics are not yet available in veterinary medicine, but the mechanisms of injury, such as blunt trauma from a moving vehicle, are similar.

Brief history of human trauma care

The need for adequate prehospital trauma care and rapid transport to a definitive trauma care facility led in the 1970s to the widespread development of formalized Emergency Medical Systems (EMS) that provide the following 6 key functions: *detection, reporting, response, on-scene care, care in transit, and transfer to definitive care*.[a] Development of robust EMS programs required that EMS personnel[b] receive formal training in prehospital trauma care. This training was initially based off the principles taught in the American College of Surgeons' Advanced Trauma Life Support (ATLS) course for physicians. Because the prehospital setting is a different situational and logistical environment where ATLS principles may not be applicable, in 1981, the American College of Surgeons Committee on Trauma in cooperation with the National Association of Emergency Medical Technicians developed the *Prehospital Trauma Life Support (PHTLS)* course for emergency medical responders. The PHTLS course has the main goals of: (a) gaining access to the patient, (b) rapidly identifying and rendering aid for life-threatening injuries until the patient can be evacuated to a higher level of definitive care, and then (c) packaging and transporting the patient to a designated trauma care center in the shortest amount of time possible. The principles of PHTLS focus on early, simple, and well-conducted medical interventions that will eliminate or mitigate preventable deaths and contribute most to improving survival and overall outcome. Considering each situation is unique, PHTLS incorporates flexibility allowing first responders the ability to adapt their principles to the scenario at hand. In addition, PHTLS does not require advanced medical knowledge. Skills must be easily learned and implemented by a wide range of paramedical personnel with varying degrees of medical knowledge and experience. PHTLS remains one of the leading training programs for prehospital emergency trauma care throughout the world. In low-income countries that do not have adequately established EMS services, the implementation of even basic PHTLS principles (eg, direct pressure hemostasis, simple airway techniques) provides a beneficial effect in reducing trauma-related mortalities.

Initial management ("*Stay and Play*" versus "*Scoop and Run*")

In recognition of the need to highlight timely response, the critical periods postinjury have been coined the

"Platinum 10 minutes" and the "Golden Hour." Once on scene, the "Platinum 10 minutes" is the time it takes for an emergency medical responder to assess the situation, initiate treatment, and prepare the patient for transport. The PHTLS and most other guidelines advise limiting scene time to as short as possible. Therefore, during these "Platinum 10 minutes" responders should only pursue those interventions necessary to abate life-threatening complications associated with exsanguination, airway, and breathing.

Once the patient arrives at the trauma center, the trauma team identifies all major trauma injuries and initiates definitive resuscitative and care interventions. These measures need to begin as soon as possible; within the so-called "Golden Hour" that refers to the initial 60 minutes posttrauma, including prehospital care and transport. Traditionally, it has been considered the most important period of time for saving lives. If definitive care is not provided within these 60 minutes, injury severity and rate of nonsurvival significantly increases.

In human trauma care, there is still lack of evidence regarding the most effective strategy for prehospital interventions. A major point of debate is the value of performing advanced life support (eg, endotracheal intubation, tube thoracostomy, intravenous catheterization) versus basic life support (eg, oxygen supplementation, cardiopulmonary resuscitation, hemorrhage control, fracture stabilization) procedures at the scene. This debate has led to two different approaches ("*Stay and Play*" versus "*Scoop and Run*") in the initial management of a patient at the scene. With "*Stay and Play*," the technology is brought to the patient in order to facilitate stabilization at the point of injury. Advanced life support (ALS) techniques (ie, securing the airway by endotracheal intubation, performing tube thoracostomy in patients with recurring tension pneumothorax, or establishing intravenous access and initiating fluid resuscitative therapy) are often pursued with the "*Stay and Play*" approach. Once stabilized, the patient is then transported to the hospital. "*Stay and Play*" generally works best for patients from rural areas and other situations having prolonged transport times from the scene to definitive treatment. Despite ALS having the theoretical advantage for improving patient outcome, the evidence for any benefit is limited.

"*Scoop and Run*" is where the patient is rapidly transported to the trauma center without implementing any stabilization procedures at the scene. The "*Scoop and Run*" approach is more applicable to urban areas with short transport times (eg, <20–30 minutes) to the trauma center. If any action at the scene is required, it should only be for time-sensitive EMS interventions necessary to survive preventable injuries (eg, correcting airway obstruction, respiratory arrest, or external hemorrhage at a compressible site). Any procedure (eg, intravenous catheterization or intubation) that delays timely evacuation should not be performed at the scene. Instead, these "advanced" procedures should be pursued during transportation, or left to be performed at the trauma center. This delayed resuscitative approach was first shown to be beneficial by Bickell et al with their landmark study in 1994 evaluating urban trauma casualties with penetrating injuries. Support for *"Scoop and Run"* comes from the fact that ALS procedures are technically demanding and not all EMS personnel have the proficiency to rapidly and correctly perform these skills in the field. Furthermore, proponents of the "*Scoop and Run"* also argue that patient outcome is improved if they are transported to definitive care within an hour of injury (ie, the "Golden Hour"). Although sound in theory, Newgard et al showed no association between EMS intervals times (eg, activation, response, on-scene, transport, and total time) and mortality among injured patients with physiologic abnormalities in the field.

No difference with regard to patient outcome has been shown when "*Stay and Play" and "Scoop and Run"* have been compared. Many factors unique to each situation (eg, mechanism of injury, level of provider experience, geographical location, transport times, available resources) likely influence outcome and may affect the degree of recommended prehospital interventions. For instance, basic life support (BLS) may be the better approach for patients with penetrating injuries whereas some studies indicate a beneficial effect of ALS among patients with blunt head injuries or multiple injuries. A more appropriate strategy may be to use a combined approach of "*Stay and Play"* and *"Scoop and Run"* to balance the pros and cons of each strategy. In the end, the goal of prehospital care should be to limit scene time, and only provide those interventions necessary to secure airway patency, abate massive hemorrhage, and immobilize the cervical spine.

The development of tactical combat casualty care and tactical emergency casualty care

In PHTLS, the main focus is placed on the patient without overt concern for the surrounding operational situation. However, managing prehospital trauma care in high threat situations such as battlefield trauma or urban tactical environments has led to the development of Tactical Combat Casualty Care (TCCC) guidelines that consider tactical constraints. In 2001, the Committee on TCCC (CoTCCC), a joint United States (US) Armed services service committee, was developed to ensure that TCCC guidelines are kept up to date with the best-practice, leading edge medical technology. The TCCC guidelines are the only trauma care guidelines to have received triple endorsement by the

Department or Defense, the American College of Surgeons' Committee on Trauma, and the National Association of EMTs. Current and updated TCCC guidelines are published in the Journal of Special Operations Medicine (*https://www.jsomonline.org/TCCC.html#TCCCGuidelines*) and as a military edition of the Prehospital Trauma Life Support Manual. Since its implementation, TCCC has been credited with a significant reduction in battlefield fatalities and is taught and used by all US Military services. It has also been recommended as the standard of care for combat first-aid training by the British, Canadian, Australian, and New Zealand armies.

The increasing frequency in active shooter mass casualty events led to a paradigm shift in the law enforcement tactical response, whereby a rapid emergency deployment model is now used. This new shift to a rapid tactical deployment also brought about a need for a faster emergency medical response to care for and evacuate the wounded. However, this need would inherently increase the threat risk to the medical provider. The proven success of TCCC on the battlefield led to an interest in incorporating these principles into the civilian tactical medical community. However, TCCC principles were devised for the military combat medic and medical provider deploying in support of combat operations. They did not take into account the differences in situational environment, variances in patient populations, availability of resources, or scope of practice under which civilian tactical medics are typically operating. In noncombat situations, the threat at the scene may not be hostile fire but instead involve explosive hazards, downed power lines, fire or flames or other environmental hazards (eg, avalanche risk) that may make the scene unsafe. Realizing that a different set of principles were needed for the civilian tactical medic, a Committee on Tactical Emergency Casualty Care was convened in 2010 with the goal of modifying the lessons learned from battlefield TCCC to accommodate for law enforcement and other civilian emergency response teams. These new civilian tactical medic principles became known as *Tactical Emergency Casualty Care [TECC* (*http://c-tecc.org/news/28-2014-tecc-guidelines-update*)]. Similar to TCCC, TECC principles are developed to provide the best-practice recommendations for casualty management during high-threat civilian tactical and rescue operations.

Trauma care for "Operational K9s"

The "operational K9" (OpK9) encompasses a special population of dogs that are specifically trained to assist society in a variety of settings and circumstances such as federal and civilian law enforcement, military, and search and rescue (SAR) operations. The utility of these OpK9s has become paramount in the success of many civilian and military operations, where these dogs have proven to be a force multiplier that saves human lives. True to the words inscribed on the US Military Working Dog Team Monument, these "Guardians of Freedom" selflessly dedicate their lives to protect us from danger and defend our way of life.

The Global War on Terror has led to a significant upsurge in the call for duty of both military working dogs (MWDs) and civilian OpK9s. Similar to their human tactical counterparts, OpK9s deployed in a tactical environment or high threat situation are at high risk for suffering preventable deaths (eg, airway obstruction, pneumothorax, severe hemorrhage). Unfortunately, timely access to veterinary care is not available for most injured OpK9s in a tactical environment. This responsibility often falls to the handler, combat medic, or other nearby medical providers; many of which have not received training in basic canine first aid. During Operation Iraqi Freedom, over 600 OpK9s were often scattered over 100 different locations with fewer than 30 total veterinary personnel available to provide care. Furthermore, logistical allocations such as evacuation assets for the OpK9 operating in an austere environment may be severely limited. The combined lack of readily available veterinary care and high-risk for traumatic injuries is a recipe for high mortality rates. In the United States, OpK9s tasked to federal, law enforcement or search and rescue agencies are similarly vulnerable to severe traumatic injuries as well as lack of immediate veterinary care and evacuation assets. Active shooter events and terrorist bombings are two high threat scenarios where OpK9s may play a vital role and be at risk for severe trauma. Civilian EMS systems do not currently exist for injured veterinary patients, nor are most civilian EMTs trained to perform emergency procedures or basic first aid on dogs. Once again, this places these dogs at high risk for succumbing to their injuries.

The operational canine and canine tactical combat casualty care (C-TCCC)

Until recently, prehospital trauma care standards did not exist for the OpK9. In 2009, a United States Special Operations Command subcommittee was formed to develop canine-specific TCCC principles (C-TCCC) for MWDs. C-TCCC is modeled from the same principles as human TCCC with adaptation to canine-specific anatomical and physiological differences. Since C-TCCC principles align with current TCCC doctrine, C-TCCC can be easily taught to various paramedical and nonparamedical personnel. The Department of Defense Military Working Dog Veterinary Services (DODMWDVS) represents the Army Veterinary Services for all Military Working Dog medical issues. In 2012, the DODMWDVS

adopted C-TCCC into their medical care training and published guidelines for MWDs handlers.

Canine tactical emergency casualty care (K9 TECC)

Despite their usefulness for providing care to MWDs in a combat environment, Canine-TCCC principles have limitations when attempting to apply them to the civilian OpK9, similar to the aforementioned TCCC compared to TECC guidelines. In addition, Canine-TCCC only addresses interventions for mitigating the 3 major preventable causes of death for human battlefield casualties (ie, massive hemorrhage, upper airway obstruction, and tension pneumothorax). Canine-TCCC principles do not address other life-threatening conditions unique to all OpK9s such as heat-related injuries, gastric dilatation and volvulus, and illicit drug or explosive compound exposures. Finally, the original subcommittee that was formed to develop Canine-TCCC principles has disbanded; therefore, no process currently exists to review and update the C-TCCC principles in accordance with new available literature.

In 2014, the K9 Tactical Emergency Casualty Care (K9 TECC) working group was developed under the oversight of the human Committee for Tactical Emergency Casualty Care (www.c-tecc.org). The K9 TECC working group's primary goal is to develop best practice prehospital care guidelines for civilian OpK9s injured under high threat situations. A diverse group of subject matter experts consisting of emergency physicians, veterinarians, EMS paraprofessionals, military professionals, tactical medics, law enforcement officers, K9 Handlers (law enforcement and SAR), and fire fighters make up the working group. The K9 TECC guidelines are written primarily for use by civilian EMS/Fire, Tactical EMS, law enforcement officers, and K9 Handlers. Information about the K9 TECC working group may be found at www.k9tecc.org.

Veterinary prehospital care

In veterinary medicine, the lack of EMS systems for veterinary patients has precluded the gathering of prehospital trauma-related data. Therefore, there is currently insufficient data to indicate what proportion of animals actually succumbs to prehospital injuries and what types of prehospital injuries are most prevalent. It seems feasible that similar or even higher numbers of prehospital fatalities may occur relative to that of human casualties. However, considering the inherent differences between people and animals (eg, anatomy, conformation, locomotion), we may expect a different prevalence in the type of injury-related fatalities that animals may experience.

When a companion animal is injured it is typically the owner or by-stander (neither of which are usually medically trained) that witness the trauma and then drive the animal to the veterinary clinic. The lack of a veterinary EMS system was perceived to obviate the need for veterinary-specific PHTLS guidelines. However, situations (eg, house fires) exist where first responders trained in human PHTLS or ATLS may be first on the scene and in a position to provide life-saving care to an injured animal. As previously described for OpK9s (eg, military, law enforcement, search, and rescue), it is typically the handler that is the first responder. Many of these handlers are trained in human BLS and sometimes ALS techniques. In these situations, where medically trained first responders are available to assist, it is prudent to have a set of prehospital veterinary care guidelines that paramedical and nonparamedical personnel could utilize to decrease the incidence of prehospital veterinary fatalities.

The American College of Veterinary Emergency and Critical Care Veterinary Committee on Trauma (VetCOT) has the mission of advancing trauma care through establishing a veterinary trauma system, providing trauma education, and developing and maintaining a veterinary trauma registry (*https://sites.google.com/a/umn.edu/vetcot/).* The goal of the VetCOT's Prehospital Committee is to advance veterinary prehospital care and develop best practice guidelines that can be used to train veterinary and nonveterinary paramedical and nonparamedical (eg, OpK9 handlers) personnel. Due to the lack of current evidence in the veterinary prehospital arena, best practice guidelines were chosen as an initial platform, with the anticipation that evidence-based additions will be made in the future. These guidelines may also serve as a bridge between the veterinary community and initiatives such as the K9 TECC.

Development of prehospital care best practice guidelines

The VetCOT Prehospital Committee agreed on 17 core topics, and each topic was assigned a primary author. The guidelines for each topic then underwent at least 2 subsequent reviews by the Committee Chair (RH) and at least one other member of the committee. The complete set of guidelines were then posted to the VetCOT website for commentary, with announcements sent to members of the Veterinary Emergency and Critical Care Society and the American College of Veterinary Emergency and Critical Care. Final revisions were made based upon this commentary and sent back to the committee for review. The guidelines are not intended to provide a comprehensive review of the subject. Each author was tasked with providing limited relevant background information followed by a stepwise logical approach to each scenario dependent upon the skill of the responder and transport time (Table 1). Each section may also include a short discussion of any items deemed controversial or in need of

Table 1: Organization of section/scenario guidelines

Category	Time to transport to veterinarian	Skill level
First response	< 20 minutes	Independent of skill level
Delayed veterinary care	> 20 minutes	Minimal or no medical training
Delayed veterinary care	> 20 minutes	Medically trained responder and/or individual with some canine or feline training

further explanation as well as references the reader can consider for additional information. It is strongly recommended to read the first section, general approach, before using these guidelines.

The 18 core topics (sections) are listed below, in order of publication:

1. General approach to prehospital trauma
   a. Introduction/Overview to Guidelines and their intended application.
2. External/compressible hemorrhage
3. Management of acute respiratory distress
4. Fluid therapy and resuscitation
5. Basic life support
6. Advanced life support
7. Analgesia/sedation/anesthesia
8. Neurological trauma
9. Management of penetrating trauma
10. Blast injury
11. Fracture/luxation stabilization
12. Gastric dilatation with volvulus (GDV or bloat)
13. Heat exhaustion
14. Burn injury
15. Smoke inhalation
16. Allergic reactions and anaphylaxis
17. Poisonings
18. Ocular injury

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Footnotes

[a] These six key functions are represented on the EMS "Star of Life" symbol created by the National Highway Traffic Safety Administration (http://www.ems.gov/star.htm).

[b] EMS personnel include paramedics, military combat medics, law enforcement tactical medics, emergency medical technicians, and other emergency medical responders.

Further Reading

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Section 1: General Approach to Canine/Feline Prehospital Trauma

Background

The following set of guidelines provides best practice interventions applicable to animal handlers, veterinary personnel, and first responders for the evaluation and treatment of injured small animal(s) in a prehospital setting. These resources are intended to be utilized **ONLY** for rendering emergency lifesaving preveterinary care to companion animals or OpK9s when licensed veterinary professionals are not readily available to render care. Moreover, the delayed response guidelines for medical providers are intended for use **ONLY** by qualified veterinary personnel and licensed or certified EMS paraprofessionals (eg, EMTs, AEMTs, paramedics), law enforcement officers, and OpK9 handlers that have received

additional hands on training.[c] It is imperative that first responders receive adequate training and skills testing to ensure that they do not incite further harm to the injured animal(s). Responders should not perform any skill that they are not proficient in performing (ie, Do No Harm).

Scope of practice

Most US state EMS statutes, veterinary practice acts, and so called "Good Samaritan Laws" do not provide provisions for emergency responders to render services to injured animals. To date, only Colorado and Ohio have taken legislative action to allow EMS personnel to provide emergency services to injured animals. Colorado has adopted a Senate bill (SB 14-039) granting limited authority to state EMS personnel for voluntarily rendering emergency preveterinary care to OpK9s and other dogs and cats. Similar legislation (House Bill 187) allowing EMS providers the ability to render prehospital emergency care to animals has been passed by the Ohio House of Representatives. It is anticipated that other states will consider similar legislation in the near future. Therefore, this resource is also intended to be used as a reference to assist EMS, fire, and law enforcement agencies in developing protocols and standing orders for rendering emergency lifesaving care to companion animals and OpK9s.

Because of the general lack of legislation, the authors are compelled to advise the reader of the following:

1. The emergency treatment of animals by emergency medical responders and other nonveterinary personnel is not legislatively approved at this time by most jurisdictions, thus leaving the nonveterinary provider at risk for legal reprisal.
2. The information and resources made available in this publication do not provide authorization for **nonveterinary** personnel to practice veterinary medicine.
3. Each nonveterinary organization's protocols and standing orders related to animal care should be developed in collaboration and partnership with a veterinarian that is licensed in that state or region.
   a. EMS Medical Directors should establish a liaison and partnership with a local/regional veterinarian to support implementing these guidelines into their program's standing orders and protocols.
   b. The EMS Medical Director should approve and define their provider's scope of practice (eg, medication and equipment requirements) and training based on the provider's competencies and capabilities and by the laws of their respective state's:
      i. Veterinary practice act or statutes regulating veterinary medicine, AND
      ii. Practice acts or statutes of their respective profession (eg, state EMS statutes)
   c. Certain operational circumstances (eg, working in an "austere" or "wilderness" environment when delivery of the traditional framework of EMS care is impossible due to the unavailability of personnel and equipment resources) may allow the Medical Director to extend the scope of practice of their EMS providers.
   d. Consideration for implementing an extended scope of practice protocol must take into account the:
      i. Providers' previous training and experience.
      ii. Assumption that patients will be transferred to the appropriate level of veterinary medical care as expeditiously as possible.
4. Prior to rendering any services to an injured animal, first responders should have approval from their medical director. Approval may be obtained through the form of:
   a. Direct orders (requires contact with Medical Control prior to initiation of services), OR
   b. Standing orders (skill or treatment may be initiated prior to contact with Medical Control based on preapproved protocols)
      i. When no standing orders for care are in-place, then (if possible) direct consultation with the unit's Medical Director or a veterinarian is highly recommended prior to administering care.

Medical threat assessment

1. Whenever possible, a medical threat assessment (MTA) is a key component of planning for any prehospital emergency response. An MTA identifies those things that represent factors the team must account for when planning to execute an operation.
2. The components of an MTA are unique to the unit's scope of practice, the operational situation, and the unit's mission objectives. Developing an MTA may include knowing the required equipment, logistical resources, weather conditions at the site, closest available medical, and veterinary facilities that have the resources to provide definitive medical care, quickest routes to those medical facilities, available means of transport (to include aeromedical assets), risk of hazardous materials or waste, tactical environment (eg, active shooter), and environmental hazards (eg, fire, flooded areas). An effective communications plan is also vital to success and should include at minimum contact information for key personnel, medical assets, and other responding agencies (eg, local veterinary hospitals, aeromedical assets, EMS providers, fire, and rescue services) and a strategy for backup communications for primary communication asset failures.

3. Preparedness and prevention are vital components of any successful operation. Knowing the hazards and how to mitigate their risks while on scene not only keeps first responders safe, but also allows them to remain engaged in providing early and vital medical care to the patient. As a result, patients are afforded a greater opportunity of survival.

Considerations for general patient care

1. Consider that when rendering aid to an injured animal that any given patient may require the use of a single protocol, a portion of a protocol, or a combination of several protocols.
2. Although the Guidelines have a numerical order, it may be necessary to change the sequence order or even omit a procedure based on the patient's condition, the availability of personnel or equipment.
3. Several sections/tables attempt to include all possible scenarios, but may be more "user friendly" if tailored to meet the needs of each user with respect to supplies and situations encountered.
4. These guidelines were written with the intent of being applicable to both dogs and cats. Since dogs are more likely to be encountered in certain scenarios, some guidelines are written only for dogs [eg, gastric dilatation and volvulus (GDV)]. It is recommended to work with your consulting veterinarian to tailor these guidelines, if needed, to fit scenarios frequently encountered by the end user.

Approach to the injured operational K9 (OpK9)

1. Do not attempt to handle or treat a conscious OpK9 without the handler available to restrain the OpK9. If the original handler is not available, all attempts should be made to find an alternate handler to restrain the OpK9.
2. Keep your movements slow, smooth, and purposeful.
3. Avoid approaching the dog in a standing or looming position. Looming may make an already anxious, fearful dog even more anxious and fearful.
4. Approach in a crouched-like stance or consider sitting down and scooting slowly along the ground slowly toward the dog.
5. Do not approach from behind or in the dog's blind spot to avoid startling the dog and making it more fearful or aggressive. Consider approaching from the side or at a 45-degree angle from the front to ensure the dog can see you at all times.
6. Talk to the dog as you approach; use the name if you know it. Keep a positive attitude; reassure the dog by speaking calmly, clearly. Do not shout.
7. Restrain using the LEAST STRESSFUL technique with the least amount of physical force.
8. Restrain the dog in a "position of comfort." Allow the dog to remain in a position that does not interfere with breathing and where the dog appears most comfortable.
9. Muzzle and properly restrain injured animals before handling. Do not muzzle any dog that:
   a. is unconsciousness,
   b. has an upper airway obstruction,
   c. is vomiting,
   d. has severe facial trauma, and
   e. is at risk for heat-related injury (allow evaporative cooling via panting).

The basic concepts of approach to prehospital trauma care

1. Scene size-up
2. Patient assessment
   a. Primary assessment
   b. Vital parameters
   c. Secondary ("Head-to-Tail") assessment
   d. Complete history
3. On-scene medical care
4. Packaging, transport, and care en-route
5. Reassessment
6. Communication and documentation

Scene size up

1. STAY CALM and ASSESS the scene.
2. When approaching any hazardous situation priority for safety is always directed to yourself, followed by your teammates, then finally to the patient. You are no good to the patient, and only make the situation worse, if you become injured or incapacitated.
3. Ensure the scene is safe. Do not approach any casualty if the scene is not deemed safe to enter. Scan the area for the following potential hazards:
   a. Electricity from downed lines or lightning
   b. Water hazards, fires, explosions
   c. Hazardous Materials (HAZMAT) and other chemicals (eg, toxic gases/fumes, fuel spills)
   d. Oncoming traffic at a motor vehicle collision scene
   e. Biological hazards, including other animals
4. Practice **Body Substance Isolation (BSI**) and don personal protective equipment (PPE) where applicable (eg, gloves, eye protection, masks, and gowns).
   a. **BSI** – refers to those precautions taken to isolate the medical provider from all of the patient's body substances (eg, blood, urine, feces, saliva) in attempts to reduce the risk of infectious disease transmission from the patient to the medical provider. With respect to canines and felines that are not wild/free-roaming and vaccinated for rabies, zoonotic concerns are minimal.

5. Determine the number of patients involved (both human and veterinary)
   a. Determine additional resources needed.
   b. Multiple patients or a large events warrant establishment of an Incident Command System
      i. *Refer to: http://training.fema.gov/emiweb/is/icsresource/index.htm*
6. Attempt to determine the **mechanism of injury (MOI)** and/or **nature of illness (NOI).**
   a. Scan the scene for indicators such of falls, vehicular trauma, HAZMAT, environmental, chemical, or electrical hazards, etc.
   b. Scan the patient for evidence of penetrating or blunt injury, head trauma, external hemorrhage, open fractures, hives, rashes, etc.
   c. Consider a toxic hazard (eg, chlorine gas or other toxic fumes and gases) with multiple patients showing similar signs.
7. Determine specialized or additional resources that may be needed at the scene.
   a. More EMS providers for a mass casualty event.
   b. Fire and rescue.
   c. Search and rescue.
   d. Aeromedical evacuation assets.
   e. Law enforcement during hostile events (eg, active shooter).

Primary patient assessment

1. Keep scene time as short as possible (ideally less than 10 minutes for trauma-induced injuries)
2. Form a general impression of the patient (eg, what do you *see, hear,* or *smell?*). While approaching the patient attempt to determine:
   a. Age, anxiety level, and body positioning.
   b. Level of consciousness; consider using AVPU scale provided below:
      i. Alert – does the animal appear conscious and aware of it is surroundings
      ii. Verbal stimuli response
      iii. Pain responsive
      iv. Unresponsive
      v. Proceed through each letter until a positive response is observed. A patient that is responsive to a painful stimulus only may be reported as A&V – negative, P – positive.
   c. Determine priority of medical care based on the known or suspected MOI/NOI
      i. Despite outward appearances, certain MOI/NOI portend a worse prognosis in people due to associated severity of injury and can be similarly considered for animals. In these instances, rapid transport to a facility skilled in the management of trauma patients is recommended. These situations include:
         1. All penetrating injuries to the head, neck, torso, and extremities proximal to the elbow or knee.
         2. Chest wall instability or deformity (eg, flail chest).
         3. Two or more proximal long-bone fractures.
         4. Crushed, degloved, mangled, or pulseless extremity.
         5. Amputation proximal to the carpus or tarsus.
         6. Pelvic fractures.
         7. Open or depressed skull fractures.
         8. Falls from greater than 2-3 times the height of the patient.
         9. Automobile accidents that include intrusion > 12 inches into the car, ejection, or automobile versus patient.
3. Rapidly assess and treat any life-threatening conditions affecting **Airway**, **Breathing**, **Circulation**, and **Disability (ABCD or CABD)**. Immediate life threats include, in order of approach:
   a. External hemorrhage
   b. Problems with the airway
   c. Inhibitions of normal breathing
   d. Issues preventing normal circulation (eg, shock)
   e. Consider precautions for spinal injury and head trauma
   f. NOTE: The environment/situation as well as the problem that most threatens life dictates what order and how best to conduct the primary assessment.
4. **Operational environment**:
   a. Tactical and high-threat situations: when under a direct, imminent threat (eg, active shooter, structural fire, collapse), then consider implementing the principles as described in the K9 Tactical Emergency Casualty Care (K9 TECC) guidelines (available at www.k9tecc.org).
      i. In K9 TECC, the primary assessment follows the order described by the mnemonic M^3ARCH^2 (*Massive hemorrhage, Move, Muzzle, Airway, Respiration, Circulation, Head trauma, Hypothermia*).
   b. Nontactical, low-threat situations: the M^3ARCH^2 approach or the traditional EMS ABCD approach may be used to conduct the primary assessment.
5. **Most important life-threat**:
   a. The problem that threatens the patient's life the most dictates the order in which you perform your primary assessment.
      i. *Example*: applying direct pressure to a spurting femoral artery bleed takes precedence over

ensuring a patent airway; therefore, the order of *ABCD* changes to *CABD*.

6. Assess **circulation**
   a. Evaluate for **shock** and **bleeding** (*see Guidelines for Hemorrhage or Fluid Therapy and Resuscitation*)
      i. Evaluate for and control external hemorrhage
      ii. Assess for palpable femoral pulses
      iii. Implement passive warming techniques
7. Assess **airway** and **breathing** (see *Guidelines for Respiratory Distress)*.
   a. Establish patent airway
   b. Consider an animal to have a patent airway if it is:
      i. Barking (dog) or meowing (cat).
      ii. Alert and breathing comfortably.
      iii. Panting, but does not appear in respiratory distress.
   c. For **unconscious** animals:
      i. Extend the head and neck into a neutral in-line position.
      i. Manually open the mouth (use a leash or piece of gauze to keep fingers out of the mouth).
      ii. Grasp the tongue and extend it out over the bottom jaw.
      iii. Look inside for and remove any foreign material that is readily accessible.
      iv. Do not perform a blind finger sweep as this may push foreign material further into the airway.
      v. Refer to *Guidelines for Respiratory Distress* for more detailed information regarding establishing a patent airway.
      vi. Listen and feel for breath sounds. Determine whether breath sounds are normal whether breath and lung sounds are normal or decreased, absent, or abnormal (adventitious breath sounds).
      vii. Assess the rate, rhythm, and quality of respirations.
8. Determine level of consciousness (LOC) and potential for spinal injuries. If a spinal injury is suspected, consider immobilizing the spine (*see Guidelines for Neurological Trauma*).
   a. Check pupil size, symmetry, and reaction to light.
   b. If mental status is altered consider things that cause the brain "To STOP."
      i. **To**xicants
      ii. **S**eizure or Sugar (*hypoglycemia or low blood sugar*)
      iii. **T**emperature (*hyperthermia or hypothermia*)
      iv. **O**xygen (*low blood or tissue oxygen content*)
      v. **P**ressure (*increased intracranial pressure* – eg, *fluid, mass*)
   c. Suspect head trauma or spinal cord injury based on major traumatic MOI to include:
      i. Falls associated with loss of consciousness or altered mental status
      ii. Falls from a height in which the animal has fallen on their head or back or falls that are greater than 2-3 times their height or >15 feet (4.6 m)
      iii. High velocity impacts (eg, vehicular trauma)
      iv. Distraction injury (eg, hanging, tail pull injury in cats)
   d. Clinical signs associated with spinal cord injury:
      i. Obvious injuries to the area of the back/spinal column
      ii. Pain/tenderness palpated along the vertebral column
      iii. Weakness or paralysis in limbs
      iv. Lack of recognition to stimulus/pain in limbs
      v. Loss of bladder control
9. Primary assessment interventions may include:
   a. Applying direct pressure and pressure dressing to control external hemorrhage
   b. Clearing and establishing a patent airway
      i. Perform advanced airway techniques
   c. Providing supplemental oxygen
   d. Sealing an open chest wound
   e. Spine immobilization
   f. Administering epinephrine if the patient is suspected to be in anaphylactic shock
10. After addressing life-threatening injuries consider calling for assistance if needed.
11. Transport decision
   a. Any conditions that compromise the ABCDs should result in prompt transportation.
   b. Determine conditions that are life threatening.
   c. Treat to the best of your ability and with available resources.
   d. Provide rapid transport to PRIORITY patients, typified by the following:
      i. Poor general impression
      ii. Airway or breathing problems
      iii. Acute altered level of consciousness
      iv. Shock
      v. Severe pain
      vi. Uncontrolled bleeding
      vii. MOI associated with a poor prognosis

Vital parameters

Whenever possible, monitor, and record the following variables. Refer to Table 2 in the *Guidelines to Fluid Therapy and Resuscitation* for normal ranges.

1. Heart rate and femoral pulse rate/quality
   a. Beats per minute
   b. Rhythm: regular/irregular
   c. Quality: strong/weak/bounding

2. Capillary refill time in seconds: ≥ 2/1–2/< 1
3. Mucous membrane color: pink/pale-pink/red/white/blue-gray/yellow
4. Respiratory:
   a. Rate (breaths per minute)
   b. Rhythm: regular/irregular
   c. Quality: shallow/deep/labored/easy
5. Rectal or axillary temperature
6. Pupil size, symmetry, and response to light
7. As available (ranges for the following are similar in humans and animals):
   a. Blood pressure
      i. Human blood pressure cuffs are too big for most dogs
         1. Desired width of cuff is 40% of the circumference of extremity used for measurement.
   b. Pulse oximetry
      i. Acquire from tongue, lip, pinna, prepuce, or vulva.
      ii. Ear lobe probes can be used.
   c. Blood glucose
      i. Human point-of-care analyzers may be used.
   d. Lactate
      i. Human point-of-care analyzers may be used.

Secondary patient assessment

1. If time on scene permits (eg, delayed evacuation and transport), conduct a systematic full-body "Head-to-Tail" assessment on-site.
   a. If time on scene does not permit, then as feasible, conduct a secondary assessment en route.
2. Do not abandon management of life-threatening conditions for the sole reason of performing a secondary assessment.
   a. In cases that require continual management of life-threatening conditions found during the primary assessment (eg, *tension pneumothorax*), a secondary reassessment may not be possible to perform until definitive care is reached.
3. Consider using the following pneumonic for performing a secondary assessment "**A CRASH PLAN.**"

A = Airway
C = Cardiovascular/circulatory
R = Respiratory
A = Abdomen
S = Spine
H = Head (EENT: eyes, ears, nose, throat)
P = Pelvis
L = Limbs
A = Arteries
N = Nerves (Cranial Nerves, Spinal Reflexes, Pain)

History

1. Signalment: Age, gender, weight (in kilograms or "kg")
2. Chief complaint or MOI:
   a. Consider using pneumonic "**OPQRST**":
      i. ***O**nset – Does the incident seem to be acute or gradual in nature?*
      ii. ***P**rovokes/**P**alliates – What makes the pain or signs worse or better?*
      iii. ***Q**uality – Does the pain appear constant or intermittent?*
      iv. ***R**adiation/Region/Referred – Is the pain or signs localized or diffuse?*
      v. ***S**everity –Rate the animal's pain (scale 1–10, with 10 being severe)*
      vi. ***T**ime/Trend – How long have the signs been going on?*
   b. Other considerations include:
      i. "**SAMPLE**"–***S**igns, **A**llergies, **M**edications, **P**ertinent medical history, **L**ast intake and output, **E**vents leading up to incident*

Reassessment

1. Repeat the primary assessment.
2. Reassess the vital signs.
3. Reassess the patient's injuries.
4. Recheck interventions.
5. Identify and treat changes in the patient's condition.
6. Document all of the above.

Prepare and initiate immediate transport

1. When moving the injured animal from the point of injury, the animal should be extracted utilizing the method that is the least stressful and minimizes further injury.
2. Extraction methods may include:
   a. Walking the patient if stable.
   b. Carrying the patient; works well for cats and small dogs.
   c. Securing the animal to a movement assist device such as a commercial or homemade harness system, a litter, an emergency drag sled, or even dragging the patient out on a tarp or blanket.
   d. Vertical extraction such as hoisting the animal out of a ravine or large body of water or onto a transport helicopter may be required.
3. Ensure the patient is properly secured within the appropriate harness system and that personnel are familiar with the operation of the extraction harness device.
4. If neurologic injury is known or suspected, the patient should be immobilized on a stretcher/litter (see *Guidelines for Neurological Trauma*).

5. Definitive location transport decisions are based on:
   a. Patient's condition
   b. Distance of transport:
      i. The **closest facility** should be sought. However, priority and high-risk patients should be taken to a facility equipped for trauma patients; even if the distance is increased within reason (within 60 minutes of injury).
         1. Resources for emergency facilities include:
            a. Veccs.org under "Certified Facilities" at the following url: http://www.veccs.org/index.php?option=com_certifiedhospitals&nationid=1&Itemid=193
            b. Veterinary Committee on Trauma (VetCOT) at the following url: https://sites.google.com/a/umn.edu/vetcot/
   c. Provider's experience level and scope of practice
   d. Available on-scene resources
6. Do not delay transport to manage nonlife-threatening injuries. Treat these conditions en route to the veterinary hospital
   a. The time from sustaining an injury to reaching definitive veterinary care should ideally be kept to less than 1 hour (eg, "Golden Hour")
7. Record trends during transport in patient's LOC, vitals, and overall condition every 5–15 minutes to monitor for signs of deterioration requiring immediate intervention.
   a. Repeat the primary assessment.
   b. Determine if there have been changes in the patient's condition.
   c. Confirm the adequacy of interventions and patient status.
   d. If the patient's condition is stable and no life threats exist, reassess vital signs at least every 15 minutes.
   e. If the patient's condition remains unstable or is at high risk of deteriorating rapidly, reassess vital signs at least every 5 minutes.
   f. If available electronically monitor:
      i. Hemoglobin saturation (pulse oximetry)
      ii. Blood pressure (oscillometric)
      iii. ECG
      iv. $EtCO_2$ (if intubated)
8. Prevent hypothermia
   a. Minimize patient's exposure to the elements.
   b. If not performed already, remove any wet over garments and dry the patient.
   c. Place the patient onto an insulated surface as soon as possible.
   d. Cover the patient with commercial warming devices, dry blankets, poncho liners, sleeping bags, or anything that will retain heat and keep the patient dry.
   e. EXCEPTION: For suspected neurologic trauma patients, consider not actively warming and allowing mild permissive hypothermia (rectal temperature: 35–37°C or 95–98.6°F)
9. Rotary Wing Evacuation (most applicable to OpK9s):
   a. Whenever possible, the handler should accompany the OpK9. If the original handler is not available then an alternate K9 handler (preferred) or other designee (eg, medic) from the unit should accompany the K9.
      i. Consider that although most air medical transports have medical personnel on board (eg, flight nurse or paramedics), these personnel will most likely not be trained in K9 first aid. Handlers, with training, may be able to administer the care themselves or guide and assist the flight medic to provide the appropriate care.
   b. STRICTLY FOLLOW any and ALL special instructions provided by the flight crew for loading, securing, or unloading casualties.
   c. Keep head down and walk in a crouched position when approaching aircraft.
   d. Carry equipment below your waist.
   e. Do not allow unauthorized personnel to approach the aircraft.
   f. Secure all loose items (remove ball caps and other unsecured hats).
   g. Wear personal protective equipment when available to include:
      i. Eye wear (eg, goggles, sun glasses) or shield eyes to protect dirt or debris from blowing into the eyes
      ii. Hearing protection
      iii. Fire resistant or nonsynthetic materials
      iv. Gloves
      v. Head protection (eg, helmet)
   h. NO SMOKING or RUNNING within 100 ft. Do not chase loose items.
   i. **ALWAYS**:
      i. Approach a rotary-wing aircraft 90° from the side (three or nine-o'clock).
      ii. Approach from the down slope.
      iii. Exit in the same direction that you approached the helicopter.
   j. **NEVER**:
      i. Walk near the tail rotor.
      ii. Approach the aircraft unless directed to do so by the flight crew.
      iii. Approach from an uphill slope (eg, aircraft is below you).
      iv. Shine bright lights at the pilot, flight crew, or aircraft.

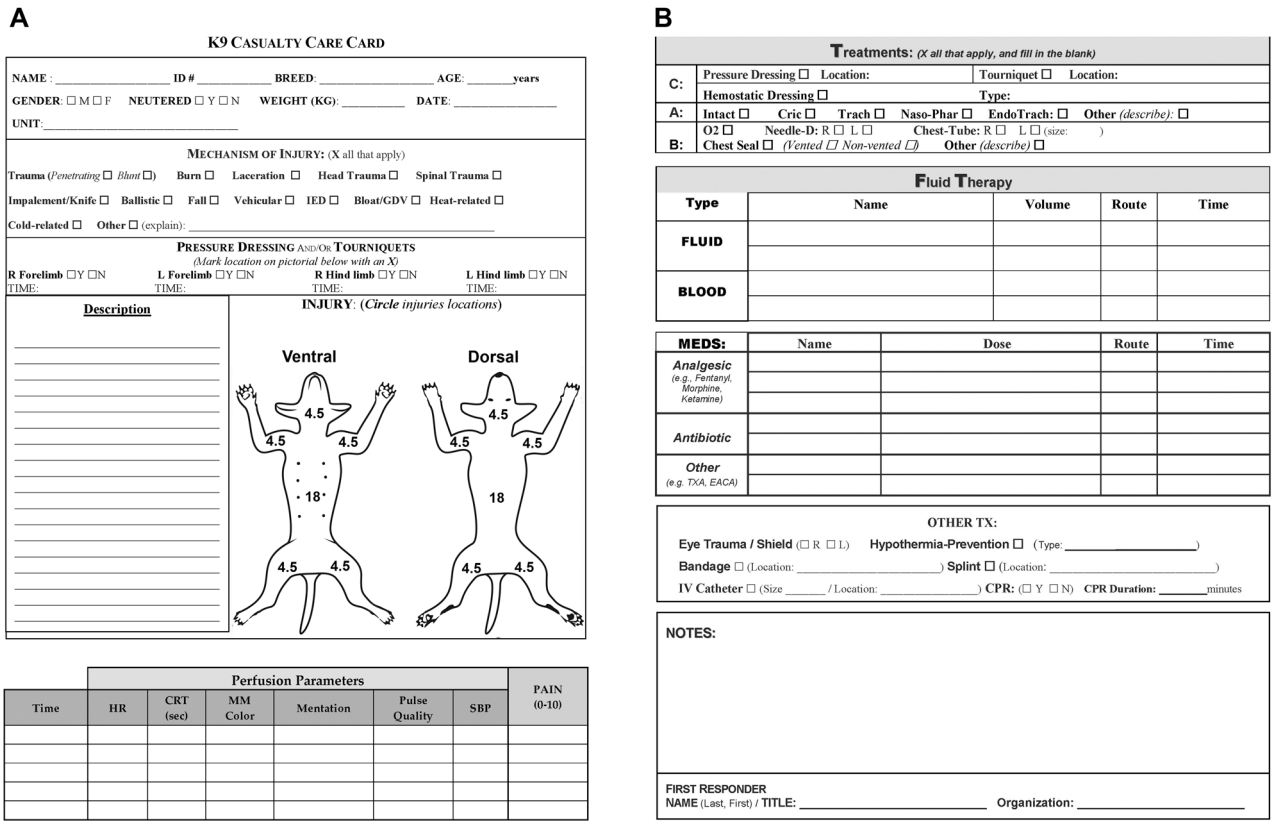

Figure 1: (A and B) Example of a canine casualty care card that can be used for documenting observations and interventions.

Communication and documentation

1. Identify and establish communications with a veterinary care facility before leaving the scene or en route:
   a. Not all veterinary facilities are capable of providing definitive trauma care support.
   b. Failure to identify a veterinary care facility that can provide the appropriate trauma care may delay time to definitive care and decrease the patient's chance of survival.
2. Relay estimated time of arrival and number of patients
3. Provide the following information about the patient to the receiving facility:
   a. Name/Identifying # if available
   b. Gender (male/female)
   c. Weight
   d. Suspected or known mechanism of injury
   e. Vitals and temperament
   f. Ambulatory or nonambulatory
      i. Secure to a litter (yes/no)
   g. Treatments performed and patient's response
4. Responder can also consider the "MIST" approach:
   a. Mechanism of injury
   b. Injuries incurred
   c. Signs/Symptoms
   d. Treatment already provided
      i. For example: This is SGT Jones from the Riverbend Police Department. We are en route by service vehicle with a police dog with gunshot wounds to the chest. He is conscious, with labored breathing. We have placed a chest seal over his wound and are giving him oxygen by mask. We are about ten minutes out from your clinic.
5. Provide the following information on the Responder
   a. Name of responder.
   b. Call back information in the case of a disconnection or in the event the facility requires further information during transport.
6. Be sure to document any changes in patient status and the time these occurred.
7. Document the reasoning for your treatment and the patient's response.
8. Transfer information with the patient to the next level of care either verbally or in writing.
9. Consider implementing a **K9 CASUALTY CARE CARD** (Figure 1A and B).

Discussion

One of the unique populations of animals that may require prehospital care is the working dog population. There are several categories of working dogs, whether they are assistance dogs providing important services for an individual or they are detection or patrol dogs that keep our communities safe. One of the first rules with any of these dogs is to keep the handler with the dog whenever possible. The second consideration is the impact of treatment on the dog's work. Clearly, a critically ill dog will not be returning to work immediately, but in some situations (eg, a laceration repair), a return to work may be required. In these situations, the impact of any treatment on the dog's ability to perform should be considered. There is little data defining drugs that may impair olfaction or performance in dogs. The drugs that have been shown to impair olfaction in dogs include steroids (7 days at doses of 2 mg/kg/day of dexamethasone or 18 days after 0.25 mg/kg/day of hydrocortisone with 0.25 mL/kg/day deoxycorticosterone acetate)[29] (Ezeh 1992) and metronidazole (at 5 days after 50 mg/kg/day).[30] There are numerous drugs in the human literature that have reported effects on olfaction.[28] However, the majority have not been evaluated in dogs. Anesthetics may impair performance, but there are no systematic studies. In general, the clinician should be attentive to the potential impact of medications prescribed in this population of dogs, and as long as the treatment of the patient is not compromised, minimize the use of medications.

Footnote

[a] Such training should be provided under the direction of a licensed veterinary professional or a professional veterinary training organization that employs a licensed veterinarian as their medical director to oversee their training curriculum.

Further Reading

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Section 2: External Hemorrhage

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes):

1. Assess airway and breathing. If needed refer to *Guidelines for Respiratory Distress or Basic Life Support* (BLS).
2. If bleeding is severe and shock is present or imminent, follow *Guidelines for Fluid Resuscitation* once bleeding is controlled.
3. Direct pressure, wound packing, and application of a circumferential pressure dressing remain the primary tenets of controlling external hemorrhage in small animals.
4. Immediately apply direct, **firm** pressure using standard gauze, impregnated hemostatic dressing, or any other suitable absorbent material to the area of external hemorrhage for at least 3–5 minutes. Refer to Step 7 for hemostatic dressings.
   a. Apply direct pressure with your hand until dressing/packing material is obtained.
   b. When anatomically feasible, place a circumferential pressure dressing around the bleeding area to maintain constant pressure directly on the wound. A noncircumferential dressing will not provide adequate pressure to maintain hemostasis.

   i. Do not be afraid to tightly wrap, control of bleeding using adequate pressure is paramount.
   ii. If bleeding is on the head or neck, ensure bandage does not restrict the patient's airway and breathing.
   iii. Consider applying an occlusive dressing for wounds to the neck.
c. If direct pressure/pressure wrap is successful, the area should be overwrapped firmly with self-adherent bandage material (eg, Vet Wrap or Coban, if available), elastic bandaging tape, or medical tape. Improvisation with common duct tape or other adherent tape material may be considered if needed.
d. Monitor for strikethrough (hemorrhage through the bandage).
e. If strikethrough occurs:
   i. DO NOT remove original dressing as this may remove formed clots and exacerbate bleeding.
   ii. Apply additional bandage material OVER the already present material.

5. If an extremity is involved, immobilize (eg, splint) and elevate (~ 6 inches) the injured area to slow blood loss.
6. If the above procedures are NOT successful, the source of hemorrhage involves an extremity (distal limb or tail), and the bleeding is considered life threatening, consider placing a tourniquet (TQ).
   a. Please see the discussion for further notes on the use of a TQ.
   b. Commercially available TQs used for people do not remain in place or provide adequate pressure to stop blood flow to the extremities in dogs.
   c. If used, the TQ should ideally be a pneumatic, or ratcheting device that has been demonstrated to occlude arterial flow, at least in people.
   d. In the absence of a commercial TQ, other materials that can be used to stop arterial blood include inflated pediatric blood pressure cuffs, Penrose drains, or cloth strips. Ensure that the material is > 2 inches in width to avoid crush injury to the tissues.
   e. General guidelines for placement of a TQ:
      i. Apply above the elbow and or stifle (knee) for distal extremity wounds or at least 2–3 inches above the wound.
      ii. Do not apply directly over a joint.
      iii. Make sure the TQ is securely tightened; demonstrated by cessation of arterial blood flow and loss of palpable distal pulse.
      iv. Never use wire, rope, a belt, or any other narrow material because it could cut into the skin and cause more tissue damage.
      v. Never cover a TQ with a bandage.
      vi. Do not loosen the TQ after you have applied it.
      vii. If a distal pulse or visual hemorrhage is still present, consider additional tightening of the TQ or the use of a second TQ, proximal and juxtaposed to the first, to eliminate the distal pulse and observable hemorrhage.
7. If the hemorrhage involves a junction (nonextremity) or area not amenable to TQ placement, a topical hemostatic agent should be packed into the area with direct firm pressure for 3–5 minutes (or in accordance with manufacturer directions).
   a. A nonexothermic agent amenable to packing into the area should be utilized. Gauze is best suited for this purpose (eg, QuickClot Combat Gauze).
   b. Avoid granular or zeolite-based hemostatic agents:
      i. Zeolite is exothermic and may cause significant tissue damage or complicate wound repair.
      ii. Under high arterial flow granular agents tend to wash away before allowing a clot to form
8. For an object protruding from the wound:
   a. Apply bulky dressings to stabilize the object in place, and apply pressure as best you can.
   b. Never remove an impaled object from a wound.
9. Place the animal in a position of comfort and that allows adequate respirations (eg, sternal recumbency).
10. Keep the animal quiet to prevent elevation in blood pressure and exacerbation of bleeding.
11. Use blankets to keep patient from becoming hypothermic.
12. Transport.

Recommendations for Responders in the Setting of Delayed Veterinary Care (assumes minimal to no medical training):

1. Follow guidelines as described above for First Response with the addition of the following recommendations.
2. If available, provide supplemental oxygen either via flow by or oxygen mask.
3. Regarding TQ usage and delayed care, it is NOT recommended to release a properly applied TQ in a prehospital setting without consultation with a veterinarian. Phone consultation in transit is recommended, as this action is scenario-dependent.
4. For Uncontrolled/Internal Abdominal Hemorrhage:
   a. Pending medical training consider applying abdominal external counter pressure (eg, "Belly Wrap").
   b. Incorporate the hind legs when applying abdominal counter pressure.

   c. DO NOT lift underneath the abdomen after trauma.
   d. Follow *Guidelines for Fluid Resuscitation.*
5. For patients not in shock, water per os can be offered.

Recommendations for medics in the setting of delayed veterinary care

1. Follow all recommendations as listed above for First Response.
2. If a TQ has been placed:
   a. Reassess need for TQ if evacuation time to definitive care is anticipated to be > 2 hours.
   b. Consider removing TQ if bleeding can be controlled by other methods such as with *direct pressure* and *pressure dressing*
   c. Expose the wound fully
   d. Identify an appropriate location above the original TQ and apply a new TQ.
   e. Once properly applied, loosen the initial TQ and observe for bleeding.
   f. If bleeding is not observed, loosen the newly applied TQ slowly (but leave in place).
      i. Apply direct pressure on the wound w/hemostatic impregnated gauze or gauze padding followed by a circumferential pressure dressing.
      ii. If bleeding remains controlled, TQ is not needed and may be completely removed.
      iii. If bleeding is not controlled without the TQ, retighten the TQ and leave in place.
   g. Reasons NOT to remove TQ include:
      i. The distal extremity or tail is a complete amputation.
      ii. The patient is in shock or is suffering traumatic brain injury (TBI).
      iii. The TQ has been on for > 6 hours .
      iv. Medical treatment facility is within 2 hours after time of application.
      v. It is considered inadvisable to transition to other hemorrhage control methods based on tactical or medical situation.
3. If the aforementioned fail and continued uncontrolled arterial or venous bleeding is noted, application of vascular clamps and ligation of major vessels may be attempted.
   a. Arterial bleeding is typically recognized as spurting or "hose-like" and should be ligated first.
   b. Venous bleeding is much lower pressure and will generally have a slower "oozing" or trickling quality to it.
4. Consider fluid resuscitation if bleeding is significant or prolonged and the animal has signs consistent with shock (increased heart rate, pale mucous membranes, altered mentation).
   a. Place an intravenous or intraosseous catheter and provide fluid resuscitation per *Guidelines for Shock/Resuscitation.*
5. Consider administration of antifibrinolytic agents such as tranexamic acid (TXA) or epsilon aminocaproic acid (EACA):
   a. If the patient presents with hemorrhagic shock, one or more amputations, penetrating torso trauma, or evidence of severe bleeding consider administration of one of the following as soon as possible and NO LATER than 3 hours postinjury:
      i. 10–15 mg/kg TXA in 100 mL NS (normal saline) or LRS IV slowly over 15 minutes
         1. If bleeding continues, a continuous rate infusion (CRI) of additional TXA at 10 mg/kg/h for 3 hours OR 10-15 mg/kg over 8 hours can be given.
      ii. 100–150 mg/kg EACA in 100 mL NS or LRS slowly over 15 minutes
         1. If bleeding continues, a continuous rate infusion of additional EACA at 15 mg/kg/h for 8 hours can be administered.
6. Use blankets to keep patient from becoming hypothermic.
7. Transport.

Discussion

While the use of TQs has made resurgence in human trauma care, their use in dogs is controversial and evidence to support their use is lacking. The placement of TQs in companion animals and working dogs is limited to injuries located on the distal limbs and tail. However, in a study of military working dogs that suffered gunshot wounds, none of the dogs with wounds to the extremities died and none of those were treated with a TQ (Baker et al., 2013). Although this suggests that TQs have little to no role in extremity hemorrhage control, the number of affected dogs in that study was low (29 total; 6 of those with wounds to only the extremities). As such, a complete condemnation of the use of TQs is not warranted. Rather, these guidelines have provided specific guidelines for their judicious use if other measures fail to provide hemostatic control.

Evidence supporting the effective dosage of TXA or EACA in dogs is currently limited but suggests higher doses of TXA may be needed in comparison to people. However, IV bolus administration of doses exceeding 10 mg/kg have been shown to induce vomiting in dogs; nevertheless a study of healthy dogs found that an initial bolus of 10 mg/kg followed by a constant rate infusion of 10 mg/kg/h for 3 hours was well tolerated. Thus, if the patient continues to hemorrhage after initial administration, a CRI of TXA should be considered.

Further Reading

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Section 3: Management of Acute Respiratory Distress

Background

In all of the following situations, there will be 3 main steps applicable to every patient. These include patient position, temperature, and the administration of oxygen. As such, consider the guidelines below in every scenario. In most situations, oxygen is not harmful and should be administered, when available, for any form of respiratory difficulty.

1. Place the animal in a position that favors air movement, with the least energy, and is not stressful. For most animals, this is sternal recumbency.
2. Monitor the rectal temperature in dogs.
   a. The work of breathing generates a lot of heat and dogs can become heat stressed when labored.
   b. Consider active cooling if patient temperature exceeds 105ºF. See *Guidelines for Heat Exhaustion*.
3. Oxygen administration, when available, should be considered for every patient.
   a. Humidified oxygen is preferred but not mandatory for short-term administration.
   b. Flow-by oxygen may be administered by:
      i. An oxygen tube positioned at least 2 cm from the patient's nostril
         1. At a flow rate of 2–3 L/min to provide 25–40% inspired oxygen.
         2. Flow rate may be increased up to 8–10 L/min if needed, but a conscious dog does sometimes not tolerate high rates.
      ii. A fitted face mask
         1. Compliance may be difficult; Consider removing diaphragm to increase tolerance to mask.
         2. Tight fitting mask with O_2 flows of 8–12 L/min provide 50–60% inspired O_2.
         3. Monitor for excess heat, humidity, and CO_2 buildup.
         4. Carbon dioxide will build-up in a non-vented mask; therefore, it is ideal to use a vented mask or a looser fitting mask to prevent rebreathing of CO_2 and or build-up of condensation.
         5. A vented Bag-Valve-Mask (BVM) is a viable option in dogs and cats.
      iii. A loose fitting mask with O_2 flows of 2–5 L/min will provide 25–40% inspired oxygen
         1. Consider removing diaphragm to increase tolerance to mask.
      iv. An oxygen hood
         1. Flow rates of 0.5 to 1 L/min typically will deliver 30–40% inspired O_2 and higher rates of 5–8 L/min can deliver 50–80% inspired oxygen.
         2. Monitor for excess heat, humidity, and CO_2 buildup.

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. Consider position, temperature, and oxygen administration (see above).
2. Is there **stridor**–a high pitched increase in noise of breathing
   a. **No**; continue to Step 3.
   b. **Yes**
      i. Evaluate for causes of partial airway obstruction, swelling of the face, oral, or neck tissues.
      ii. Trauma to the head or neck
         1. Apply gentle pressure with hemostatic gauze (preferred), standard gauze pads, or any clean absorbent material to stop bleeding.
      iii. Foreign body in the mouth, nose, or airway
         1. Clinical Signs may include: pawing at mouth, gagging, excessive drooling, frequent swallowing motions, and or extended head and neck.

2. If present monitor for complete obstruction during transport–see Step 3.

iv. Transport

3. Is the airway **patent**; in other words, can air pass into and out of the lungs
   a. **Yes**; continue to Step 4.
   b. **No**
      i. Perform an oral examination to look for a cause of airway obstruction – use caution not to insert fingers into the mouth:
         1. Palpate throat and trachea
         2. Tilt head slightly up/back and extend neck
         3. Open the mouth and examine mouth and pharynx. Can use a leash or gauze behind the upper and lower canine teeth to hold the mouth open.
         4. With caution and if able (eg, unconscious), pull tongue forward to help open the airway
         5. Consider using a roll of tape as a mouth gag to keep the mouth open if aides in air passage.
      ii. **Visible foreign material** lodged in airway?
         1. YES
            a. Perform a lateral Heimlich maneuver with the dog in lateral recumbency. Apply a thrusting force to the ribs, extend the head and neck.
            b. Or an abdominal Heimlich maneuver (for dogs only) standing behind the dog. Lean over top and "bear hug" the dog. Place your fist just below xiphoid process of the sternum and compress the abdomen with 3 quick upward thrusts. Repeat 1–2 times if not successful.
            c. NOTE: Do not attempt a Heimlich maneuver if sharp objects such as sticks, glass shards, or bones are present. ONLY attempt if obstruction is complete and preventing safe transport.
         2. NO obvious foreign material but no observed air flow, consider one or more of the following:
            a. Prop the mouth open and use two fingers to SWIPE AND CLEAR the mouth and pharynx. Ensure the mouth is secured open and the object(s) is now visible to prevent pushing it further into the airway.
            b. Perform a Heimlich maneuver (as described above).
            c. Needle tracheotomy (midtrachea between rings) or cricothyrotomy can be considered; if skills and scope of practice allow.
               i. Lidocaine regional block may be used to facilitate needle/catheter placement.
      ii. If not breathing, provide mouth to snout rescue breaths at 10 breaths per minute (See *BLS guidelines*).
      iii. Check for heart beat—if absent start CPR (See *BLS and ALS guidelines*).
4. Is the animal breathing at a normal rate?
   a. YES; Continue to Step 5
   b. NO
      i. Increased rate (> 30 breaths per minute)
         1. Evaluate mucous membrane color
            a. Blue-gray (cyanotic) mucous membranes (MM) indicate a need for oxygen.
            b. Bright red MM may be associated with heat stress, infection (sepsis), or cyanide or carbon monoxide exposure. See *Guidelines for Heat Exhaustion and/or Smoke Inhalation,* respectively.
            c. Pale (white) MM indicates blood loss or shock and a need for resuscitation/fluid administration. See *Guidelines for Fluid Resuscitation*.
         2. May be secondary to painful stimulus or anxiety
         3. Provide oxygen, if available, and place in a comfortable position.
         4. Transport
      ii. Decreased rate (<10/min)
         1. Evaluate neurologic status – is the animal aware?
            a. If not see *Guidelines for Neurological Trauma*. Consider elevation of head 15–30 degrees on a flat board. Keep neck extended and straight.
         2. Monitor for apnea (stopped breathing; see *Guidelines for BLS*)
         3. Provide oxygen, if available, and place in a comfortable position.
         4. Transport
5. Is the animal breathing with normal **effort?**
   a. **YES**; Consider oxygen, position, and transport.
   b. **NO**
      i. Evaluate mucous membrane color (see 4bi).
      ii. Evaluate for wounds of the head or neck
         1. If wounds are present over the chest cover them with a light occlusive dressing such as "Saran Wrap" (see *Guidelines for Penetrating Wounds*)

iii. Provide oxygen if available and consider position
iv. Minimize activity and stress
v. Transport

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

Consider position, temperature, and oxygen administration.

1. Is there **stridor** – a high-pitched increase in noise of breathing
   a. **NO**; Continue to step 3.
   b. **YES;** Follow recommendations for First Response
      i. If a known bee sting or allergic reaction is suspected, consider the administration of epinephrine. (See *Guidelines for Allergic reaction/Anaphylaxis*).
2. Is the **airway patent;** in other words, can air pass into and out of the lungs
   a. **YES;** Continue to Step 4.
   b. **NO;** Follow recommendations for First Response
3. Is the animal breathing at a normal **rate or effort?**
   a. **YES;** Transport immediately
   b. **NO;** Follow recommendations for First Response
      i. Evaluate mucous membrane color
         1. Blue (cyanotic) mucous membranes indicate a need for oxygen.
         2. Red MM may be associated with heat stress, infection (sepsis), or cyanide or carbon monoxide exposure. See *Guidelines for Heat Exhaustion or Smoke Inhalation,* respectively.
         3. Pale MM may be associated with shock from loss of blood or fluids. See *Guidelines for Fluid Resuscitation/Shock*.
      ii. Evaluate for source of pain or anxiety
         1. Stabilize fractures if present (See *Guidelines for Fracture Management*)
         2. Provide wound care
         3. DO NOT give aspirin or other over the counter pain-relieving medication
      iii. Minimize activity and stress
      iv. Transport

Recommendations for medics in the setting of delayed veterinary care

1. Consider position, temperature, and oxygen administration.
   a. Additional more invasive oxygen administration techniques can be considered:
      i. Nasal prongs or nasal catheter
         1. Flow rates of 50–150 mL/kg/min can provide 30–70% inspired O_2
      ii. Transtracheal oxygen (placed between tracheal rings or in cricothryoid ligament)
         1. Flow rates of 50 mL/kg/min can achieve 40–60% inspired O_2. CAUTION: Higher flow rates can cause damage to the tracheal mucosa.
2. Is there **stridor** – a high-pitched increase in noise of breathing
   a. **NO**; Continue to step 3.
   b. **YES;** Follow recommendations for First Response
      i. Evaluate for causes of partial airway obstruction
         1. Swelling of the face, oral or neck tissues
            a. If a known bee sting or allergic reaction is suspected, consider the administration of epinephrine. Refer to *Guidelines for Allergic Reaction/ Anaphylaxis* for dosages and routes.
         2. Trauma to the head or neck
            a. Stop bleeding with careful pressure using hemostatic gauze or standard gauze pads.
         3. Foreign body in the mouth, nose, or airway
            a. If present attempt careful removal. Use caution not to insert fingers into the mouth, and use a leash or gauze behind the upper and lower canine teeth to pry the mouth open.
            b. Monitor for complete or worsening obstruction during transport – see below
            c. If necessary, to improve airflow or facilitate removal of foreign body, consider mild sedation. Refer to *Guidelines for Sedation/Analgesia.*
      ii. Minimize activity and stress
      iii. Monitor rectal temperature if > 40.6°C [>105°F], cool as necessary to 39.4°C [103°F] using tepid water or ice packs in the neck and groin (see *Guidelines for Heat Exhaustion*).
      iv. Transport
3. Is the airway **patent**; in other words, can air pass into and out of the lungs
   a. **YES;** Continue to Step 4.
   b. **NO;** Follow recommendations for First Response
      i. Perform an oral examination to look for a cause of airway obstruction and follow recommendations above (First Response) regarding suspected foreign material.

ii. If no obvious foreign material is observed then consider:
    1. Mouth to nose/snout resuscitation or a tight fitting mask for ventilation.
    2. Orotracheal or endotracheal (ET) intubation
        a. To facilitate ET tube (ETT) placement, ensure head, and neck are aligned and extended (not flexed), with the animal in sternal recumbency. This will allow a direct "line of site" or path from the oral cavity, through the oropharynx into the trachea. If sedation is needed, see *Guidelines for Analgesia/Sedation.*
        b. Secure ETT in place and inflate cuff. NOTE: the canine trachea is proportionally much larger than the human. The appropriate ETT for the average 35 kg police dog is a 10 or 11 mm tube, whereas a cat will generally require a 3–5 mm endotracheal tube.
    3. If the difficulty is on inspiration or there is trauma to the laryngeal/pharyngeal region, consider:
        a. Needle tracheotomy (midtrachea between rings) or cricothyrotomy.
            i. Lidocaine regional block may be used to facilitate needle/catheter placement.
        b. A "slash" or surgical tracheostomy/cricothyrotomy can also be considered if the responder has been trained to do so in canines and it is in their scope of practice.
            i. A surgical airway is needed if the intent is to secure the airway to ventilate the patient.
    4. Monitor oxygen saturation (SpO_2) and end-tidal carbon dioxide ($ETCO_2$); same parameters apply as in human medicine.
    5. If not breathing, provide rescue breaths at 10 breaths per minute (See *Guidelines for BLS*).
    6. Check for heart beat and if absent start CPR (See *Guidelines for BLS and ALS*).
4. Is the animal breathing at a normal **rate and effort?**
    a. **YES;** immediately transport.
    b. **NO;** Follow recommendations for First Response
        i. Increased rate
            1. Consider MM color, pain, anxiety, and patient position and address as indicated.
            2. Evaluate for wounds of the thorax
                a. If wounds present, clip and clean them, but do not delay transport or further evaluation.
                b. Cover any thoracic wounds with light occlusive dressing and apply a chest seal to any penetrating chest wound (See *Guidelines for Penetrating Wounds*).
        3. Auscult lungs
            a. Increased/Abnormal sounds
                i. Crackles (Rhonchi or Rales)?
                    1. Consider contusions, pneumonia, noncardiogenic or cardiogenic edema; provide oxygen
                    2. Auscult heart; if irregular rhythm or murmur consider furosemide (2 mg/kg IM or IV once)
                ii. Wheezes on expiration?
                    1. Asthma is uncommon in dogs, although bronchoconstriction may occur with inhaled chemicals. Cats do acquire inflammatory airway disease. For either, consider bronchodilator; Albuterol (1–2 puffs MDI (metered dose inhaler), every 15 min; max 3 doses).
            b. Decreased lung sounds are typical of pleural space disease.
                i. Lung sounds decreased dorsal (toward spine); consider pneumothorax
                ii. Lung sounds decrease ventral (toward sternum); consider hemothorax or diaphragmatic hernia
                iii. Evaluate for tension pneumothorax physiology
                    1. Progressive respiratory distress with history of trauma
                    2. Hypoxemia
                    3. Barrel chest
                    4. Decreased chest wall movement
                    5. Signs of shock—increased HR, weak pulses, pale mm, decreased awareness
                iv. Thoracocentesis (needle decompression) IF respiratory effort is increased with orthopnea (elbows abducted and neck extended) or tension physiology is suspected. Insertion site is between 7th and 9th ribs (count backward from 13) off the cranial (orad) side of rib.

4. Consider obtaining vascular access (cephalic or saphenous vein) or IO access, if unconscious (see *Guidelines for Fluid Resuscitation*).
5. Transport as soon as possible

ii. Decreased rate
1. Follow recommendations for First Response
2. Monitor for apnea (stopped breathing) and cardiac arrest; start CPR and follow *Guidelines for BLS/ALS*.
3. Consider intubation and monitoring (see 3b.ii above).
4. Consider vascular access
5. Transport

Discussion

Securing the airway

Oral tracheal intubation (endotracheal intubation) of cats can be challenging. Cats are prone to laryngospasm. The anatomy of most dogs allows for ready visualization of the airway and intubation. If either a dog or a cat is intubated, the subsequent management of that patient is critical, albeit similar to people. First the ETT placement should be confirmed with a combination of direct visualization of the ETT entering the larynx, digital palpation of the ETT within the larynx, end tidal CO_2 monitoring, and observing for the rise of the chest during positive pressure ventilation (PPV). The ETT must be secured and the cuff appropriately inflated, especially if smaller than ideal endotracheal tubes are being utilized. Once intubated, PPV may be required and should be initiated at a rate of 10 breaths per minute. If the animal is hypercapnic (assuming $ETCO_2$ is in place), an increased rate of ventilation to maintain a normal CO_2 (eg, 35–40 mm Hg) should be instituted. The appropriate tidal volume is a maximum of 10 mL/kg and peak inspiratory pressure should not exceed 20 cm H_2O in normal lungs or 30 cm H_2O in diseased lungs. Maintaining an animal intubated generally requires sedation or anesthesia, which may be outside the scope of prehospital care, dependent upon the expertise and resources of the responder. See *Guidelines on Analgesia/Sedation* for further discussion.

Although potentially life-saving, temporary tracheostomies have been associated with a high rate of complications (86%), even when managed in a veterinary hospital. In cats, tracheostomies are thought to be associated with a higher incidence of complications and poor outcome. In 10/23 cats with temporary tracheostomies (using 3.0–4.0 mm tubes) major complications (dislodgement or obstruction) occurred, and minor complications (partial occlusion) occurred in 14/23 cases. Needle tracheostomy may be a viable alternative in dogs and is currently the preferred approach for obtaining an airway in military working dogs as defined by the canine tactical combat casualty care guidelines. The advantages include the ability to maintain the airway without ongoing sedation and the ability to keep the dog muzzled. In cats, some success has been documented with providing ventilation via a tight fitting nasal mask; however, limited compliance and leaks around the nose are common disadvantage. A study of continuous positive airway pressure delivered via a Boussingnac continuous positive airway pressure (CPAP) mask in sedated dogs, demonstrated feasibility but practical prehospital use may be complicated by the need for sedation and need to maintain a tight seal. The use of a helmet CPAP system (MiniOx, MSA, Gurnee, IL) that seals around the neck was well tolerated by sedated healthy dogs. The inevitable leak at the neck and the potential for CO_2 rebreathing was compensated by increasing gas flows to 50 L/min. In one study of 30 healthy dogs, laryngeal mask airways were able to successfully maintain a seal in 63% of deeply sedated dogs; however, their use has not been investigated in a prehospital setting. Similarly, in a study involving cadavers and then 25 healthy dogs, James et al successfully used a blind insertion airway device (Combitube) during sedation and elective procedures in a nonemergent hospital setting. A specially designed supraglottic airway device (v-gel) has been developed for cats. This device has shown promise in a hospital setting of anesthetized cats, but has not been evaluated in a prehospital setting and requires the specialized device to conform to the anatomy of cats' oropharynx. The use of vented bag-valve masks has not been reported in dogs but can be considered if one is available, although a seal may be difficult to obtain.

In a 2008 Cochrane review, there was insufficient evidence for benefit of prehospital airway management, although only 3 randomized controlled trials were included and only one (in children) was relevant to the veterinary patient. A 2014 review of out of hospital airway management in approximately 300,000 cases reported an overall 85% success rate with endotracheal intubation, 80% success with alternate noninvasive airways and only 34% success with cricothyrotomy. In a recent review, the potential advantages of a cricothyrotomy over a surgical tracheotomy in dogs and cats were described. However, no data on complications or success in either a hospital or prehospital setting are available. One indication for a cricothyrotomy would be a complete airway obstruction; an alternative first approach would be to employ a Heimlich maneuver to dislodge any obstructing material, as described above. This methodology has been described in a research study, but no case reports or reviews are available in the literature.

In summary, although intubation may be successful, management of the intubated dog and cat can lead to additional complications. Insufficient evidence and lack of available equipment to successfully utilize noninvasive ventilation strategies precludes recommending these approaches. Securing the airway in the prehospital setting is most critical in the case of complete airway obstruction. Although evidence is not available, an attempt to dislodge any obstructing foreign material should be made with a manual assessment or Heimlich maneuver. If this approach fails, a needle cricothyrotomy or tracheostomy can provide oxygen whereas a surgical tracheotomy is needed to provide positive pressure ventilation, either of which may be life-saving, although evidence is not available.

Chest decompression

In a report of military working dogs injured by gunshot wounds, thoracic wounds were the most common injury location affecting 13/26 cases. Tension pneumothorax was diagnosed in all 4 dogs that were not immediately killed in action, and the 3 dogs that had needle decompression in the field survived. Other field management included occlusive bandages applied to all chest wounds and flow by oxygen. These findings are in contrast to the report of urban gunshot wounds in dogs, and rural gunshot wounds in which no dog had reported tension pneumothorax. In a series of 9 dogs with thoracic impalements (most commonly sticks), despite presence of pleural effusion and pneumothorax or pneumomediastinum, no report of emergency thoracocentesis was described. A systematic review of the human literature suggested that prehospital thoracocentesis had support in cases of tension pneumothorax due to the life-threatening nature of the pathophysiology, but still was only classed as a Grade C recommendation.

In summary, recognition of a tension pneumothorax requires accurate assessment of decreased breath sounds, tachypnea, and evidence of cardiovascular compromise; based on limited data, needle decompression may be lifesaving.

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Section 4: Fluid Therapy and Resuscitation

Background

The administration of fluids should be goal oriented to maximize efficacy. In the prehospital setting, 2 main scenarios exist: dehydration and hypovolemic shock, or a combination of these two states.

There are several physical examination findings that will direct one toward the correct fluid plan. When evaluating a patient, always consider the situation and environment. Factors such as stress or exercise may cause

Table 2: Resting vital parameters for dogs and cats and changes consistent with shock

Variable	Normal resting range	With hypovolemic shock
Temperature (°F/°C)	100–102.5/37.8–39	Initially normal, then progressive decline. Increases in temperature may be characteristic of sepsis or heat related illness (*see Guidelines for Heat Exhaustion*).
Heart/pulse rate (beats per minute)	Dog: < 20 kg: 100–160 20–40 kg: 60–120 > 40 kg: 50–80 Cat: 180–240	In medium to large breed dogs, tachycardia will prevail. In cats and sometimes small dogs (< 10 kg), a relative bradycardia may accompany hypothermia
Respiratory rate (breaths per minute)	6–30	Will typically increase with shock or exertion
Capillary refill time (CRT) and color	1–2 s/pink	Will prolong (> 2 s). Brisk refill (< 1 s) may be characteristic of sepsis or heat exhaustion.
Arterial pulse pressure	Systolic: 105–145 mm Hg Mean: 90–110 mm Hg Diastolic: 60–85 mm Hg	The two most easily palpable arterial pulses are the femoral and dorsal pedal. If you lose both, marked hypotension is present. The femoral is stronger and maintained with moderate hypotension. Hypotension is typically characterized by a systolic blood pressure of < 90 and a mean of < 70 mm Hg.
Mentation/attitude	Alert and interactive	Progressively dull

Exercise/activity will result in higher values for heart/pulse rate. OpK9s may have rectal temperatures as high as 108°F (42°C) during work and training events and be considered "normal" as long as they are not displaying clinical signs of heat-related illnesses.

significant, but appropriate, changes in the typical resting values listed below. The table below (Table 2) lists typical **resting** values for vital signs in dogs and cats based on varying body weights. The table also denotes expected clinical manifestations for animals experiencing hypovolemic shock.

This is in contrast to dehydration, which is characterized by the clinical signs listed in the table below (Table 3).

In order to tailor fluid therapy to the needs of the patient, the type of fluid deficit must be identified and addressed. These guidelines break fluid deficits into **5 main categories/scenarios**. Table 4 is a chart outlining a stepwise fluid plan for each scenario, which is also described below:

Table 3: Estimated percentage of dehydration based on clinical signs in dogs and cats

Percent dehydration	Clinical signs
< 5%	Not able to be detected on physical exam; history of fluid loss (vomiting/diarrhea) or no fluid intake
5-10%	Loss of skin elasticity, presence of turgor in subcutaneous tissues, dry mucous membranes, sinking of eyes into orbits
> 10%	Signs consistent with hypovolemic shock due to dehydration: lowered temperature, tachycardia, prolonged CRT, poor pulse pressure

1. **Dehydration only without clinical signs**
   a. This represents a patient with a history of losses (vomiting/diarrhea/exertion) and a lack of sufficient fluid intake, without any clinically detectable signs. This is less than 5% dehydration as outlined in Table 3.
2. **Dehydration with clinical signs, but NO signs of shock**
   a. This patient has a history of losses, insufficient intake and clinical signs that fit the 5–10% dehydration category
3. **Controlled hemorrhage or dehydration with signs of shock**
   a. This patient has a history of fluid losses, insufficient intake, and clinical signs consistent with hypovolemic shock (Table 2).
   b. The losses in this patient may also be due to hemorrhage that is controlled (able to be stopped/ligated and not ongoing).
      i. NOTE: Polytrauma, cavitary (abdominal or thoracic) bleeding, or unknown should be placed into scenario 3 or 4.
4. **Uncontrolled hemorrhage with signs of shock and no historical or physical evidence of traumatic brain injury (TBI) or thoracic trauma**
   a. This patient suffered a traumatic incident and has detectable signs of shock; typically at least 3 abnormalities are present from Table 2 above.

Table 4: Fluid plan for 5 common scenarios in the canine
Fluid Therapy Algorithm for: _____Body Weight in kg (Divide weight in lb/2.2) = _____kg.

Category/ condition	Fluid therapy steps	Type of fluid/route of administration	Dosage formula (use body wt in kg)	Notes Note: multiply by 1000 to convert L to mL
1. Dehydration; no clinical signs	1. Take steps to encourage drinking	Water/PO		Encourage oral consumption
	2. Precondition working dogs with SQ fluids in periods of high stress w/o environmental conditioning	LRS or NS/SQ	0.025 X B wt* = _____L X 1000 = _____mL	Do not exceed 1 L total volume or 500 mL per site in dogs (> 15 kg)
2. Dehydration; clinical signs present but no signs of shock	1. Encourage to drink	Water/PO		Encourage oral water consumption for exertion. Electrolyte solutions can be considered if source of loss is gastrointestinal (vomiting/diarrhea).
	2. If work is ongoing and /or oral administration is not possible; can consider SQ fluid therapy listed above	LRS or NS/SQ	0.05 X B wt* = _____L X 1000 = _____mL	Do not exceed 2 L total volume or 500 mL per site in dogs (> 15 kg)
	3. Consider IV crystalloid fluid therapy if PO is not feasible (vomiting, reluctance . . .)	LRS or NS/IV	0.08 X B wt* = _____L X 1000 = _____mL Divide volume by # of hours over which to deliver = dosage in mL/h.	Ideally delivered over 4–6 hours.
3. Controlled hemorrhage or dehydration with signs of shock	1. Administer IV crystalloid fluid therapy	LRS or NS/IV	(a) MAX amount of fluids to be infused in one hour = 0.08 X B wt* = _____L X 1000 = _____mL	Note: This is maximum dosage in one hour representing 8% dehydration. Delivery is via steps b through d.
			(b) Bolus in increments of 20 mL/kg = _____mL until vital signs have stabilized. Once stable, proceed to (c). If still unstable proceed to (d).	Average amount of IV bolus for a working dog (25 kg) is 500 mL.
			(c) Give remainder of fluids over the next 6 hours or (a–b)/6 = _____mL/h for next 6 hours	Note: This is to be used when dehydration is source of shock. If blood loss is source and vital signs are stable, no further fluid therapy is needed.
			(d) If unstable after reaching maximum goal in step (a), another process such as sepsis or ongoing hemorrhage is likely present. Veterinary assistance is mandatory. Continue with hemorrhagic shock algorithm (4) below, beginning at step 2.	
4. Uncontrolled hemorrhage with signs of shock; no traumatic brain or thoracic injury *Note: for this category rapid veterinary assistance is mandatory.*	1. Administer IV crystalloid fluid therapy	LRS or NS/IV	(a) Maximum volume of fluids to be infused = 40 X B wt* = _____mL	Note: If available, blood products should be administered in lieu of crystalloids as soon as possible.

(*Continued*)

Table 4: Continued

Category/ condition	Fluid therapy steps	Type of fluid/route of administration	Dosage formula (use body wt in kg)	Notes Note: multiply by 1000 to convert L to mL
			(b) Bolus in increments of 20 mL/kg = _____mL until pulses are palpable. HR and pressure need not normalize; target MAP of 60 or systolic of 70–90 mm Hg if able to measure. Still unstable, go to step 2.	Note: This relatively hypotensive goal is intended for transport. Organ injury may result if supported in this state for several hours.
	2. Administer blood (if available). Veterinary assistance is mandatory.	FWB/IV, or pRBC and FFP/IV	(a) FWB dosage = 20 X B Wt* = _____mL (b) pRBC dosage = 10 X B Wt* = _____mLs (c) FFP dosage = 10–20 X B Wt* = _____mLs. If still unstable, repeat dosage of blood product. If not available, proceed to step 3.	Give fresh whole blood whenever available. First time administration does not require a cross-match in dogs. If components are used, a pRBC:FFP ratio of 1:1 or 1:2 is recommended. Do not delay transport to veterinary care.
	3. Consider colloids; VOL would be preferable to HES. Hemorrhage is likely significant. Veterinary assistance is mandatory.	VOL or HES/IV	(a) VOL or HES bolus = 5 mL X B wt* = _____mLs until vital signs have stabilized. If still unstable proceed to (b).	HES: Do not exceed 10 mL/kg VOL: Do not exceed 50 mL/kg
			(b) Blood products or vasopressors are needed. Veterinary assistance is mandatory.	
5. Hemorrhage with signs of shock AND traumatic brain injury or significant thoracic trauma is present. ***Note: for this category rapid veterinary assistance is mandatory.***	1. Small volume resuscitative IV fluid therapy with a colloidal or hypertonic solution.	HTS/IV	(a) TOTAL volume of HTS to be infused = 4 mL X B wt* = _____mL until vitals are stabilized. If unstable after 2 doses, go to step 2.	NOTE: to give slowly over 5–10 minutes to effect. NOTE: With neurologic injury, target normotension with MAP ≥ 70 or systolic ≥ 90 mm Hg if able to measure
	2. Consider colloid administration; VOL would be preferable to HES.	VOL or HES/IV	(a) HES or VOL bolus = 5 mL X B wt* = _____mL until vital signs have stabilized. If still unstable proceed to (b).	HES: Do not exceed 10 mL/kg VOL: Do not exceed 50 mL/kg
			(b) Blood products or vasopressors are needed. Veterinary assistance is mandatory. Can utilize crystalloid therapy for signs of shock (D.1.a & b) above, while en route to veterinary care.	

It is recommended to abbreviate this table by matching the contents to the supplies and scenarios encountered by each responder.
Reference Table 2 for signs of shock, and Table 3 for signs consistent with dehydration in dogs and cats. Abbreviations: B wt = body weight, NS = normal saline, LRS = Lactated Ringers Solution, FWB = fresh whole blood, pRBC = packed red blood cells, FFP = fresh frozen plasma, HTS = 7% hypertonic saline, HES = Hextend, VOL = Voluven or VetStarch, PO = oral route, SQ = subcutaneous route, IV = intravenous route (IO can be used instead of IV)
***Insert body weight in kg.**

b. Uncontrolled hemorrhage is assumed with polytrauma or signs of shock without another obvious cause.
c. Hemostatic resuscitation is desired with permissive hypotension as an endpoint.

5. **Hemorrhage with signs of shock and a history of TBI or thoracic trauma (small volume resuscitation).**
   a. This patient suffered a traumatic incident and has detectable signs of shock, as in number 4 above, but also has historical or physical signs of TBI or thoracic trauma, as evidenced by increased respiratory effort or sounds.
   b. In this scenario, normotension is preferred and using smaller volumes of fluids to attain this is recommended.

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes; see Table 4 for dosages and choice of fluids)

1. **Dehydration only without clinical signs**
   a. This does not mandate transport.
   b. Move to cool, shaded, low-humidity, or air-conditioned environment
   c. Encourage rest and water per os (PO).
      i. For the Operational K9 (OpK9), stop training or working
      ii. If OpK9 fails to voluntarily drink water, consider administering subcutaneous fluids; especially if they need to continue the mission.
2. **Dehydration with clinical signs, but NO signs of shock**
   a. Seek veterinary consultation to determine if intravenous or subcutaneous fluid therapy is necessary.
   b. Move to cool, shaded, low-humidity, or air-conditioned environment
   c. Encourage to rest and take water PO.
3. **Controlled hemorrhage or dehydration with signs of shock**
   a. If heat related illness is suspected, refer to *Guidelines for Heat Exhaustion.*
   b. *Scoop and run* to nearest veterinary emergency facility.
4. **Hemorrhage with signs of shock and no historical or physical evidence of TBI or thoracic trauma**
   a. This is a HIGH risk patient.
   b. See Guidelines for *General Approach and Transport.*

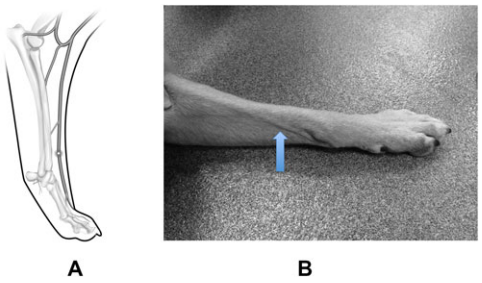

Figure 2: (A and B) Schematic (A) and photo (B) of the cephalic vein in the forelimb of a dog.

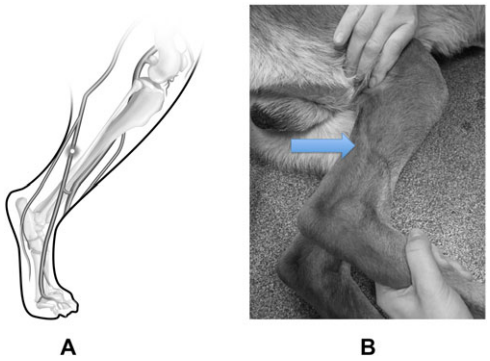

Figure 3: (A and B) Schematic (A) and photo (B) of the lateral saphenous vein on the lateral aspect of the rear limb in a dog.

   c. Refer to *Guidelines for controlling External Hemorrhage,* if needed.
   d. *Scoop and run* to nearest emergency veterinary facility; preferably skilled in the management of trauma patients (See *Guidelines for Transport*).
5. **Hemorrhage with signs of shock and a history of TBI or thoracic trauma**
   a. This is a VERY HIGH risk patient.
   b. See Guidelines for *"General Approach and Transport."*
   c. Refer to *"Guidelines for controlling External Hemorrhage,"* if needed.
   d. "*Scoop and Run*"; transport to a facility skilled in the management of trauma patients with high-risk injuries is a priority (See *Guidelines for Transport*).

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training; see Table 4 for dosages and choice of fluids)

1. **Dehydration only without clinical signs**
   a. Follow steps for scenario listed under first response above (number 1)
2. **Dehydration with clinical signs, but no signs of shock**

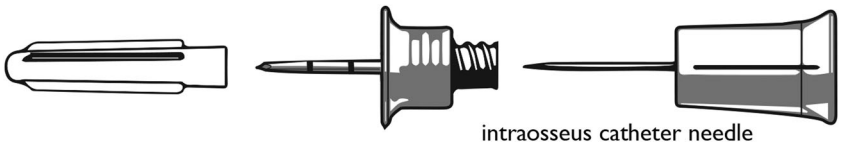

Figure 4: Schematic of the components of an intraosseous needle.

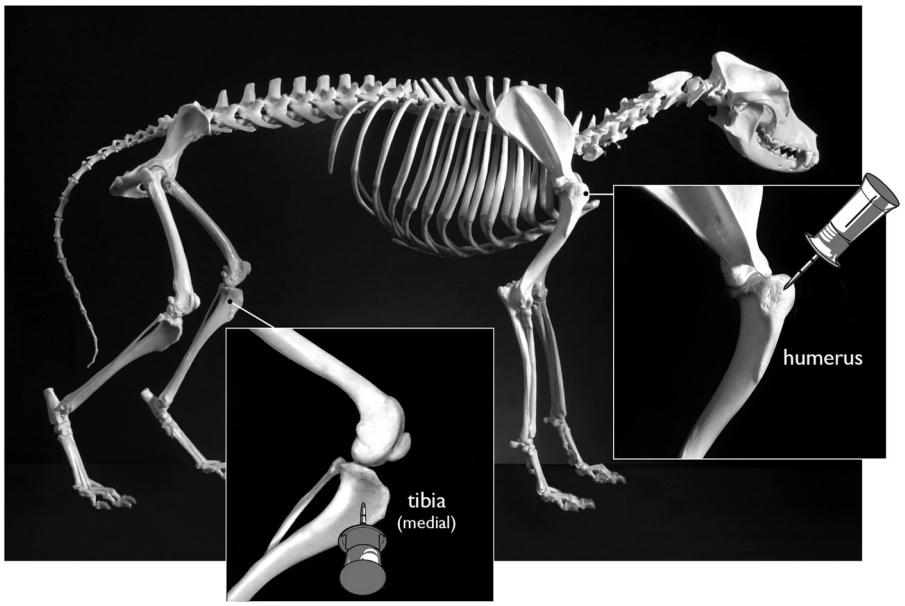

Figure 5: Schematic of the insertion sites for an intraosseous catheter; depicted are the medial aspect of the proximal tibia and the craniolateral aspect of the humeral head on a dog skeleton.

a. Follow steps for scenario listed under first response above (number 2)
b. If the situation is high-stress or rest and water intake are unlikely, subcutaneous fluids can be administered.
c. Alternatively, and especially if losses are ongoing (ie, continued vomiting), intravenous fluid therapy can be considered.
d. See Table 4 for dosages.
   i. **Intravenous (IV) catheter placement**
      1. Clip and clean an area of fur approximately 1 inch above the carpus (wrist) to access the cephalic vein (Figure 2A). An accessory branch extends medially, which can also be cannulated (Figure 2B). The lateral saphenous can be utilized as it courses across the lateral aspect of the back leg 1 inch above the hock (ankle). See Figures 3A and B.
      2. A standard over the needle 1–2 inch catheter can be placed ranging in size from a 22 Ga (< 5 kg) to a 16 Ga for dogs over 20 kg. Examples of catheter size relative to body weight are provided below:
         a. 24 Ga for neonates
         b. 22–20 Ga for small dogs/cats (< 7 kg)
         c. 20–18 Ga for medium patients (7–30 kg)
         d. 18–16 Ga for large dogs (> 30 kg)
   ii. Intraosseous (IO) catheter placement
      1. For ease and efficiency, a handheld automatic gun, such as the EZ-IO Intraosseous Vascular Access System, is recommended.
      2. Time permitting, clip, and clean the site for placement.
      3. To prevent the skin from winding around the catheter, time permitting, a small stab incision can be made at the placement site with a #11 blade.
      4. IO catheter needle sets (Figure 4):
         a. 15 Ga x 15 mm: use for small dogs/cats (< 7 kg)
         b. 15 Ga x 25 mm: use for medium and larger dogs (> 7 kg)
      5. There are 2 recommended sites for IO placement:
         a. The medial aspect of the tibial plateau, 0.5–1 inch below the stifle (knee) to avoid the joint. See Figure 5.

i. Placement is technically easier
ii. The cortex can be thick in large dogs and hard to penetrate

b. The craniolateral surface of the humeral head. See Figure 5.
i. Landmarks are more challenging
ii. This site is closer to central circulation and the cortex is slightly thinner and easier to penetrate

3. **Controlled hemorrhage or dehydration with signs of shock**
   a. In the setting of delayed transport, IV or IO access should be obtained if skills and scope of practice allow.
   b. Administer a 20 mL/kg bolus of an isotonic crystalloid over 5 minutes; repeat until signs of shock (See Table 5 below) are ameliorated or a total of 80 mL/kg has been reached.
      i. Repeat up to 4 times.
         1. Example: a 25 kg dog may receive a 500 mL bolus of LRS up to a maximum of 2000 mL (2.0 L).
         2. See fluid administrations worksheet (Table 4) for continued fluid administration rates once hemodynamically stable.
      ii. Endpoints of resuscitation are listed in Table 5 below. Normotension should be pursued.
      iii. Preferred isotonic crystalloids include: lactated Ringer's Solution, Plasmalyte-A, or Normosol-R
         1. A balanced electrolyte solution is generally preferred over 0.9% NaCl (Normal saline), although this fluid choice is also acceptable.
4. **Uncontrolled hemorrhage with signs of shock and no historical or physical evidence of TBI or thoracic trauma**
   a. Control any external hemorrhage. See *Guidelines for External Hemorrhage*.
      i. Note: patients in this category typically have concurrent uncontrolled cavitary (abdominal or thoracic) hemorrhage.
   b. Obtain IV or IO access as described above.
   c. Replacement crystalloids should be given incrementally as a bolus of 20 mL/kg over 5 minutes. Permissive hypotension is the goal until definitive care is reached (See Table 5 below).
      i. Repeat to a maximum of 40 mL/kg (see Table 4).
         1. As an example, a 25 kg dog would need boluses of 500 mL of LRS up to a maximum of 1000 mL (1.0 L).
         2. NOTE: If all of the steps below are unsuccessful, this step can be repeated as a last resort.
      ii. If unsuccessful, the administration of blood and advanced medic support are desired.
      iii. If the aforementioned is unavailable, administer a synthetic colloid or hypertonic saline (HTS). See Table 4 or Step 5c below for dosages.
      iv. If still unstable, immediate veterinary assistance or advanced medic support is mandated.
      v. Do not delay transport.
5. **Hemorrhage with signs of shock and a history of TBI or thoracic trauma.**
   a. Obtain IV or IO access as described above.
   b. The administration of blood and advanced medic support are critical.
   c. If blood/advanced medic support is not available, small volume resuscitation should be attempted in the following order:
      i. Synthetic colloid: 5 mL/kg IV bolus. Repeat up to total volume of 10 mL/kg for hextend/hetastarch or 50 mL/kg with Voluven /Vetstarch.
      ii. Hypertonic saline (7%): 4 mL/kg IV over 5–10 min. Repeat once if needed.
   d. If colloids or HTS are not available, consider replacement crystalloid bolus of 20 mL/kg over 5 minutes. Repeat once if needed.
   e. If still unstable, immediate veterinary assistance or advanced medic support is mandated.
   f. Do not delay transport.

Recommendations for medics in the setting of delayed veterinary care (see Table 4 for dosages and choice of fluids)

Follow recommendations listed above for Responders in the Setting of Delayed Veterinary Care with the following noted additions.

1. **Dehydration only without clinical signs**
   a. Follow recommendations for delayed response above.
2. **Dehydration with clinical signs, but no signs of shock**
   a. Follow recommendations for delayed response above.
3. **Controlled hemorrhage or dehydration with signs of shock**
   a. Follow recommendations for delayed response above.
   b. If unstable after reaching maximum goal (80-90 mL/kg), another process such as sepsis or uncontrolled hemorrhage is likely present.

c. If blood loss is suspected, administer blood (see Scenario 4 below).
d. If blood is not available, administer a synthetic colloid at a dosage of 5 mL/kg. Limits are dependent upon colloid used (see Table 4).
e. If bleeding is unlikely and goals are not met, consider the addition of a vasopressor:
   i. Begin epinephrine or norepinephrine at 0.2 μg/kg/min; increase in increments of 0.2–0.5 μg/kg/min every 2–5 minutes until maximum rate of 3 μg/kg/min
f. NOTE: Veterinary assistance is mandatory. Vasopressor usage should only be undertaken after consultation with a veterinarian, if immediate transport to definitive care is not possible.

4. **Uncontrolled hemorrhage with signs of shock and no historical or physical evidence of TBI or thoracic trauma**
   a. Obtain IV or IO access as described.
   b. If possible, fresh whole canine blood should be administered at an initial dosage of 10–20 mL/kg (see goals in Table 5). *NOTE: Brief notes are included below as a reminder with regard to canine transfusions. Due to the complexity of obtaining and administering blood, prior veterinary training is required and is beyond the scope of these guidelines.*
      i. If a dog has never received a blood transfusion, cross-matching, or blood typing is not mandated as there is a low risk of reaction for first time administration.
         1. Note: This is not the case in cats and transfusion should not be attempted without blood typing or a cross-match.
      ii. Standard drip sets with in line filters for administration of blood products are recommended.
      iii. When a human blood collection system is used for dogs, 450 ± 45 mL of canine blood is collected and combined with 63 mL of anticoagulant.
         1. Recommended anticoagulant ratios for immediate administration include:
            a. 3.8% sodium citrate–1 mL sodium citrate/9 mL of collected whole blood
            b. Unfractionated heparin–625 U heparin/50 mL of collected whole blood
      iv. Rate and volume of administration: administer as fast as possible to restore hemodynamic stability (eg, restoration of heart rate, pulse quality, mucous membrane color, CRT). See Table 5 for endpoints of resuscitation.
   c. If blood is not available, small volume resuscitation should be attempted in the following order:
      i. Synthetic colloid: 5 mL/kg IV bolus. Repeat up to total volume of 10 mL/kg for hextend/hetastarch or 50 mL/kg with Voluven/Vetstarch
      ii. Hypertonic saline (7%): 4 mL/kg IV over 5–10 min. Repeat once if needed.
   d. If colloids or HTS are not available, consider replacement crystalloid bolus of 20 mL/kg over 5 min. Repeat once if needed.
   e. Antifibrinolytics should be administered if available (eg, tranexamic or aminocaproic acid). See *Guidelines for External Hemorrhage* for dosages.
   f. If the aforementioned are unsuccessful, and canine/feline blood specific to the species of the patient is not available, human blood can be considered at the dosages described above.
      i. Xenotransfusion (the transfusion of blood from another species) of human blood to dogs or cats has not been reported. However, as a last resort it should be considered/administered.
         1. The likelihood of an anaphylactic reaction with repeat administration is high. Thus, this should be thoroughly documented in the patient's record.

5. **Hemorrhage with signs of shock and a history of TBI or thoracic trauma**
   a. Follow recommendations for delayed response above with normotension as endpoint (see Table 5), as opposed to permissive hypotension.

Discussion

Resuscitation in veterinary medicine follows the same principals put forth in human medicine, with the ultimate goals being arrest of hemorrhage and restoration of effective circulating volume. In the prehospital setting, resources, including transportation, can be limited. Therefore, immediate goals are to control bleeding (if possible), acidemia, hypothermia, and manage or prevent acute traumatic coagulopathy, while working to maintain effective circulating volume. In the setting of compressible hemorrhage, such as an extremity wound, bleeding can be arrested and guidelines for this scenario are provided (see *Guidelines for External Hemorrhage*). Patients with controlled hemorrhage or hypovolemia secondary to dehydration can be resuscitated to normotension, and crystalloids may be employed. In the setting of uncontrolled hemorrhage, large volume crystalloid therapy should be avoided and hemostatic resuscitation, using blood products, and permissive hypotension should be employed. Acute traumatic coagulopathy has been observed in dogs, and the administration of tranexamic acid, preferably, or aminocaproic acid is also recommended (see *Guidelines for External Hemorrhage*). The reader is referred to reviews on this topic,

Table 5: Targeted endpoints of resuscitation in canine or feline casualties with hypovolemic shock

Endpoint	Desired range	Comments
HR; < 20 kg dog	<180–200/min	Note: Increase in HR with normalization of other parameters should prompt investigation of other causes to include: pain, anxiety, anemia, respiratory complications, or arrhythmia.
HR; dog 20–40 kg	<140–160/min	
HR; dog >40 kg	<100/min	
HR; cat	<240/min	
Systolic blood pressure (or Doppler)	80–100 mm Hg	Note: Target the low end with uncontrolled hemorrhage (permissive hypotension; scenario 4) and upper with controlled losses or head trauma (scenarios 3 and 5)
Mean arterial blood pressure	60–80 mm Hg	Note: Target the low end with uncontrolled hemorrhage (permissive hypotension; scenario 4) and upper with controlled losses or head trauma (scenarios 3 and 5)
Capillary refill time	< 2 s	
Lactate	2 ± 0.5 mmol/L	
Base deficit	–4 to 4 mEq/L	

such as Palmer et al., listed below for a more in depth discussion. In the setting of trauma including the brain and thorax, minimizing the volume used in resuscitation and targeting normotension as an endpoint are recommended. See *Guidelines for Neurologic Trauma* for further discussion. Overall, similar debates persist regarding the use of crystalloids and colloids in veterinary medicine as in human medicine.

The main benefits of crystalloid usage in the aforementioned scenarios are minimal expense and widespread availability with no reported allergic reactions or direct effect on coagulation. The downside of their administration is that the amount necessary to achieve the desired effect may contribute to dilutional effects on oncotic pressure and hemostasis as well as interstitial edema. This makes it harder for oxygen to be delivered to cells in need, which can have deleterious consequences in the form of ileus, bacterial translocation, decreased pulmonary gas exchange and impaired wound healing. In a study performed by Muir et al. (2004), a hypovolemic hypotensive model was utilized in 12 anesthetized Beagles. Resuscitation was initiated with either hetastarch (HES) or LRS at 90 mL/kg/h. The HES group returned to baseline blood pressure more rapidly (6 ± 3 minutes versus 18.8 ± 3 minutes) and required less volume (194 ± 53 mls versus 749 ± 115 mls). The primary advantage of colloids, as demonstrated above, is their purported ability to assist in the maintenance of intravascular volume via their contribution to oncotic pressure. In a study published in 2005 by Silverstein and colleagues, they described the efficiency ratio (ie, the ratio of the increase in blood volume to the amount infused) of various crystalloids and colloids administered to beagles in a randomized cross-over design. Both HES and dextrans had an efficiency ratio of approximately 1.0 immediately postinfusion and increased to approximately 1.4 at 30 minutes postinfusion. By comparison, 0.9% saline had an immediate efficiency ratio of 0.8, which decreased to 0.4 by 30 minutes postinfusion. Despite this noted advantage, systematic reviews in humans have failed to demonstrate a significant benefit of crystalloids or colloids with respect to outcome. Unfortunately, large-scale studies or a meta-analysis on this topic do not exist in veterinary medicine at this time.

Two major concerns exist with respect to starch solutions in both people and animals. They can have an impact on coagulation and potentially renal function. Starches have been shown to decrease levels of von Willebrand's factor and factor VIII beyond those expected by dilution alone. They are also believed to bind to the surface of platelets blocking receptor sites and interfering with fibrin clot stabilization. This effect is most pronounced in HES preparations of higher molecular weights with greater degrees of substitution. This is reflected in the maximum daily dosages listed in Table 4 and is the rationale for the recommendation of Voluven over Hextend/hetastarch in traumatic situations. The concern with respect to renal function has primarily been documented in humans and animal models. One of the first studies to document this adverse outcome is the Volume Substitution and Insulin Therapy in Severe Sepsis (VISEP) Trial published in 2008. Patients were resuscitated with either a pentastarch solution or lactated Ringer's, and those administered pentastarch had statistically significant higher rates of renal failure and need for renal replacement therapy. Critics of this study note that dosages exceeded recommended limits, and multiple studies with appropriate dosages since that time have yielded conflicting results. Recently, a retrospective cohort study was published (Hayes et al) on the incidence of acute kidney injury and death following hydroxyethyl starch (HES 10% 250/0.5/5:1) administration in 180 dogs in an intensive care unit compared to control population. Hetastarch therapy was found to be associated with an increased risk of an adverse outcome including death or acute kidney injury. As such, in

accordance with recommendations in people, it is prudent to start with crystalloids for resuscitation. Colloids can be considered in patients without preexisting renal injury, current sepsis, and in which smaller volume resuscitation is recommended.

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Section 5: Basic Life Support

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

Untreated cardiopulmonary arrest (CPA) has a near 100% fatality rate

1. Basic life support (BLS) includes chest compressions and ventilation
2. Crucial steps are:
   a. Identify collapsed/unresponsive (to any stimulus) animal
   b. Immediately:
      i. Check for respiration.
      ii. If absent, begin BLS as outlined below.
      iii. If breathing is questionable or agonal (gasping), begin BLS as outlined below.
      iv. If clear evidence of breathing is present, check pulse rate (using femoral pulse or apical heart beat). If absent or less than 1 beat per second, begin BLS. If the heartbeat is fast, follow *Guidelines for Fluid/Shock resuscitation*.
      v. Call out for help and assistance to determine if transport is possible.
   c. Basic life support procedures
      i. Chest compressions:
         1. Place dog or cat on a rigid, flat surface in lateral recumbency; begin chest compression at a rate of 100–120 compressions per minute. Compressions should depress the chest cavity by 1/3 to ½ depth.
            a. In large dogs (>6.8 kg [>15 lb]), use hand over hand technique overlying the highest point on the chest wall (excluding the last 3 ribs).
            b. In small dogs or cats (<6.8 kg [<15 lb]), squeeze the ribcage overlying the heart with a one-handed approach from the sternum or by encircling the chest with your hands and compressing with the pads of your thumbs. The heart lies at the point of the elbow when the forelimb is flexed toward the thorax.
      ii. Perform "*Mouth-to-Snout*" ventilation at a rate of ~10 breaths per minute (or 1 breath every 6 seconds). If unsuccessful, check airway for obstruction.
      iii. To check and clear the airway:
         1. Gently tilt the head slightly back and extend the neck.
         2. Look inside the mouth and identify anything that is blocking the airway.
         3. Use a cloth or rag to grasp the dog's tongue and pull it forward to improve visualizing the mouth.
         4. If an object is visible, use the "2 finger sweep" technique to remove fixed objects such as a bone, stick, blood, or tissue.
         5. Take care to ensure the animal cannot harm you and have a second responder, if available, hold the mouth open by looping a leash, rope, or long pieces of roll gauze behind the upper canine teeth.
         6. Run your index and middle fingers into the dog's mouth along the cheek and across the back of the throat.
         7. Remove any foreign objects that are visualized or felt.

8. If unable to dislodge an identified foreign object, immediately transport to the nearest veterinary facility.

3. Basic life support recommendations
   a. If you are alone, initiate at least a 2-minute cycle of chest compressions and ventilation to determine if arrest is easily reversible (as outlined above).
      i. If single rescuer, perform 30 compressions, then deliver 2 breaths, and resume compressions.
      ii. Continue the 30 compressions: 2 breaths cycle without interruption for at least 2 minutes before reassessing the patient for return of spontaneous circulation (femoral pulse/apical heart beat).
   b. If a second rescuer is present:
      i. Rotate chest compressors every 2 minutes is to reduce compromise of compression efficacy due to fatigue.
      ii. Perform "*Mouth-to-Snout*" ventilation at a rate of ~10 breaths per minute (or 1 breath every 6 seconds).
4. When needed and if possible, continue BLS during transport to the definitive care facility.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. No further recommendations are possible. Compressions and ventilation should be continued for 15–20 minutes (in 2 minute cycles), particularly if associated with airway obstruction or in otherwise healthy animals.
2. Blunt trauma (eg, "hit by car" [HBC]) patients that are in CPA without signs of life are very rarely, if ever, resuscitated successfully. Discontinuing or not starting CPR in these cases should be considered.
3. Dying trauma patients may be markedly bradycardic and hypotensive; thereby compromising the rescuers ability to appropriately detect a preterminal condition. Before making the decision to withhold or sustain from CPR, the rescuer should palpate for an apex beat and femoral pulse for at least 45–60 continuous seconds. Palpating for pulses in multiple locations may increase the rescuers chance of finding a pulse.

Recommendations for medics in the setting of delayed veterinary care

1. Endotracheal intubation should be performed, in lieu of "mouth-to-snout" ventilation, with a rate of 10 breaths per minute.
   a. Ventilation can be provided with an Ambu bag (or Bag Mask Valve) and supplemental oxygen, if available.
   b. An inspiratory time of 1 second is recommended with a tidal volume of 10 mL/kg.
   c. An $ETCO_2$ concentration, if available, of > 15 mm Hg should be targeted.
2. If the arrest is not easily reversed or ventilation is difficult, consider bilateral needle decompression to rule out tension pneumothorax. See *Guidelines for Respiratory Distress*.
3. If an airway cannot be obtained due to an obstruction or trauma, consider needle or surgical/slash tracheotomy or cricothyrotomy. See *Guidelines for Respiratory Distress.*
4. If gastric dilatation with volvulus (GDV) is consider possible, consider trocarization of the stomach to improve the likelihood of resuscitation. Trocarization may be provided by placing a large gauge (ie,14–16 Ga) needle or catheter, typically 3.25 inches, into the most distended section of the cranial abdomen (just behind the last rib). See *Guidelines for GDV/Bloat*.
5. If a pulse is obtained it is not uncommon for the return of spontaneous respirations to be delayed. Continue breathing for the dog at a rate of ~10 breaths per minute until veterinary assistance is obtained. An acupuncture point to stimulate respirations is located at the base of the midline of the nose. A 25 Ga or 22 Ga needle can be used and placed at junction of the nose and haired skin down to the bone, although assisted ventilation is likely much more effective.
6. If advanced medical care is possible, consider placement of a large bore catheter into the cephalic vein or intraosseous catheter in the tibia or humerus for fluid resuscitation and delivery of vasopressors. This is covered in *Guidelines for Fluid Therapy and Resuscitation.*
7. If an (automated electrical defibrillator) AED is available, it may be used in large breeds (>30 kg dog), such as working dogs. Clippers are required to remove hair, to permit the patches to adhere, over each side of the chest with the canine heart being located at the 4–5th intercostal space (at the point of the elbow when the forearm is flexed toward the thorax). Patches should be placed ½ to 1 inch above the sternum (to avoid contact between them).

Discussion

For BLS, the RECOVER guidelines (Hopper K) provide an excellent summary of the initial efforts at CPR, including rapid assessment of the collapsed patient, prompt initiation of chest compression and ventilation. Resuscitation of blunt trauma victims with CPA is controversial in human medicine. The recommendation above to discontinue resuscitation efforts in a dog with severe trauma

or hemorrhage in full CPA in the field is based upon dismal prospects of success.

There is little peer-reviewed information available on field resuscitation of dogs with GDV. However, Goodrich et al. documented that gastric trocharization is as safe as passing a gastric tube in hospitalized patients. Additionally, it is a simple technique that can be successfully completed by a first responder. If the dog does not have GDV, other potential causes of abdominal distension (eg, hemoabdomen, ascites) would not be negatively impacted by placement of the needle within the abdomen. Similarly, in dogs with GDV, if the stomach was not successfully trocarized, there is little to no risk of damage to any internal organs. For further discussion, see the section on *Guidelines for GDV*.

The use of AED in the field has not been reported in dogs. Completely automated AED are designed to be used by individuals with no medical training. The joules delivered by these units are set for adults, but the absolute amount varies dependent upon if they are monophasic or biphasic. Thus, it is possible that a small dog or cat would be injured by an AED; however, the use of pediatric settings could be attempted if available.

Further Reading

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Section 6: Advanced Life Support (ALS)

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. First responder guidelines should follow **BLS guidelines**.
2. Consideration for delivery of advanced techniques should be pursued as quickly as possible and only undertaken by those individuals with medical training.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. For layperson responders, there are no specific guidelines additional to BLS recommendations.

Recommendations for medics in the setting of delayed veterinary care

1. Continue chest compressions at a rate of 100–120 per minute and ventilation at 10 breaths per minute in 2-minute uninterrupted cycles. The compressor should be rotated to prevent fatigue. This should continue for 15–20 minutes.
2. If only one rescuer is present, a 30:2 ratio of compressions to ventilation can be used.
3. Establish intravenous (cephalic or lateral saphenous vein) or intraosseous access (proximal humerus or medial proximal tibia). See *Guidelines for Fluid/Shock Resuscitation*.
   a. Fluid therapy may be considered in a dog with known or suspected hypovolemia. Administer a 10–20 mL/kg bolus of a balanced electrolyte solution, such as lactated Ringer's solution.
      i. Small dogs/cats (< 10 kg) administer 100 mL
      ii. Medium-sized dogs (10–20 kg) administer 250 mL
      iii. Large/working dogs (> 20 kg) administer 500 mL
      iv. See *Guidelines for Shock/Fluid Resuscitation*
   b. Fluid therapy should be avoided if normovolemia is present.
4. Place ECG pads on the foot pads of the dog. This will provide for rapid ECG assessment. ECG rhythm may be assessed by trained responders using similar criteria to people. Practically, the rhythm should be assessed as "shockable" or "nonshockable." Shockable rhythms include pulseless ventricular tachycardia and ventricular fibrillation, while nonshockable rhythms include asystole and pulseless electrical activity (PEA).
   a. If shockable rhythm, deliver external countershock (biphasic dosage of 3 J/kg and monophasic dosage of 5 J/kg) and resume chest compressions.
      i. Average countershock delivered:
         1. Small dogs/cats (< 10 kg) administer 30 J
         2. Medium-sized dogs (10–20 kg) administer 60 J
         3. Large/working dogs (> 20 kg) administer 100 J

b. Defibrillator paddles should be placed overlying the heart, mid-thorax, on opposite sides of the chest.
c. If an (automated electrical defibrillator) AED is available, it may be used in large breeds (>30 kg dog), such as working dogs. Clippers are required to remove hair, to permit the patches to adhere, over each side of the chest with the canine heart being located at the 4–5th intercostal space (at the point of the elbow when the forearm is flexed toward the thorax). Patches should be placed ½ to 1 inch above the sternum (to avoid contact between them).
d. If a nonshockable rhythm is present, and IV/IO access has been secured, administer 0.01 mg/kg (0.1 mL/10 kg/22 pounds of 1:1000) epinephrine IV/IO every 4–6 minutes.
e. If IV/IO access is not available, 3–10X the dose (up to 1 mL/10 kg) may be given intratracheal. Intratracheal medication should ideally be delivered via a long catheter, and followed with a flush of 10 mL saline or water and then an assisted ventilation breath (to help spread drug throughout the lungs)

5. If there is any potential chance of accidental exposure to narcotics, administer naloxone (0.04 mg/kg IV, IO, or IM).
6. In the setting of thoracic trauma, if ventilation is difficult or oxygen saturation is low with circulation, consider performing thoracic needle decompression with a large bore needle. See *Guidelines for Respiratory Distress.*

Discussion

Intubation is the preferred method for delivery of fresh gas. Mouth to snout ventilation or facemask may deliver gas to the gastrointestinal tract. Laryngeal mask airway (LMA) may be used but are not readily available in working dog sizes, and more practically, intubation is easily accomplished in the field using human endotracheal tubes. See *Guidelines for Respiratory Distress* for more discussion regarding intubation.

Intravenous access is very helpful for delivery of emergent medications and fluids, in the setting of hypovolemia. Location of vascular access has not been closely explored in collapsed dogs. However, given limited blood flow, it is logical to administer medications closer to the heart rather than to rely on CPR efforts and fluids to deliver medications to the heart and arterial vasculature. The cephalic vein in larger dogs is typically easiest to catheterize. In a laterally recumbent animal, the down leg should be used. The jugular vein is also an option, but is technically more difficult. Placement of a catheter in the lateral saphenous vein may be possible, but in cardiac arrest, there may be significant delays until medications reach the heart. Intraosseous (IO) catheterization, using the EZ-IO gun, is also practical and useful in the field for first responders that carry this device. The proximal humerus is the recommended site during CPR for placement of an IO catheter, although the medial aspect of the proximal tibia can also be used. The catheters are typically 15 gauge, and catheters that are 15 mm in length should be used for cats and small dogs while catheters that are 25 mm in length should be used for medium to large dogs.

The likelihood of exposure to narcotics is unknown. In working or drug detection dogs accidental ingestion while working, or during training, is possible. Suspected and actual narcotic overdoses in people are safely treated with naloxone. As such, it is available for emergency responders and can be safely administered to both dogs and cats.

Thoracentesis, or needle decompression, is a potentially controversial area. There is no evidence that bystander needle thoracocentesis is helpful in dogs. However, in people there is some evidence that treatment of tension pneumothorax is associated with improved survival. In cases of CPA, it is unlikely that needle thoracocentesis would be associated with any clinically relevant complications.

The reader is referred to the veterinary RECOVER guidelines for further discussion.

Further Reading

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Section 7: Analgesia/Sedation/Anesthesia

NOTE

Check infusion rates carefully (dose/kg/min versus dose/kg/h).

IV = intravenous, IM = intramuscular, IO = intraosseous, PO = Per Os (by mouth), SQ = subcutaneous. PRN = as needed

NSAID = Nonsteroidal anti-inflammatory drug

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective**

equipment (PPE) is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. Perform a cursory exam and identify concerns such as shock, respiratory difficulty, external hemorrhage, etc. and proceed to Guidelines for those threats to life.
2. "*Scoop and Run*" and proceed to nearest emergency veterinary hospital
3. DO NOT administer human pain-relieving medications, such as aspirin or ibuprofen, or any oral veterinary NSAIDs, such as carprofen or meloxicam.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

Follow guidelines for First Response with noted exceptions below.

1. The following scenario may warrant sedation/analgesia prior to *scoop and run*:
   a. Upper airway obstruction:
      i. Follow *Guidelines for Respiratory Distress*
      ii. If unsuccessful, consider one of the following (combined with a benzodiazepine), if available:
         1. Acepromazine: 0.03–0.05 mg/kg IM
            a. This can be repeated if sedation is not adequate.
         2. Butorphanol: 0.2–0.4 mg/kg IM
         3. Dexmedetomidine: 3–6 mcg/kg IM (will cause bradycardia)
         4. Fentanyl: 5–10 mcg/kg IM
         5. NOTE: If sedation is utilized, be prepared to administer oxygen and possibly intubate.
         6. NOTE: All of the aforementioned drugs are better tolerated when combined with a benzodiazepine; consider midazolam (0.25–0.5 mg/kg IM).
      iii. Once sedated, align head, and neck to ensure a patent airway, administer oxygen, and pull tongue outward (if able).
      iv. See *Guidelines for Respiratory Distress* and transport ASAP.
2. DO NOT administer human pain medications, such as aspirin or ibuprofen, or any oral veterinary NSAIDs, such as carprofen or meloxicam.
3. DO NOT administer oral drugs to an injured animal that has a compromised airway, loss of gag reflex, or altered mentation/attitude.
4. For MILD pain, without the aforementioned conditions, consider:
   a. Butorphanol or nalbuphine: 0.1–0.5 mg/kg IM (if available) q 2 h PRN
   b. Tramadol: 3–5 mg/kg PO q 6–8 h
5. For MODERATE to SEVERE pain:
   a. Consider use of morphine IV, IO, or IM, fentanyl IV, IO, or IM, and/or ketamine.
      i. See medic guidelines below for further information.

Recommendations for medics in the setting of delayed veterinary care

Follow guidelines for first and delayed response above with the following additional recommendations.

1. If injectable analgesia is needed, place an IV or IO catheter (see *Guidelines for Fluid Resuscitation* for a list of options).
2. **Analgesia options**:
   a. Morphine: 0.10–0.5 mg/kg IM or 0.10–0.25 mg/kg IV or IO (use low end of dosage in cats and titrate to effect for both species)
      i. Note: If using IV/IO route inject over 5 minutes; morphine can cause histamine release and hypotension in dogs if given rapidly.
      ii. Morphine may cause vomiting; remove muzzle if necessary.
      iii. Duration of action is ~ 4 hours.
      iv. In delayed scenario consider constant rate infusion: 0.1–0.3 mg/kg/h; requires a 0.5 mg/kg IV/IO loading dose.
   b. Fentanyl
      i. Single injection or loading dose: 2–5 μg/kg IV/IO (preferred) or IM q 20–30 min
      ii. Constant rate infusion (IV):
         a. 3–5 μg/kg/hour [0.05–0.08 μg/kg/min]; requires a 2–5 μg/kg IV/IO loading dose.
   c. Ketamine
      i. Choose an alternative, if possible, in the setting of head injury or a penetrating corneal injury.
      ii. Dosage: 0.25–1.0 mg/kg IV/IO or 2–4 mg/kg IM.
      iii. Constant rate infusion for analgesia at 2–10 μg/kg/min; this will require dilution to a concentration of 10 mg/mL [1 mL of 100 mg/mL ketamine mixed with 9 mL of saline].
      iv. Ideal for use in combination with an opioid.
      v. It is strongly recommended to coadminister a benzodiazepine (diazepam at 0.2–0.4 mg/kg IV or midazolam 0.2–0.4 mg/kg IV or IM) to reduce muscle rigidity/myoclonus.
      vi. Ketamine can also be used for rapid induction at 5 mg/kg IV with a benzodiazepine (diazepam or midazolam at 0.25 mg/kg IV).

d. Lidocaine
   i. Dogs: 1–2 mg/kg IV/IO.
   ii. Maximum dose for dogs = 8 mg/kg IV, IO.
   iii. May be sprayed onto wounds for topical analgesia.
   iv. Infusion rate: 0.6–3.0 mg/kg/h (10–50 μg/kg/min); requires a 1 mg/kg IV/IO loading dose.
   v. Should not be used in cats due to cardiac depression.

3. **NOTE**: Opioids, ketamine, and lidocaine may be coadministered. One example is a Morphine-Lidocaine-Ketamine (MLK) protocol for dogs:
   a. Remove 30 mL of fluid from a 500 mL bag of LRS or 0.9% saline and add:
      i. 60 mg [0.6 mL of ketamine (100 mg/mL)]
      ii. 60 mg [4 mL of morphine* (15 mg/mL)]
      iii. 500 mg [25 mL of lidocaine (20 mg/mL)]
      iv. DELIVER THE MIXTURE AT 0.5–1.0 mL/kg/h
         1. *Note: can substitute 1.2 mg (24 mL) FENTANYL (50 μg/mL) for morphine–if this is used, remove 50 mL of fluid from the bag before adding the analgesic drugs.
4. **Sedation/anesthesia options**:
   a. Rapid Induction if needed can be achieved with ketamine (5 mg/kg IV) and diazepam or midazolam (0.25 mg/kg IV). These can be mixed together and given IV (or IO).
      i. Will provide 15–20 minutes of anesthesia.
      ii. Monitor respiration and provide oxygen by facemask. Be prepared to intubate and support ventilation (Ambu bag) if needed.
   b. Dexmedetomidine (0.5 mg or 500 μg/mL): 5–10 mcg/kg IV or 10–20 μg/kg IM.
      i. Note: heart rate will decrease after administration.
      ii. Additional doses can be given to achieve desired level of sedation.
      iii. Vomiting may occur; remove muzzle if necessary.
      iv. Dexmedetomidine can be reversed using atipamezole (5 mg/mL)–use equal volume to the administered dexmedetomidine and give IM.
      v. Dexmedetomidine and opioids can be coadministered.
   c. Benzodiazepines
      i. Midazolam or diazepam: either can be given at 0.2–0.4 mg/kg IV/IO.
      ii. Diazepam may be administered per rectum IM administration results in unpredictable uptake.
      iii. Midazolam may be administered IM, but is not absorbed effectively per rectum.
      iv. Diazepam and midazolam may be administered intranasally; a novel midazolam gel is superior to the injectable formulation.
      v. Typically combined with an opioid (butorphanol) for balanced sedation.
      vi. Benzodiazepines alone provide minimal sedation and can sometimes lead to excitation.
   d. Butorphanol/Nalbuphine
      i. Administer at 0.2–0.4 mg/kg IV or IM for sedation; this will provide some analgesia (sufficient for mild pain).
      ii. Duration of action is approximately 1 hour.
      iii. Can combine with a benzodiazepine as described above.
      iv. NOTE: nalbuphine can be used in the same manner as described for butorphanol.

Discussion

If an animal is severely injured anesthesia may be needed for humane reasons and to render the dog unconscious so that it can be transported, treated, or euthanized.

1. General guidelines
   a. Always start at the lowest end of the recommended analgesic or anesthetic dose range and titrate up until the desired clinical effect is reached.
   b. Combinations of drugs from different classes (eg, opioid plus ketamine) will reduce the dose of each drug, will increase efficacy, and may help reduce side effects.
2. Opioids in dogs:
   a. Dogs are less susceptible than people to the respiratory depressant effects of opioids. Respiratory depression is more likely after high doses of pure mu-agonists, such as morphine, and is rare with butorphanol.
   b. Monitor respirations (rate and depth) and mucus membrane color after administration of opioids. Consider giving oxygen.
   c. If respiratory depression does occur support respiration with a facemask and Ambu bag or Bag Valve Mask.
   d. Oral (eg, pills and tablets) formulations of opioids (morphine, codeine, hydrocodone) are not effective for the management of acute pain in dogs.
   e. Morphine may cause nausea and vomiting in dogs but this is less likely if it is given intravenously and to an injured (painful) dog
      i. Always be prepared to remove the muzzle if a dog begins to retch or vomit.
      ii. Ondansetron (0.2 mg/kg IV or IM) will decrease nausea but will not reliably prevent vomiting.

iii. Maropitant (1 mg/kg SQ) will prevent vomiting but must be given 45–60 minutes prior to morphine administration.

f. Opioids can be reversed:
   i. Dilute naloxone (0.4 mg/mL) by adding 1–9 mL of saline; give slowly IV until respiratory rate and/or depth increase; at this point, stop administration but continue to monitor.
      1. Naloxone is well absorbed intranasally if the IV route is not available.
   ii. Administer butorphanol (0.05–0.2 mg/kg); give slowly IV until respiratory rate or depth increase; stop administration but continue to monitor.
   iii. NOTE: To avoid complete reversal of analgesia give naloxone or butorphanol slowly and to effect.

3. Ketamine
   a. Ketamine can be used with opioids and benzodiazepines. Ketamine is a dissociative anesthetic but also provides analgesia.
   b. Ketamine is a good choice in a compromised animal as it produces minimal cardiovascular or respiratory depression.
   c. Ketamine should be used with caution if head trauma is suspected as it may increase intracranial pressure (ICP).

Further Reading

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Section 8: Neurological Trauma

Background

Neurological trauma in dogs and cats involves traumatic brain injury (TBI) and acute spinal cord injuries (SCI). Similar to people, neurological trauma in veterinary patients may carry a high mortality and morbidity rate. Common causes of neurological trauma in small animals include blunt force trauma (eg, vehicular, accidental, intentionally inflicted), animal attacks and falls.

Neurological trauma results in both primary and secondary injury. Primary injury occurs at the time of injury and results in direct damage to CNS tissues subsequent to the following mechanical forces: concussion, compression, shear, laceration, distraction, and contusion (coup or contrecoup). It is further classified by the extent of injury (focal or diffuse) as well as the location of injury. Primary TBI may involve epidural or subdural hematomas, subarachnoid hemorrhage, cortical contusions, and hematomas, and traumatic axonal injury. Vertebral luxations or subluxations, vertebral fractures, intraparenchymal contusions, traumatic intervertebral disk herniation, and or extra-axial hemorrhages are common manifestations of primary SCI. Secondary injury is multifactorial and a consequence of processes initiated by the primary injury and systemic factors that may further contribute to neuronal injury. Examples of these factors include: hypoxemia, hyper-, or hypocapnea, hypotension, hyper- or hypoglycemia, hyperthermia, acid-base and electrolyte abnormalities, systemic inflammation, intracranial hypertension, excitatotoxicity, cerebral edema, and lipid peroxidation. The combination of hypoxia and hypotension in a patient suffering TBI is associated with a higher mortality rate. For this reason, restoring and maintaining oxygenation and perfusion is vital to a successful outcome. Patients with TBI may also have skull fractures, facial, ocular, laryngeal, and or thoracic injuries. After addressing the patient's initial life-threatening injuries (see *Guidelines for Fluid Resuscitation and Respiratory Distress*), a thorough secondary survey is warranted to identify concurrent injuries.

Clinical signs indicative of head trauma may include facial abrasions or wounds, epistaxis, aural or oral hemorrhage, fractured teeth, hyphema, and scleral hemorrhage. A decerebrate posture results from a rostral brain stem (midbrain) lesion and is characterized by opisthotonus with extensor rigidity in the fore- and hind limbs. Decerebellate posturing manifests from a cerebellar lesion and is described as opisthotonus with forelimb extensor rigidity and alternating flexion and extension of the hind limbs. The major clinical difference between the two is patients with a decerebrate posture are comatose whereas those with a decerebellate posture remain conscious. A decerebrate posture also portends a guarded prognosis.

Patients with SCI will have a normal cranial nerve examination, but may present with tetra-, para-, and or hemiparesis and upper or lower motor neuron deficits depending upon the neuroanatomical location of the injury. Dogs and cats have 7 cervical, 13 thoracic, and 7 lumbar vertebrae, as well as a sacrum (tailbone) comprised of 3 fused segments. Spinal cord lesions may be localized to the primary segments of C1 – C5; C6 – T2; T3 – L3; and L4 – S3. Animals suffering a spinal cord trauma between

T2 – L3 may display signs of Schiff Sherrington Syndrome (SSS) that typically presents as pelvic limb paralysis with extensor rigidity of the thoracic limbs when the animal is in lateral recumbency. SSS results from interruption of the ascending spinal cord tracts from the lumbar intumescence that are responsible for inhibition of the forelimb extensors. Patients with SSS may have a good prognosis as long as deep pain sensation remains in the pelvic limbs.

An animal's level of consciousness (LOC) or responsiveness (LOR) is primarily controlled by the ascending reticular activating system (ARAS) of the brainstem. Many diffuse projections span from the ARAS throughout the animal's forebrain; therefore, an altered LOC/LOR in an animal often results from injury or insults to the brainstem and or cerebrum. Four common LOC are used in veterinary medicine, as follows:

a. *Normal* (bright, alert, and responsive);
b. *Obtunded* (dull, lethargic, slow to respond, aroused by nonnoxious stimuli);
c. *Stuporous* (somnolent; falls asleep if left undisturbed, requires repeated, and noxious stimulus to arouse); and
d. *Comatose* (unconscious; cannot be roused by even a noxious stimulus, "unarousable unresponsiveness").

The term "*depressed"* refers to a psychological state, not a level of awareness. Therefore, it is not typically used when describing the LOC/LOR of an animal. It is not uncommon for trauma patients to be obtunded when a first responder or EMS personnel arrive at the scene for multiple reasons. Thus, it may be hard to objectively determine if the patient has suffered a SCI. As a general rule, it is safer to lean on the side of safety and presume a SCI is present for the following situations, until proven otherwise: (a) Any blunt force trauma involving the head, neck, or thorax, (b) Fall from a height, and/or (c) Ejection from a moving vehicle. For these situations, the first responder/EMS should pursue interventions to immobilize the spine. In people, an exception to this rule is a patient with penetrating thoracic or abdominal injury. As compared to blunt force trauma, penetrating injuries alone have less risk of inducing an unstable spinal cord injury. In addition, mounting evidence in humans suggest that routine spinal immobilization on a backboard may cause more harm than good.

Another phenomenon called spinal shock may also develop following postblunt force trauma. Spinal shock is a misnomer in that it does not involve hemodynamic instability and therefore, it does not manifest clinically with the classic signs of hypovolemic shock (eg, tachycardia, hypotension). Instead, spinal shock is a transient dysfunction of the spinal cord that develops subsequent to an acute SCI. It clinically manifests as a loss of all neurological activity (eg, motor, sensory, reflex, or autonomic function) below the level of injury. Spinal shock may start as early as 30–60 minutes following a SCI, and may resolve in as little as 12–24 hours. The exact time course in dogs and cats is unknown.

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. Suspected or Known **Head Trauma**:
   a. Control any external bleeding with direct pressure over the wounds using impregnated hemostatic gauze (preferred) or standard gauze pads (see *Guidelines for External Hemorrhage)*
   b. Establish a patent airway as per *Guidelines for Respiratory Distress* in patients with:
      i. Upper airway obstruction due to trauma, edema, or hemorrhage
      ii. Decreased level of consciousness or comatose animals that cannot protect their airway
   c. Address breathing and hemodynamic disorders in accordance with *Guidelines for Respiratory Distress and Fluid Resuscitation*, respectively.
   d. Keep the head/neck elevated in a gradual plane of approximately 15–30 degrees (avoid kinking the neck).
   e. If available, provide oxygen via flow-by or oxygen mask (see *Guidelines for Respiratory Distress*) during transport.
   f. Remove all collars, leashes, or wraps from the neck to facilitate venous drainage and arterial blood flow. Take care to minimize manipulation of the neck in doing so.
   g. If unconscious, initiate BLS (see *Guidelines for BLS*) during transport. DO NOT delay transport to definitive veterinary care to start BLS in a trauma patient with head trauma.
   h. Transport ASAP to nearest veterinary center.
2. Suspected or Known Acute Spinal Cord Injury (SCI):
   a. Before transport, immobilize the spine by placing the patient in lateral recumbency onto a rigid stretcher (if available) or a flat board.
      i. If available provide a thin layer of soft padding to prevent pressure sores once the patient is secured to the rigid support.

ii. Exception: If the patient is in concurrent respiratory distress, lateral recumbency may exacerbate the work of breathing. In this instance, allow the animal to assume a position of comfort, typically sternal recumbency, and secure in that position.

b. Place the rigid support adjacent to the patient's spinal column and carefully move onto the stretcher.
   i. With two hands, scruff the animal's fur along the dorsal neck and dorsal rump, and gently and equally with both hands pull/slide the patient onto the rigid support.
   ii. Alternatively, with two or more rescuers, move the patient onto a sheet or blanket and then carefully lift or slide the animal on the backboard.
c. Secure the patient to the support with tape or nylon straps.
   i. Immobilize the limbs to prevent forward, backward, or rotational movement that could cause further SCI.
   ii. Place body straps behind the shoulder blades and just in front of the hips. Avoid placing straps or tape over the widest portion of the thorax or midabdomen to allow adequate chest excursion for ventilation.
d. Align the head and neck to maintain the cervical spinal cord in a neutral in–line position. This requires placement of a soft pad under the head to align it in a straight line with the cervical spine.
   i. Avoid placing the head and neck in a hyperextended position.
   ii. Do not attempt placement of the head and cervical region in a neutral in–line position if there is:
      1. Resistance to movement
      2. Immediate deterioration of clinical neurological signs
      3. Compromise of airway and ventilation
   iii. Do not attempt to align the head with the cervical spine before securing the patient to the rigid support.
e. Transport the patient to the nearest veterinary facility as soon as possible

3. Seizures
   a. Attempt to prevent trauma to the patient during a seizure.
      i. Place clothing, towels, or any other soft material under the patient's head.
      ii. Move hazards away from the seizing patient's immediate surrounding area.
      iii. DO NOT put your fingers into the mouth of a seizing patient.
   b. Transport as soon as possible

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Follow guidelines as described for First Response with the addition of the following recommendations.
2. Suspected or Known **Head Trauma**:
   a. If available, provide oxygen via flow-by or oxygen mask (see *Guidelines for Respiratory Distress*).
      i. If comatose and without spontaneous respirations, consider assisted ventilations via Bag-Valve-Mask using a flow rate of 50–100 mL/kg/min. Refer to *Guidelines for BLS*.
      ii. AVOID placing nasal or nasopharyngeal oxygen cannulas in patients with head trauma.
   b. Periodically reassess and record Small Animal Coma Score every 15–30 minutes (see Figure 6).
   c. Evaluate and record vital signs (heart rate, respiratory rate, mucous membranes, capillary refill time, pulse quality, and temperature) at regular intervals (approximately every 15 minutes) dependent upon personnel.
   d. Instill artificial tears or sterile ointment in both eyes q4h if the patient cannot blink.
3. Suspected or known acute spinal cord injury:
   a. Mitigate the risk of aspiration by elevating the head end of the rigid support by 15–30 degrees.
4. Seizures
   a. Attempt to prevent trauma to the patient during a seizure (see First Response guidelines above).
   b. With repetitive seizures, animals can become hyperthermic. Monitor rectal temperature (with other vitals) and initiate cooling if rectal temperature exceeds 40°C [104°F]. Cease active cooling once rectal temperature reaches 39.7°C [103.5°F]. See *Guidelines for Heat Exhaustion*.

Recommendations for medics in the setting of delayed veterinary care

1. Follow guidelines described above with the addition of the following recommendations. Perform the following based on provider skill level and scope of practice as well as available resources.
2. Suspected or known **head trauma** or **spinal cord injury**:
   a. Efforts should focus on preventing or mitigating secondary neurological injury.
   b. Maintain adequate oxygenation. If available, use pulse oximetry to target a $SpO_2 > 92\%$. The goal with O_2 therapy is to achieve a normoxia (eg, SpO_2 94–98%) and not necessarily hyperoxia. See *Guidelines for Respiratory Distress* for methods of oxygen administration.
      i. AVOID placement of nasal, naso-pharyngeal, and or naso-tracheal catheters due to the

Small Animal Coma Scale

Motor activity		Time:	Time:	Time:	Time:	Time:	Time:
Normal gait, normal spinal reflexes	6						
Hemiparesis, tetraparesis, or decerebrate activity	5						
Recumbent, intermittent extensor rigidity	4						
Recumbent, constant extensor rigidity	3						
Recumbent, constant extensor rigidity with opisthotonus	2						
Recumbent, hypotonia of muscles, depressed or absent spinal reflexes	1						
Brain stem reflexes							
Normal pupillary light reflexes and oculocephalic reflexes	6						
Slow pupillary light reflexes and normal to reduced oculocephalic reflexes	5						
Bilateral unresponsive miosis with normal to reduced oculocephalic reflexes	4						
Pinpoint pupils with reduced or absent oculocephalic reflexes	3						
Unilateral, unresponsive mydriasis with reduced or absent oculocephalic reflexes	2						
Bilateral, unresponsive mydriasis with reduced or absent oculocephalic reflexes	1						
Level of consciousness							
Occasional periods of alertness and responsive to environment	6						
Depression or delirium, capable of responding to environment but response may be inappropri	5						
Stupor, responsive to visual stimuli	4						
Stupor, responsive to auditory stimuli	3						
Stupor, responsive only to repeated noxious stimuli	2						
Coma, unresponsive to repeated noxious stimuli	1						
TOTAL SCORE							
List current medications that may affect examination (e.g., opioids, sedatives, antidepressants, etc)							
		Score interpretation:		**3-8 Grave**	**9-14 Guarded**	**15-18 Good**	

Courtesy L. Palmer, 2015

Figure 6: Chart used for serial monitoring of the Small Animal Coma Score.

potential risk for inadvertent cerebral penetration due to compromise to the cribiform plate as well as induction of sneezing, which increases intracranial pressure.

c. Establish a patent airway if compromised/obstructed or patient is unconscious/comatose (see *Guidelines for Respiratory Distress*). Consider orotracheal (endotracheal) intubation in unconscious patients. See *Guidelines for BLS* if the patient is hypoventilating or apneic.
   i. If intubation becomes necessary, maintain ventilation by monitoring end-tidal carbon dioxide ($EtCO_2$).
      1. Target an $EtCO_2$ = 35–40 mm Hg
      2. Provide no more than 8–10 breaths/min with a 1 second inspiratory time.
   ii. AVOID prophylactic hyperventilation of the patient ($EtCO_2$ < 30 mm Hg). This may cause cerebral ischemia. Exception: Therapeutic hyperventilation may be implemented as a last resort when signs of imminent brain herniation are present and the patient remains refractory to the ALL other therapeutics.
      1. If performed, therapeutic hyperventilation should target an $EtCO_2$ of < 30 mm Hg using a rate of 20–25 breaths/minute and be terminated once signs of intracranial hypertension resolve.

d. Measure noninvasive blood pressure (NIBP)
   i. Place the BP cuff on a forelimb (between the elbow and the carpus or wrist), a hindlimb (between the stifle/knee and tarsus/ankle) or at the base (closest to body) of the tail.
   ii. For an accurate BP recording, the cuff width should be approximately 40% of the circumference of the limb/tail upon which it is placed. Too wide of a cuff will result in falsely low readings, whereas too narrow of a cuff may lead to falsely high readings.
   iii. Target a mean arterial pressure (MAP) of > 80 mm Hg or systolic blood pressure of > 100 mm Hg.

e. Correct hypotension and restore perfusion:
   i. Place IV or IO catheter and start fluid resuscitation to restore perfusion (see *Guidelines for Fluid Resuscitation*).
   ii. Options for fluid resuscitation:
      1. 3–7.5% Hypertonic Saline (2–5 mL/kg IV); repeat twice as needed to achieve endpoints of resuscitation.

2. Colloid (5 mL/kg IV); repeat as needed.
3. Crystalloid (10 mL/kg IV); Use when colloids or hypertonic saline are not available and the patient is suffering circulatory shock; repeat as needed.
    a. Avoid excessive administration, especially with concurrent thoracic trauma/pulmonary trauma.
    b. Ideally, a total volume of < 20–30 mL/kg is preferred.

f. Periodically monitor and record Small Animal Coma Score (SACS; Figure 6).
   Impending signs of brain herniation include:
   i. Declining SACS
   ii. Cushing's response (severe bradycardia with marked hypertension)
   iii. Deterioration of pupillary size (bilateral miosis to bilateral mydriasis) and pupillary light reflexes (normal response → sluggish → nonresponsive)
   iv. Progressive loss of motor function
g. Administer hyperosmotic therapy if any signs of intracranial hypertension (ICHP) or cerebral herniation are present or SACS worsens. Signs of ICHP/cerebral herniation may include being comatose in conjunction with having dilated and nonreactive pupils, or displaying characteristic signs of the Cushing's response (rise in systolic blood pressure, widening pulse pressure, bradycardia, and irregular breathing):
   i. 3–7.5% hypertonic saline.
   ii. Mannitol (0.5–1.4 g/kg IV/IO) administered slowly over 20–30 min every 4–6 hours.
   iii. Avoid in patients with hypotension/hypovolemia, renal insufficiency, or hyperosmolality.

3. Seizures:
   a. First line anticonvulsant therapy
      i. Benzodiazepines:
         1. Diazepam (0.5 mg/kg IV or intranasal); per rectum can be also be given (1 mg/kg).
         2. Midazolam (0.5 mg/kg IV, IM or intranasal); not effective per rectum.
         3. Either drug listed above may be repeated as needed to control seizures.
         4. Lorazepam (0.2 mg/kg IV, IM or intranasal); not effective per rectum.
   b. Second line anticonvulsant therapy
      i. Levetiracetam (Keppra) (30–60 mg/kg IV) for status epilepticus.
4. Provide Analgesia for neurological trauma as pain triggers the stress response and can increase intracranial pressure. See Guidelines for Analgesia.
   a. IV or IM pure mu-agonist opioids (eg, morphine or fentanyl) are most effective. Start at a low dose and titrate to effect. NOTE: Oral administration of opioids is not a very effective route of administration in dogs or cats.
5. Monitor blood glucose concentration if possible. Hyperglycemia is often a more common occurrence in patients suffering head trauma, whereas patients suffering status epilepticus or cluster seizures may be more prone to hypoglycemia.
   a. Correct hypoglycemia (< 3.8 mmol/L [<70 mg/dL]) by supplementing 0.5 mL/kg of 50% dextrose diluted 1:4 with an isotonic crystalloid. If patient remains persistently hypoglycemic consider a 2.5% to 5% dextrose infusion. AVOID hyperglycemia (serum glucose > 10 mmol/L [>180 mg/dL]).
6. Transport to the closest veterinary facility as soon as possible.

Discussion

Similar to any other traumatic event, the approach to the neurological trauma patient begins with addressing any conditions that threaten airway, breathing, and circulation. Primary injuries cannot be altered once they occur. Therefore, once life-threatening conditions are mitigated all efforts should focus on preventing or minimizing secondary neurological injury. Restoring and maintaining perfusion and adequate mean arterial pressure (MAP) is a key tenet of managing the neurological trauma patient. Cerebral perfusion pressure (CPP) is determined by the difference between mean arterial pressure (MAP) and intracranial pressure (ICP) (CPP = MAP – ICP), whereas spinal cord perfusion pressure (SCPP) is the difference between MAP and cerebrospinal fluid pressure (CSFP). According to this concept, any decrease in MAP inherently leads to a subsequent decrease in perfusion. Other key interventions for minimizing secondary brain injury include maintaining oxygenation and ventilation, providing analgesia, correcting acid-base and electrolyte disorders, and administering hyperosmotic therapy (eg, hypertonic saline and mannitol).

Hypertonic saline versus mannitol

The evidence supporting the use of hypertonic saline (HTS) versus mannitol as first-line therapy for neurolog-

ical trauma remains controversial. Both HTS and mannitol carry their own inherent risks for inciting adverse events. Mannitol's primary adverse effects include volume depletion and acute kidney injury, especially during states of hyperosmolality (> 320 mOsm/L). Mannitol is contraindicated in states of hypovolemia due to the risk of further compromising MAP and subsequently jeopardizing cerebral perfusion pressure. The primary concern with HTS is the risk of inciting acute, marked hypernatremia. This is of particular concern in patients with preexisting moderate to severe dehydration (eg, > 10% dehydration) or in patients that are already hypernatremic. Most recommendations advise not giving HTS when serum sodium is > 160 mEq/L. Considering the lack of scientific evidence from clinical, randomized trials supporting the use of HTS in place of mannitol as first-line therapy in TBI, the Brain Trauma Foundation Guidelines currently recommend mannitol as first-line therapy. The exception to this recommendation is in the setting of hypovolemia where the volume expanding effect of HTS would be more beneficial for restoring MAP and, thus, CPP.

Corticosteroids for neurological trauma

Current evidence does not support the use of corticosteroids for reducing cerebral edema or improving outcome in TBI. The MRC CRASH trial is the largest randomized multicenter, placebo-controlled trial to date that aimed to confirm or refute an effect of corticosteroids on TBI. The steering committee halted the recruitment of patients and stopped the trial after enrolling 10,008 patients. Data from the interim analysis revealed that patients given corticosteroids had a worse outcome and a higher mortality rate. On the other hand, corticosteroids for acute SCI remain controversial in both human and veterinary medicine. Methylprednisolone sodium succinate (MPSS) has been touted as the corticosteroid of choice for administration in people with acute SCI due to its proposed neuroprotective effects as a free radical scavenger and anti-inflammatory agent as well as its ability to improve regional blood flow. However, the 3 largest trials evaluating the use of MPSS in humans with SCI failed to provide absolute support that it has a significant benefit for improving function. To date, there is one clinical prospective, blinded, randomized, placebo-controlled trial evaluating MPSS, and polyethylene glycol in canine patients with acute SCI secondary to naturally occurring intervertebral disc disease (Olby et al). This clinical trial did not show a benefit of either MPSS or polyethylene glycol in the treatment of acute, severe thoracolumbar intervertebral disc herniation when used as adjunctive medical treatment administered to dogs presenting within 24 hours of onset of paralysis. There is also one study evaluating the use of dexamethasone in dogs with SCI that failed to identify any benefit. The greatest concern with steroid administration includes their high risk of complications such as immunosuppression and gastrointestinal ulceration. Considering the proposed, unproven benefits do not outweigh the known risks, most current guidelines do not recommend the usage of corticosteroids in patients with neurologic trauma.

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Section 9: Management of Penetrating Trauma

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. The patient may be uncomfortable and somewhat fearful. Restrain and use muzzles cautiously as many styles (especially cloth or mesh "medical" muzzles) restrict a dog's ability to pant, and may exacerbate respiratory distress. Basket muzzles are preferred if available.
2. Allow the patient to sit, stand or lay however it is most comfortable. If the patient is conscious, it will naturally assume a position that is physiologically efficient for breathing.
   a. If recumbent, clear the airway by opening the mouth and extending the head and neck.
   b. If the patient is unconscious, extend the head and neck and pull the tongue out and down between the lower canine teeth. Ensure the patient is breathing with a palpable pulse. If cardiopulmonary arrest is suspected start chest compressions and refer to *Guidelines for BLS and ALS*.
3. If available, provide oxygen supplementation by the least stressful means, such as flow-by (10–15 liters per minute) or mask (6–8 liters per minute). If respirations are labored or distress is present, refer to *Guidelines for Respiratory Distress*.
4. Injuries severe enough to cause impalement may result in other threats to life such as respiratory compromise, shock, fractures, or external or internal hemorrhage. Refer to *Guidelines for each of the aforementioned* as needed.
5. **Open or sucking chest wounds**
   a. Immediately cover all OPEN or SUCKING CHEST wounds with your hand to prevent further air accumulation within the chest cavity until adequate material to seal the wound is obtained.
   b. If commercial material to seal the wound is not available or usage of chest seal is unfamiliar, common materials can be used to fashion a chest seal (cover the hole) and tape it on all 4 sides (see step d below).
   c. If skills and scope of practice allow, place an occlusive (air/water tight) dressing over any penetrating wounds found from the abdomen up to the chest (seal/cover all holes).
   d. Chest seal technique:
      i. If hair clippers are available, quickly clip hair around the wound, to allow an airtight seal.
      ii. If hair clippers are not available place water-soluble lubricant on the underside of the chest seal to facilitate a more occlusive seal.
      iii. Most commercially available "combat" chest seals will work on dogs if reinforced with tape on the edges.
      iv. Makeshift materials can also be used to construct a chest seal: eg, plastic baggies, Saran wrap (cellophane), empty IV fluid wrappers. These items should be cut large enough to cover the defect with a 1–2 inch margin on all sides. Place water-soluble lubricant, if available, on the underside of the seal (1/2 inch away from the edges) and cover the defect.
      v. Tape/seal any occlusive dressing (commercial or makeshift) on all 4 sides or entire perimeter of dressing. This can be done with waterproof tape, porous medical tape, or duct tape. Continuous monitoring for tension pneumothorax is required (see below).
   e. A **tension pneumothorax** is a life-threatening emergency and occurs when the penetrating trauma lacerated both the chest wall and lung lobe. This allows air to escape from the lungs into the chest. Once the chest wall is sealed this air can build up within the chest preventing the lungs from expanding. Death is imminent if not treated.
      i. To avoid a tension pneumothorax, a vented chest seal is preferred (commercial). If one is not available, a nonvented seal is adequate with close monitoring for respiratory distress.
      ii. If any increase in distress is noted after the chest wall is sealed, the seal should be burped (opened on one to two sides to allow gas to escape).
6. For open chest wounds, especially those associated with gun-shot wounds, always search for both an entry and exit wound. If both an entry and exit wound are found, they should both be treated.
7. **Chest wall impalements**
   a. Do not remove a penetrating object if it is still impaled. Removing the impaled object may disrupt vital tissues, cause further internal damage, and release pressure off lacerated blood vessels that may contribute to uncontrollable cavity hemorrhage.
   b. Removal of an impaled object may only be warranted when removal of the object:
      i. Facilitates rapid extraction of the injured animal out of a hostile or destabilizing environment.
      ii. Is necessary because the injured animal is entrapped or pinned by an immoveable structure (eg, protruding steel rebar from a collapsed building foundation or a fence post). If possible, cutting the object is preferable to removing it from the animal.
      iii. Is required to perform chest compressions for basic life support.
   c. All impaled foreign material should be secured in-place.
      i. Support the impaled object in place with bandage material, tape, etc. as needed. A "donut"

dressing may help stabilize objects protruding from the patient's body.

ii. Seal the edges of the wound around the impaled object with an occlusive chest seal to prevent air and other contamination from entering the chest cavity. Caution: Watch for signs of tension pneumothorax (See 5e above).

8. Transport as soon as possible, preferably to a facility capable of performing a thoracotomy.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Follow recommendations for "**First Response**" noted above.
2. Be wary of other threats to life and monitor patient closely. *Follow scenario dependent guidelines* as needed.
3. In the event of evisceration of abdominal contents, keep them covered, clean and moist:
   a. Wash off any gross contamination with a balanced crystalloid solution, or clean water if crystalloids are not available.
   b. Moisten a sterile or clean, nonadherent cloth (eg, dressing, gauze, or even a clean towel) with a crystalloid solution. Clean water can be used as an alternative. Cover/wrap the eviscerated contents in the moistened cloth and continue to keep it moist for the duration until definitive care is reached.

Recommendations for medics in the setting of delayed veterinary care

1. Follow guidelines as listed above with additional recommendations listed below.
2. Suspect tension pneumothorax based on:
   a. Mechanism of injury (MOI), to include known or suspected:
      i. Penetrating thoracic or abdominal injury
      ii. Blunt thoracic trauma (eg, blast overpressure)
   b. Clinical signs:
      i. Dyspnea, gasping, agonal breathing, or short/shallow labored fast breathing
      ii. Progressive respiratory distress with rapid, shallow, and open-mouth breathing while acting agitated or unable to get comfortable
      iii. Head and neck extended
      iv. Minimal chest excursion with more abdominal and head component
      v. Elbows and upper front legs held out away from body
      vi. Reluctance to lie down while focused on breathing
      vii. Cyanotic (ie, blue) gums; typically, a late finding
      viii. Lack of or decreased lung sounds ausculted on either or both sides (if able to auscultate)
3. If a tension pneumothorax is suspected, perform needle decompression:
   a. If a chest seal is present when the tension pneumothorax is detected. It is recommended to first "burp" the seal by opening it on one side to allow any air under pressure to escape.
   b. *Needle decompression:* Using a 10–16 Ga, 2–3.25 inch over-the-needle IV catheter, needle, or commercially available 10 Ga 3 inch thoracic trocar needle; insert the needle perpendicularly through the 7–9th intercostal space into the pleural space on either side of the patient's body, midway between the ventral (sternum) and dorsal (spine) borders of the chest.
      1. Avoid intercostal blood vessels and nerves by positioning the needle closer to the cranial (towards the head) aspect of the rib, similar to people.
      2. *Catheter:* Once seated in the pleural cavity, the stylet can be removed and the catheter left in place until air leakage stops. The catheter should then be removed for transport.
      3. *Needle:* The needle should be directed caudally with the bevel pointed outward toward the pleural space. Once air leakage ceases, keep the needle in the same plane and pull it out cranially or toward the head of the animal.
      4. It is recommended to first evacuate the side that is most affected (using auscultation) or the side with the most severe injury.
         1. If respiratory effort persists, consider decompressing both sides of the chest regardless of the external location of the wound. Ballistic projectiles and shrapnel may travel erratically throughout the thorax leading to lung damage in both hemithoraces. In addition, and unlike in people, the mediastinum in dogs has small fenestrations that allows communication between the left and right hemithoraces and, thus, allowing air accumulation in the uninjured side.
   c. Look, listen, and feel for release of air from the chest and for improvements in breathing. Once air leakage ceases, remove the catheter or needle.
   d. If signs persist, repeat the procedure on the opposite side of the chest.
   e. The procedure may need to be repeated if time to definitive care is prolonged. Assess the need for repeat decompression based on worsening of clinical signs as described above.

Discussion

The use of three-sided occlusive chest seals has given way to four-sided, vented chest seals in people with penetrating thoracic trauma. For the purpose of this discussion, "four-sided" means completely occlusive around the perimeter of the dressing, as many of these seals are oval or circular in shape. Vented chest seals have an opening or openings in the center of the seal to act as a one-way valve to allow air to escape, but not enter the chest through the wound. A study using a swine model demonstrated decreased development of tension pneumothorax and better outcome using four-sided, vented chest seals vs. four-sided unvented chest seal. The effectiveness of four-sided vs. three-sided occlusive seals, or vented versus unvented seals have not been evaluated in dogs. However, in a retrospective study of gunshot wounds (GSWs) in military working dogs (MWDs), all of chest seals applied to the dogs were four-sided or four-sided/vented (personal communication). No complications were reported as a result of the type of seal. Based on the available evidence, the authors recommend the use of a four-sided occlusive seal that is vented, when available. These best-practice guidelines are suggested for two reasons: 1. There is no evidence that a three-sided dressing is any more or less effective than a four-sided dressing, 2. Four-sided seal or four-sided, vented seal complies with current human Tactical Combat Casualty Care (TCCC) guidelines. Unless a compelling reason exists for using a separate standard for animals, the adoption of accepted techniques and available materials will facilitate treatment.

A retrospective study of MWDs incurring combat-related GSWs demonstrated that military paramedics and canine handlers with advanced training successfully performed needle decompression using large-bore (10–14 Ga) over-the-needle catheters on MWDs with tension pneumothorax. Of the four that incurred tension pneumothorax, three were decompressed by medics or handlers and survived to eventually return to full duty. One dog died of unrecognized and untreated tension pneumothorax after arrival to veterinary care. A study of GSWs in companion dogs and cats showed that 23% underwent needle thoracocentesis. These two studies suggest that a pneumothorax is relatively common in dogs with penetrating chest wounds, and that with prior training, medics can safely and effectively perform this procedure without direct veterinary supervision.

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Section 10: Blast Injury

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions). NOTE: All bomb events have the potential for chemical or radiological contamination.

Background

1. Injuries sustained from explosions are usually multidimensional, involving numerous different body systems and various levels of severity.
   a. Injuries can be classified into 4 categories:
      i. *Primary*: Injury from the supersonic pressure wave (blast wave) hitting the body. For example: tympanic membrane rupture, pulmonary damage (pneumothorax), air embolization, or hollow organ injury (most notably the large intestine). The lungs and abdomen are the two systems at highest risk of serious injury from primary blast.
      ii. *Secondary:* Injury from flying debris (eg, bomb fragments, shrapnel). This results in penetrating trauma, fragmentation injuries, and blunt trauma.
      iii. *Tertiary*: Injuries from displacement of patient by the blast wind. This results in blunt or penetrating trauma, fractures, and traumatic amputations.
      iv. *Quaternary*: All other injuries associated with the blast. This may include: crush injuries, burns, asphyxia, toxic exposures, and exacerbations of chronic illness.
   b. Patients exposed to explosions in confined spaces (eg, buildings, large vehicles, mines) or structural collapses are associated with greater morbidity and mortality.

   c. Repeatedly examine and assess patients exposed to a blast.
   d. Acute loss of hearing is common in blast injuries. The canine may not be able to hear and thus, may not respond to auditory commands.
   e. Consider the need for spinal stabilization and additional resources. The use of backboards, stretchers or towels/blankets should be considered to prevent further injury from unrecognized, unstable orthopedic, or neurologic injuries (See Guidelines for Neurological Trauma).
2. Protect the responder(s)
   a. Anticipate secondary events
      i. After an initial explosion, it is common for additional events to occur that can injure first responders
         1. DO NOT BECOME A CASUALTY YOURSELF
3. Whenever possible, protect casualties, the public, and the crime scene
   a. Blasts are often the result of terrorist/criminal activities

First response (< 20 minutes)

1. Perform a general assessment and consider threats to life. Considerations are numerous and should include (See *Guidelines for each scenario below, if applicable*):
   a. External hemorrhage
      i. Apply pressure and hemostatics, if available.
   b. Neurologic trauma
      i. If suspected, ensure patient is immobilized and carried on a litter or gurney.
   c. Signs of shock due to internal hemorrhage or rupture of a hollow organ.
      i. Do not offer anything by mouth.
      ii. Avoid placing pressure on the abdomen.
   d. Respiratory difficulty
      i. Blast lung injury (BLI) should be suspected.
      ii. Supply oxygen, if available.
      iii. Allow the canine to remain in a position of comfort and avoid excessive movement.
   e. Fractures
   f. Penetrating injury
      i. Do not remove a penetrating object if it is still impaled. Removing the impaled object may disrupt vital tissues, cause further internal damage, and release pressure off lacerated blood vessels that may contribute to uncontrollable cavity hemorrhage.
      ii. Removal of an impaled object may only be warranted in specific circumstances (see *Guidelines*).
   g. Toxin exposure
   h. Smoke inhalation and/or burn injury
      i. Supply oxygen, if available.
      ii. Stop the burning process.
      iii. Remove restrictive garments, leads, and collars from the animal.
      iv. Remove any smoking or smoldering coverings from the animal.
      v. Rapidly cool the isolated burn (cool water irrigation, no ice) to reduce the zone of stasis associated with initial thermal injury but avoid hypothermia.
      vi. Apply dry sterile or clean dressings to wounds to limit secondary contamination.
   i. Ocular injuries.
2. Keep the patient warm and avoid hypothermia.
3. Consider transport to facilities skilled in the management of trauma patients for high-risk injuries. Refer to the websites / resources listed in Guidelines to General Approach and Transport.
4. In general, *Scoop and Run* is recommended for first response, with the few exceptions noted above.

Recommendations for responders and medics in the setting of delayed veterinary care

1. Follow guidelines as described for First Response above.
2. With delayed transport, follow *Guidelines for each scenario* that is apparent (eg, burn, fracture, hemorrhage).
3. Special considerations for the blast injury victim that may not be readily apparent include:
   a. Blast associated lung injury (BLI)
      i. Caution should be exercised if intubation or bag-mask ventilation is used as positive pressure may increase the risk of alveolar rupture, pneumothorax, and air embolism in patients with BLI.
      ii. Pneumothorax should be considered in patients with persistent respiratory distress, cyanosis, a "barrel-shaped" chest, and decreased lung sounds in both or one hemithorax. See *Guidelines for penetrating injuries* (for needle decompression) and *Respiratory Distress*.
      iii. With patients transported by air (eg, helicopter, plane), caution should be exercised as this may aggravate unrecognized pneumothorax or air emboli. See *Guidelines for General Approach and Transport.*
   b. Abdominal hemorrhage or ruptured organ
      i. Progressive signs of shock are likely and *Guidelines for Fluid Resuscitation (Scenario 4)* should be followed.
      ii. Place an intravenous or intraosseous catheter to facilitate resuscitation if needed.

iii. Exercise caution with fluid administration due to BLI.

c. Traumatic brain injury
   i. Monitor neurological status using the Modified Glasgow Coma Scale (GCS). See *Guidelines for Neurological Trauma.*

Further Reading

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Section 11: Fracture/Luxation Stabilization

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. Examine for any immediate threats to life (ie, airway, breathing, circulation) and refer to *Guidelines for those scenarios* as needed.
2. Control external hemorrhage with direct pressure and hemostatic dressing where applicable. See *Guidelines for External Hemorrhage*.
3. Muzzle the animal and or have someone securely restrain the dog or cat prior to manipulating a fracture.
4. Temporary stabilization or support of long bone fractures or distal limb joint luxations should be performed whenever possible to avoid further soft tissue and neurovascular injury. Patient movement should be minimized.
   - Note: attempting to splint a fracture may cause stress and pain to the animal. If transport times are anticipated to be less than 20 minutes, and patient movement can be minimized, one can consider delaying splinting until definitive veterinary care is reached.
   - If time and skill level allow, and no other threats to life are present, an outline of bandaging/splinting are covered in steps 4 and 5 for medics below.
5. Whenever possible, transport on a rigid surface to limit motion.
6. Open wounds associated with orthopedic trauma should be covered with a clean dressing to prevent further contamination.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Follow aforementioned guidelines for First Response.
2. Skin wounds associated with fractures and joint luxations should be lavaged using sterile, isotonic fluid, and covered with a clean nonadherent dressing. Grossly contaminated wounds may be initially lavaged using clean tap water to remove debris.
3. Excessive movement should be discouraged to avoid further soft tissue and neurovascular injury and minimize discomfort.
4. If bone is protruding from wound or the fracture is angular/displaced:
   a. If distal limb pulses are absent, attempt to realign the fracture to neutral position using mild traction. If significant resistance is met, stop immediately and splint in position found.
   b. If distal limb pulses are present, splint in position found.
   c. If unsure of pulse, splint in position found.
   d. Recheck pulse of the affected limb after splint application.
5. Cover any open fracture with a moist dressing to keep the tissue and bone moist. Secure the dressing in place with a soft-padded bandage.
6. Whenever possible, transport on a rigid surface to limit motion.
7. A cold compress may be applied to the affected region and the extremity may be elevated to help reduce swelling and improve comfort.

Recommendations for medics in the setting of delayed veterinary care

1. Follow the aforementioned guidelines for first response.
2. Refer to *Guidelines for Analgesia* and administer available analgesics dependent on resources and skill level.
3. Always muzzle/restrain animal prior to manipulating wound or fracture site.
4. Open wounds should be clipped/cleaned:
   a. Don gloves.
   b. Apply sterile water-soluble lubricant to the wound, and then clip the fur surrounding open wounds.
   c. Lavage the wound with sterile, isotonic fluid. Grossly contaminated wounds may be initially lavaged using clean tap water to remove debris.
   d. Wounds should be covered with a sterile dressing. Cover any open fracture with a moist dressing to keep the tissue and bone moist.
5. Temporary stabilization of fractures is achieved using a soft padded (modified Robert Jones) bandage with

an incorporated rigid splint (SAMM or casting tape) or heavy cotton bandage (Robert Jones).
   a. The bandage should incorporate the joint above and below the point of injury to limit motion and pressure.
   b. Do not attempt bandaging on femur (above the knee) or humeral (above the elbow) fractures (see below).
   c. Ensure the bandage is not too tight by leaving the toes exposed and checking them for sensation and warmth.
6. Antibiotics: Recommended for all open fractures. Consider using potentiated aminopenicillins [eg, amoxicillin/clavulanic acid (14–20 mg/kg PO every 12 hours), ampicillin/sulbactram (20–25 mg/kg IV every 8 hours)] or a cephalosporin (eg, cephalexin (22–30 mg/kg PO every 8–12 hours)].

Discussion

Whenever possible, particularly when anticipated availability of definitive veterinary care is > 20 minutes, immediate immobilization of long bone fractures and joint luxations should be performed to prevent further injury, reduce swelling, and improve comfort. If veterinary evaluation will be delayed, fur surrounding open wounds associated with fractures, luxations or shearing injuries should be clipped. Wounds should be lavaged thoroughly with sterile, isotonic fluids such as 0.9% sodium chloride or lactated ringer's solution to remove debris and reduce contamination. Open wounds should be covered with a sterile contact layer.

For injuries distal to the elbow and stifle (knee), immobilization is achieved using a soft padded bandage (modified Robert Jones) with an incorporated rigid splint (eg, molded fiberglass, spoon, SAMM, or thermoplastic) or heavy cotton bandage (ie, Robert Jones). Improvised bandaging and splinting material may include clean cloth, wood, or rolled magazines/newspaper, etc. To stabilize injuries of the distal (lower) thoracic limb, splints are applied on the caudal aspect of the leg. To stabilize injuries of the distal pelvic limb, splints are applied on the lateral aspect of the leg.

Immobilization of injuries proximal to the elbow or stifle (knee), such as humeral or femoral fractures may be difficult and further injury may be caused by inappropriate coaptation. In most cases it is recommended that immobilization not be attempted and instead, patient movement is minimized until veterinary care is provided. In situations where movement cannot be minimized or veterinary care will be delayed, a lateral Spica splint (molded fiberglass, SAMM splint or commercial plastic or thermoplastic) may be applied. In these cases, a bandage is applied that incorporates the entire limb and is secured around the thorax or caudal lumbar/pelvic region, respectively.

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Section 12: Gastric Dilation with Volvulus (GDV)

Background

Gastric Dilation-Volvulus (GDV), also known as "bloat," is a life-threating condition of dogs where the stomach rotates from 180° up to 540° causing gas or fluid to become trapped within the stomach. Progressive stomach distension and associated increased pressure impedes venous return to the heart and disrupts venous drainage and arterial blood supply to the stomach wall and spleen. Increased intraabdominal pressure against the diaphragm can also interfere with lung expansion, which may further contribute to global hypoxia.

There is no known definitive cause for this condition. Consistently reported risk factors include breed (large and giant breed dogs) and body type (deep-chested breeds), with German Shepherd Dogs representing the most common breed identified. Although several other risk factors, such as once a day feeding and exercise soon before or after feeding, have been reported, these associations have not been consistently validated. Anecdotal recommendations for reducing the risk of GDV have been published in reviews on the topic, but evidence-based guidelines for the prevention of GDV do not exist in veterinary medicine; other than prophylactic gastropexy, which is recommended for all working dogs.

Bloat can quickly become life threatening and will require recognition and prompt treatment in the field if access to veterinary care will be delayed more than 30–60 minutes. It is important to remember that field treatment is supportive only, not curative. Definitive care and veterinary attention are mandatory, even with cessation of clinical signs; usually due to an intervention. Field treatment is solely intended to delay impending shock and provide time to get to veterinary care for surgical correction of the condition.

Recognition
The diagnosis of GDV cannot be definitively made by physical examination alone. Radiographs of the abdomen are usually needed to visualize an image indicating gastric dilation as well as volvulus. However, since this is not likely available in a field situation, the following signs can aid the first-responder's assessment that this condition is occurring in the dog:

1. Distension of the front of the abdomen when viewed from above the dog. Look for outward (left-right) distension, especially just behind the last ribs; often described as "sprung" in the ribs. Distension of the ventral (downward) abdomen may not be present. This may be harder to see in deep-chested dogs.
2. General discomfort, restlessness, agitation, frequently changing position as if trying to get comfortable.
3. Retching/attempting to vomit with little or no production of vomitus (eg, dry heaves or retching of saliva), often accompanied by drooling.
4. High heart rate with decreased femoral pulse pressure, pale mucous membranes, and prolonged capillary refill time.
5. Rapid, shallow, and or labored breathing, ± mouth open, ± head and neck extended.
6. Dog found in kennel/housing location lying on its side, with decreased responsiveness or unresponsive, with no other known mechanism of injury/illness. Dogs identified in this condition are critically ill and will require urgent therapy for survival.

Management of Gastric Dilation-Volvulus

General precautions (see general approach to prehospital trauma)
Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)
1. Arrange for immediate transportation to the nearest veterinary facility.
2. If dog is standing, conscious, and responsive, transport immediately to veterinary care without additional intervention (eg, *Scoop and Run*).
3. If dog is lying down with diminished response or unresponsive, treat during transport if possible:
   a. If trained, perform needle gastric decompression (trocarization; see method below) to temporarily relieve pressure from stomach. Allow dog to stand or lay in the position of comfort on either side of his body. Note: with an anticipated time to definitive care of < 20 minutes, this should be reserved for moribund or recumbent canines that are unlikely to survive transport.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)
1. Follow recommendations for first response.
2. If the dog is lying down with diminished response or unresponsive, perform **needle gastric decompression (trocarization)** as described below. Ideally this should be done within 10–15 minutes or in transport, if feasible.
   a. Percuss the abdomen while listening with a stethoscope (or your ear to the body wall) and choose the location (right or left abdominal wall just behind the ribs) that has the loudest hyper-resonant "ping." This technique helps identify the side of the animal where the gas-filled stomach is closest to the body wall without interposed organs, such as the spleen.
   b. Clip and clean a 1–2 inch square area of fur overlying the most distended part of the abdomen behind the last rib. If clippers not available, clean the area with medical-grade alcohol or other medical-grade skin disinfectant if available.
   c. Place a large bore (ie, 14–16 Ga x 3.25″) over-the-needle catheter into the most distended section. A long needle (eg, 18 Ga, 1.5 inch) may be used if a catheter is not available. The needle should be perpendicular to the body wall or, ideally, angled slightly toward the stomach (cranial abdomen under the last 3 ribs). Foul smelling gas and or fluid should begin to flow out of the needle once in the stomach.
   d. You can gently compress the opposite side of the abdomen to encourage gas to escape through the needle.
      i. If using an over-the-needle IV catheter, remove the stylette but leave the catheter in place while gas is escaping.
      ii. When escape of gas has stopped and the abdomen appears significantly less distended, remove the needle or catheter from the abdomen at the same angle it was placed.
3. If trained, place an IV or IO catheter into the right and/or left forelimb(s) (avoid hind limb IV catheters) and bolus 20 mL/kg IV isotonic crystalloid fluid. In a typical "working dog" between 50 and 90 lbs, this will be approximately 500–1000 mL. Do not delay transport to a veterinarian in order to start an IV catheter or administer IV fluids. See *Guidelines for Fluid Therapy/Resuscitation.*

Recommendations for medics in the setting of delayed veterinary care

1. If responsive and oriented, transport to definitive care as soon as possible.
   a. Place IV catheter in left and or right cephalic veins while awaiting transport in preparation for possible clinical decline.
2. Monitor vital signs. If mentation declines or vital signs become altered, proceed with steps 3 through 5.
3. If depressed, recumbent or not oriented, initiate placement of IV or IO catheter in right and/or left forelimb(s) and administer an IV or IO fluid bolus (LRS or NS) of 20 mL/kg. If dog's level of consciousness has not improved, continue bolus fluid administration per *Guidelines for Fluid Resuscitation* (Scenario 3). Once the dog improves, maintain the fluid rate at approximately 5 mL/kg/h (between 100 and 200mL/h for a 50–90lb dog) until definitive care is reached.
4. Perform gastric trocarization (see technique above).
5. Administer appropriate analgesics (see *Guidelines for Analgesia*).

Evacuation in all scenarios

1. Transport as soon as possible as surgery is necessary for definitive care.
2. If needle decompression was performed, inform veterinary staff at definitive care facility that a penetrating wound to the abdomen was created and may need to be explored.

Discussion

Field or home decompression of bloat has been advised for many years. Decompression by passing a stomach tube is no longer recommended without adequate analgesia due to potential for extreme pain and gastric or esophageal rupture. Trocharization of the stomach is a reasonable intervention in the field in a dog in extremis. In general, decompression results in an immediate improvement in venous return, and the potential for reperfusion (eg, blood flow returning to an area that was previously not getting blood flow). However, reperfusion may also be associated with complications without adequate fluid therapy. Therefore, the affected dog should be directly transported to a hospital able to provide definitive therapy.

If the first responder is mistaken, and bloat is not present, there is little likelihood of damage to any internal organ. If the stomach is not decompressed but the abdomen is penetrated, it is possible to inadvertently puncture the spleen, causing hemorrhage, or to puncture the intestinal cavity. Both of these injuries are tolerated and generally require no specific therapy. Even in a veterinary hospital setting (Goodrich et al.), trocarization was more likely to be successful than passing an orogastric tube for decompression. Regardless, it is advised to transport any dog suspected of bloat and make the definitive care facility aware of any attempts at trocarization.

Further Reading

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Section 13: Heat Exhaustion

Background

Heat-related illness is a continuum or spectrum of disease that may culminate into cardiovascular instability, neurological deterioration, and multiple organ system damage known as heat stroke. Although this continuum exists in companion animals, one is often unable to discern between stages in a prehospital setting. For this reason, while the descriptive terminology is provided below, a distinction between stages will not be made in the guidelines that follow. In a natural environment, heat-related injuries occur almost exclusively in the dog and very rarely in the cat. When cats suffer from heat-related injuries it usually involves exposure to an external source of heat for a prolonged period of time, such as being stuck in clothes dryer or trapped inside a hot vehicle.

Dogs and cats dissipate heat through four major mechanisms: Conduction, Convection, Radiation, and Evaporation. Dogs and cats do not perspire like people as they are lacking in sweat glands by comparison. When the ambient temperature rises above body temperature, the primary mechanism for heat dissipation in dogs and cats is evaporative loss through the respiratory tract. With that in mind, it becomes apparent that the degree of relative humidity is an important contributing factor in heat-related injury. Humidity levels above 35% can begin to jeopardize evaporative cooling. With relative humidity above 80%, even the use of a muzzle may impair panting enough to hinder evaporative losses. For this reason, muzzles should be used with caution when training or working Operational K9s (OpK9s). To prevent heat-related injuries on hot and humid days, consider training or exercising during cooler parts of the day, such as the early morning or early evening. Also, consider the aforementioned environmental factors when a dog is moved and exerts itself prior to acclimatization, which takes an average of two to four weeks, for physically fit animals

with daily heat exposure versus less fit, respectively. The stages of heat-related illness are listed below:

1. *Heat stress* is a mild to moderate form of heat illness that is associated with a moderate to severe elevation of body temperature with an inability to sustain necessary cardiac output. Oral fluids may be adequate if caught in this early stage and progression is halted.
2. *Heat injury or exhaustion* is an intermediate condition characterized by a severe elevation of body temperature with organ and tissue damage.
3. *Heat stroke* is life-threatening and characterized a by a severe elevation in body temperature coupled with central nervous system dysfunction as well as organ and tissue damage. Two forms or classifications exist:
   a. *Exertional* heat stroke occurs when the heat generated by physical and strenuous activity in hot, humid environments exceeds the body's ability to dissipate the heat. This form occurs most commonly with OpK9s or dogs with a conformational impediment to heat dissipation, such as obesity or upper airway disease such as tracheal collapse, laryngeal paralysis, or brachycephalic syndrome.
   b. *Classical* heat stroke occurs when an exogenous heat source overwhelms the body's ability to compensate, such as being locked in a car or clothes dryer. When heatstroke occurs in a cat, it is usually this form.

A list of signs exhibited by dogs experiencing some degree of heat-related illness is provided in Table 6. If the dog's history (eg, locked in a vehicle without air conditioning) or clinical signs implicate heat-related illness, evaluation by a veterinarian is recommended.

There are also several signs one can appreciate when a dog may be approaching heat stress. If noted, it is recommended remove the dog from the situation and follow guidelines in First Response, Step 1 below. These include:

1. Shade seeking
2. Flattening of the tongue and elongation (hanging out more)
3. Less direct return to the point of interest or handler when retrieving
4. "Squinty eyes"
5. Excessive panting; may appear to be smiling due to retraction of corners of the mouth

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. Stop the heat injury by removing the source and decreasing the body temperature. This is accomplished through the following:
   a. Extricate the animal from the heat source (classical) or remove/stop the inciting scenario (exertional).
   b. Move to cool, shaded, low-humidity, ventilated, or air-conditioned environment.
   c. Remove any gear or "clothing."
   d. If a thermometer is available, take a rectal temperature and if > 41.1°C [>106°F], proceed with external cooling measures (Step 2).
   e. If a thermometer is not available, and heat illness is suspected, proceed to Step 2.
2. Provide external cooling using one of the below methods:
   a. Immerse young, otherwise healthy patients (typical OpK9) in cool water. Any water < 18.3°C[< 65°F], such as tap water, is acceptable. Immersion should not include the head and should not be performed in animals with altered mental states. If immersion is not possible, continuous dousing with cool water is an alternative.
   b. In geriatric animals or those with comorbidities (other conditions/diseases), place cold packs or ice in the axillae and groin. Spray the skin and fur with room temperature (tepid) water and continuously fan.
   c. In both scenarios, monitor response to cooling and avoid shivering. If shivering occurs, vigorously rub or slightly warm the patient until it stops. Halt cooling when rectal temperature is ≤ 40°C [≤104°F]; if measurement is feasible.
      i. Note: Fanning can occur in transit through the use of air conditioning and opening the windows of a vehicle.
3. *Scoop and run* to an emergency facility.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Follow all steps outlined in First Response.
2. If patient is mentally alert, able to swallow, with normal vital signs, encourage rest, and water by mouth.
3. See *Guidelines for Fluid Therapy/Resuscitation* and follow recommendations for one of the following if able:
   a. Dehydration with clinical signs, but no signs of shock (category 2)
   b. Or dehydration with clinical signs of shock (category 3)

Table 6: Normal canine vital parameters/signs compared to heat stroke

Variable	Normal resting range	With heat stroke
Temperature (°F /°C)	100–102.5/37.8–39	Typically > 105; may exceed 110; (*See Note)
Heart/Pulse rate (per minute)	< 20 kg: 100–160/min 20–40 kg: 60–120/min > 40 kg: 50–80/min	Tachycardia will prevail. In small dogs (< 10 kg), a relative bradycardia may ensue once body temperature drops with delayed presentation.
Respiratory rate (per minute)	6–30/min	> 40; typically panting heavily with rates > 200
Capillary refill time (CRT) and color	1–2 s/pink	Will be < 1 s and mucous membranes will be brick red in color. As shock ensues and temperature drops, will begin to prolong to > 2 s (see below)
Arterial pulse Pressure	Systolic: 105–145 mm Hg Mean: 90–110 mm Hg Diastolic: 60–85 mm Hg	Compensatory vasodilation will cause a drop in vascular tone and a hyperdynamic or bounding pulse pressure. The two palpable arterial pulses are the femoral and dorsal pedal. If you lose both, marked hypotension is present. The femoral is stronger and maintained with moderate hypotension. Hypotension is typically a systolic of < 90 and a mean of < 70 mm Hg.
Mentation/Attitude	Alert and interactive	Progressively dull. May have difficulty following commands. Agitated and unable to initially find a position of comfort progressing to recumbency.

*During strenuous exercise, training or work, Operational K9s and sports/performance dogs routinely have rectal temperatures that range between 104–108°F. As long as they are not displaying clinical or behavioral signs of heat-related illness, these temperatures may be considered "normal" for such a dog.

4. If seizures occur:
   a. Attempt to prevent trauma to the patient during a seizure.
      i. Place clothing, towels, or any other soft material under the patient's head.
      ii. Move hazards away from the seizing patient's immediate surrounding area.
      iii. Do not put your fingers into the mouth of a seizing patient.
   b. Consider hypoglycemia as a cause and give corn syrup (eg, Karo syrup), or similar glucose substitute, if patient regains consciousness and ability to swallow. If intravenous dextrose is available, following recommendations in step 7 below.
5. Provide oxygen supplementation if available (see *Guidelines for Respiratory Distress*).
6. Transport as soon as possible.

Recommendations for medics in the setting of delayed veterinary care

1. Follow all steps outlined in First Response. If a temperature probe is available, insert as far as possible into rectum to attain closer to core temperature for monitoring purposes.
2. If patient is mentally alert and able to swallow, encourage rest, and water by mouth.
3. See *Guidelines for Fluid Therapy/Resuscitation* and follow recommendations for one of the following:
   a. Dehydration with clinical signs, but no signs of shock (category 2)
   b. Or dehydration with clinical signs of shock (category 3)
4. Airway management:
   a. Watch for signs of distress in patients with heat stroke. Pulmonary edema can occur with resuscitation.
   b. Transport as soon as possible, preferably with flow by oxygen if available. Refer to the *Respiratory Distress Guidelines* for methods of oxygen administration or intubation, if needed.
5. If patient becomes unconscious, follow *Guidelines for BLS and ALS*, as indicated
6. If seizures occur:
   a. Administer a benzodiazepine:
      i. Diazepam (0.5 mg/kg) IV or intranasal; per rectum can also be administered (1.0 mg/kg)
      ii. Midazolam (0.5 mg/kg) IV, IM or intranasal; this is not effective per rectum
         1. Note: Either drug listed above may be repeated as needed to control seizures
      iii. Lorazepam: Alternative to diazepam or midazolam: (0.2 mg/kg) IV, IM or intranasal once; this is not effective per rectum.
   b. Consider hypoglycemia as a cause and administer dextrose (see below) as a precaution if a blood glucose concentration cannot be obtained.
   c. Consider hypernatremia and hemoconcentration as a cause, especially in animals in prolonged heat without access to water.

7. Hypoglycemia or hyperglycemia can occur. Hyperglycemia need not be managed in the field but hypoglycemia must be addressed as follows:
   a. 50% dextrose (0.25–0.5 mL/kg or 0.25 grams/kg) IV bolus; dilute 1:3 with saline if possible
   b. Consider the addition of 2.5% dextrose to IV fluids at a maintenance rate of 2 mL/kg/h. Can increase to 5% if hypoglycemia persists.
   c. Human glucometers can be used to check blood glucose concentrations. The lancet can be used on the pinna, buccal mucosa, or the edge of the metacarpal/tarsal pad. Normal ranges are similar to people (3.9–6.7 mmol/L [70–120 mg/dL]).
8. The development of melena is an early marker of severe heat injury.
9. Disseminated intravascular coagulation and liver failure are possible sequelae. If any signs of bleeding are noted, a blood transfusion may be necessary.
   a. Follow recommendations for the administration of blood in the *Guidelines for Shock/Resuscitation* under recommendations for the management of hemorrhage for medics.
   b. If fresh frozen plasma is available, 20 mL/kg can be administered in lieu of whole blood if the patient is not bleeding or anemic. This can be administered over 4–6 hours, or it can be given rapidly (< 1 hour) if hypotension is present.
10. Transport as soon as possible.

Discussion

There is no consensus regarding the best method in which to reduce a patient's body temperature. In people, there is consensus that duration and degree of hyperthermia are predictors of outcome in exertional heat stroke. However, two recent systematic reviews in humans failed to identify one superior approach to core temperature reduction with respect to outcome. Their findings suggest that immersion in ice water is effective among young people, military personnel, and athletes, while those with comorbidities or altered mentation may benefit from a multimodal approach encompassing evaporation (eg, spraying with water), conduction (eg, water and cool surface or blanket), and convection (eg, fanning). There have also been no studies supporting the use of cooling based on medications, such as antipyretics or muscle relaxants. In a double-blinded, randomized clinical trial in people, dantrolene (a muscle relaxant used to treat malignant hyperthermia) was ineffective in reducing the cooling time, length of hospital stay, and mortality. It has also been shown to be ineffective in an experimental dog model of heatstroke.

In a retrospective review of heatstroke in 54 dogs, an overall mortality rate of 50% was reported. Disseminated intravascular coagulation and acute renal failure, defined as a persistent azotemia despite 24 hours of fluid therapy, were identified as risk factors for death. Hypoglycemia, seizures, obesity, and prolonged prothrombin time (PT) and activated partial thromboblastin time (aPTT) were also identified as risk factors for death. Notably, a lag time of greater than 90 minutes to hospital admission yielded a higher mortality rate, whereas survival was 100% in 6 dogs that were cooled by their owners prior to or during transit and admitted to the hospital within 90 minutes.

Further Reading

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Section 14: Burn Injury

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. Initiate BLS Treatment if indicated (See *Guidelines on BLS*) or ALS if capable and deemed appropriate (See *Guidelines on ALS*).
2. Stop the burning process. Extricate the animal from the fire or heat source or remove the heat source from the animal.
   a. If the history suggests internal heat (ie, burning tissue) may be causing further damage, cool the wound with copious amounts of tepid water.
   b. If water is not available, smother any flames with a jacket, blanket, or any other available material. Rolling the animal on the ground may also be effective.

3. Remove any items that may cause constriction, such as vests, collars, or boots. Do not pull away any items that are stuck to the animal's skin.
4. Apply a dressing in the following order of preference
   a. Dry nonadherent sterile dressings
   b. Any clean dry dressing
5. Animals with burns to > 20% of their total body surface area (TBSA) are not able to retain body heat and are extremely susceptible to hypothermia. Make every effort to preserve body temperature by applying layers of blankets over the animal.
6. Do not debride or otherwise remove any dead tissue. Do not break open any blisters. Do not wrap tightly, as constriction may result once edema begins.
   a. If blisters are broken open, apply topical antibiotic ointment, if readily available, and apply dressing as described above.
7. Caustic or acid burns:
   a. For rescuer protection, do not transport before decontamination.
   b. Remove contaminated garments and brush powders off the fur or skin before irrigating.
   c. Irrigate copiously for 15-30 minutes
   d. For chemical burns to eyes (eg, acids or alkalis) irrigate eyes copiously with normal saline (if available) for 15-30 minutes (*see Guidelines for Ocular injuries*). If saline is not available clean tap or bottled water can be used.
      i. Hold eyes open during irrigation.
      ii. Irrigate away from the unaffected eye, so that you do not flush contaminants from one eye to the other eye.
      iii. When feasible, continue to irrigate the eye during transport.
8. Electrical burns:
   a. Be aware of transmission injury from surrounding electrical hazards and or patient.
   b. Be aware that marked tissue destruction and necrosis may be present that is not readily visible. Always seek veterinary evaluation.
9. If there was heat, particulate / smoke exposure involving the face, be sure to flush both eyes with eye wash or normal saline solution and lubricate with sterile eye ointment (that does not contain any steroids) if available. One can also flush with clean tap or bottled water, if available.
10. In the setting of burn wounds secondary to fire, assume the possibility of smoke inhalation is present and refer to *Guidelines on Smoke Inhalation*. If available, flow by oxygen should be provided during transport.
11. When feasible, burned extremities should be elevated during transport to reduce the degree of swelling in the affected area(s).
12. Avoid picking up the animal at burned areas to prevent causing further tissue damage or degloving injury.
13. Airway management:
   a. Watch for signs of stridor or distress in patients with burns involving the oral cavity and face. Transport as soon as possible, preferably with flow by oxygen if available. Refer to *Guidelines for Respiratory Distress* for methods of oxygen administration.
   b. Options for medical personnel in the event that upper airway obstruction or distress occurs include: needle or surgical tracheostomy, crycothyroidotomy, or intubation (if unconscious or sedated). See *Respiratory Distress guidelines* or *Guidelines for BLS* in the event of respiratory arrest.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Continued monitoring of vital signs is required.
2. It is recommended to seek out medical personnel and pursue the recommendations for medics below if definitive care will be delayed beyond one hour; especially if affected TBSA (see below) exceeds 20%.
3. If prolonged wound care is required, consider application of aloe, unpasteurized honey, or silver sulfadiazine (not around eyes) to wounds.

Recommendations for medics in the setting of delayed veterinary care

1. Estimate the TBSA burned to the nearest 10% using the "Rule of Nines" as listed below. Example: a burn occupying the left hemithorax, left hemiabdomen, and the proximal half of the left rear leg would represent 27% (or 30%) TBSA.
   a. Each rear limb represents 18%
   b. Each forelimb represents 9%
   c. Each hemithorax represents 9%
   d. Each hemiabdomen represents 9%
   e. The head represents 9%
   f. The neck represents 1%
2. Intravenous fluid administration:
   a. A large bore intravenous catheter should be placed in a peripheral vein (two if possible). Ideally, this should not be through burned tissue, although this is appropriate if no alternative sites exist. Intraosseous administration can also be considered (see *Guidelines for Fluid Resuscitation*).
   b. Dogs: Begin administration of intravenous fluids using the "Consensus" formula: Calculate 4 mL/kg per percentage TBSA using equivalent "Rule of Nines." Half of the fluid (LRS or NS) is

given in the first 8 hours and the remaining half is given over the next 16 hours.
   c. Cats and small dogs (< 7 kg): Apply a modified version of "Consensus" formula; Calculate 2–3 mL/kg per percentage TBSA using equivalent "Rule of Nines." Half of the fluid (LRS or NS) is given in the first 8 hours and the remaining half is given over the next 16 hours.
3. Analgesia: Fentanyl or other suitable pure-mu opioid should be given in repeated small IV doses titrated to maintain effective relief of pain. See *Guidelines for Analgesia.*
4. For pediatric burn patients (< 6 months of age), check blood glucose concentration, if able, and consider supplementing dextrose. More detailed guidelines for supplementation are in the *Guidelines for Heat Exhaustion.*

Discussion

Basic cooling and wound management techniques in both animals and people have become fairly standardized. There is some discussion as to whether to use wet or dry dressings during initial care. Wet dressings are less effective than tepid/cool running water to stop the burning process, and once the burn process has been stopped they create a potential risk of hypothermia, particularly given higher TBSA wounds. Current recommendations are to apply a dry, sterile nonadherent dressing over the wound.

With regards to fluid administration, the "Consensus" formula is an aptly named approach. Although not validated in small animals, it is widely used for the human patient and is currently recommended in the veterinary field. This human and small animal cross use provides an advantage to the prehospital provider that is likely already trained and experienced in using this formula.

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Section 15: Smoke Inhalation

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

NOTE: If possible, have first responders trained in SCBA and PPE remove patient from smoke environment.

First response (< 20 minutes)

1. Follow *Guidelines for BLS* if the animal is not breathing, is bradycardic (ie, has a slow heart rate) or no detectable pulse.
2. All animals exposed to smoke should have oxygen administered whenever possible (eg, face mask, nasal prongs through muzzle, flow by). Refer to *Guidelines on Respiratory Distress*.
3. If the patient is wheezing, has stridor (high pitched or noisy breathing) or any difficulty breathing, facial burns, or carbonaceous sputum, consider a bronchodilator if skills and scope of work allow administration.
   a. See Medic Response (Step 3) below for dosages.
   b. Note: This deviates from *Guidelines for Respiratory Distress* as a first response due to presence of inhaled irritants.
4. For patients with concurrent burn injuries, cover affected areas with a dry burn sheet or sterile/clean dressing and follow Guidelines for Burn Wound Management.
5. Rapid transport to a veterinary emergency facility with 24-hour supportive care, including continuous oxygen support is paramount. The ability to ventilate and/or provide hyperbaric oxygen therapy are preferred if available.
   a. See *Guidelines for General Approach and Transport* for information regarding trauma/veterinary emergency facilities (websites).
6. Take note of elements consumed in the fire to relay potential toxin exposures to the veterinary team [eg, cyanide (nylon/silks), chorine/benzenes (plastics), carbon monoxide (wood)].

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Patients may appear asymptomatic on initial assessment but may develop significant signs up to 36-hour postexposure. Follow aforementioned protocols, including oxygen administration.

2. Continue BLS and ALS with monitoring, as needed.
3. Respiratory distress due to irritants/toxins (bronchoconstriction/wheezing) or laryngeal edema (upper airway obstruction with stridor) can develop over the course of minutes to hours. Vigilance and continued monitoring are necessary. Refer to *Guidelines for Respiratory Distress*.
   a. An advanced airway may be needed if upper airway difficulty is noted; approach is up to scope and skills of responder.
   b. Consider the administration of bronchodilators if available (see recommendations below for dosages if available).
4. Smoke inhalation is often accompanied by *burn wounds and ocular injury*. Refer to *Guidelines* for these injuries as needed.
5. If respiratory or neurologic signs persist or worsen despite supportive care, administer hydroxocobalamin IV (see Medic response below); if skills and scope of practice allow.

Recommendations for medics in the setting of delayed veterinary care

1. Follow first response guidelines above, including oxygen administration.
2. Follow *Guidelines for ALS or BLS* as indicated:
   a. An advanced airway may be needed if upper airway difficulty is noted; consider endotracheal intubation. A surgical or needle tracheotomy (midtrachea between rings) or cricothyrotomy may also be considered if intubation is not possible (see *Guidelines for Respiratory Distress* for more discussion on techniques).
   b. An increased percentage of inspired oxygen should be employed to increase removal of carboxyhemogloblin; see discussion below if employed.
      i. Up to 100% can be administered.
      ii. However, percentages above 40% should be limited to less than 6 hours unless cooximetry is available to dictate that longer therapy is required.
   c. Follow *Guidelines for Shock/Resuscitation* if signs of shock are present.
      i. Consider low dose crystalloids to avoid alveolar flooding/edema. Administer to effect. See *Guidelines for Shock/Fluid Resuscitation* (Scenario 5).
      ii. If concurrent burns are present, avoid placing a catheter through traumatized skin.
3. If respiratory effort is noted, administer a bronchodilator. Administer one of the following, in order of preference:
   a. Albuterol 1–2 puffs MDI (90 μg per activation) every 15 minutes (maximum of 3 doses) to be used with facemask and holding chamber or nebulizer.
      i. Use with difficulty breathing that is not obstructive (upper airway obstruction) in nature (Refer to *Guidelines for Respiratory Distress*).
   b. OR Terbutaline (0.01 mg/kg) IV, IM, or SC.
4. If exposure to cyanide is considered likely (eg, burning of silk, nylon, or other material) or respiratory or neurologic signs progress despite supportive care, administer hydroxocobalamin. This requires intravenous access.
   a. 150 mg/kg should be administered IV over 10–15 minutes.
      i. A 5 g vial of hydroxocobalamin for injection is reconstituted with 200 mL of diluent using the supplied sterile transfer spike. The recommended diluent is 0.9% Sodium Chloride (0.9% NaCl). Lactated Ringers and 5% Dextrose (D5W) solutions are also compatible and may be used. Following the addition of diluent to the lyophilized powder, the vial should be repeatedly inverted or rocked, not shaken, for at least 60 seconds prior to infusion.

Discussion

Two of the more common concerns with patients suffering smoke inhalation include carbon monoxide (CO) and cyanide (HCN) intoxication. In people, carbon monoxide is often cited as the most common cause of immediate deaths due to its ability to invoke a state of cerebral and myocardial hypoxia. Carbon monoxide's stronger affinity for hemoglobin (Hb) competitively displaces oxygen (O_2) from the Hb molecule resulting in the formation of carboxyhemoglobin (COHb) instead of oxyhemoglobin (O_2Hb). Increased concentrations of COHb in the blood induce an "anemic hypoxia" via the aforementioned displacement of oxygen as well as decreasing hemoglobin's ability to offload the oxygen that is bound. Currently, available pulse oximeters are unable to distinguish between COHb and O_2Hb and, therefore, overestimate arterial oxygenation (SaO_2) in patients suffering CO poisoning. Cooximetry affords direct measurement of COHb and O2Hb and is required for an accurate assessment of arterial oxygen content in these patients. Patients experiencing CO poisoning require immediate O_2 supplementation. Increasing the fraction of inspired O_2 (FiO_2) increases the arterial partial pressure of O_2 (PaO_2) and speeds the rate of CO disassociation from the Hb molecule. In patients breathing room air with a FiO2 of 21%, the half-life of COHb is approximately 250 minutes. Increasing the FiO_2 to 100% reduces the half-life of COHb to approximately 30 to 150 minutes. Hy-

perbaric oxygen therapy (HBOT) may further enhance the CO disassociation process. However, HBOT is not readily available in the prehospital environment. It may be beneficial if available at the definitive care hospital, but it is not required for treatment.

Cyanide is a major concern with fires involving wools, silks, and synthetic nitrogen-containing polymers (eg, urethanes, nylon). Unlike CO, HCN causes a "histotoxic hypoxia" or cellular hypoxia by interfering with the utilization of O_2 at the cellular mitochondrial level. The incidence of HCN toxicity subsequent to smoke inhalation for veterinary patients remains completely unknown. Similar to CO, HCN poisoning may be hard to definitively diagnose in the prehospital arena. In people, hyperlactatemia, independent of hypoxemia, has been shown to be a sensitive indicator of HCN poisoning. Lactate may be easily detected in the preshospital setting using hand-held point-of-care analyzers. Treatment for HCN also involves the administration of supplemental oxygen. In addition, administration of cyanide antidotes as soon as possible is highly recommended. In a hospital setting, cyanide antidote treatment may involve administering a combination of intravenous sodium nitrite and sodium thiosulfate. Sodium nitrite results in the formation of methemoglobin and often is not considered an appropriate treatment for patients suffering smoke inhalation as it exacerbates their already hypoxic state. In these cases, administering sodium thiosulfate alone may be considered. A safer alternative to either drug now exists with the administration of hydroxocobalamin, which should be administered first if available.

Hydroxycobalamin or HCO (a vitamin B_{12} precursor) is an alternative for the management of acute cyanide poisoning caused by smoke inhalation. It does not require the formation of methemoglobin in order to clear HCN from the body; rather HCO converts cyanide into nontoxic vitamin B_{12}, which is then renally excreted from the body. Hydroxocobalamin has been used for treating smoke inhalation in humans in other countries for nearly a decade and was approved by the Food and Drug Administration (FDA) for use in the United States in 2006. Hydroxocobalamin is available as the *"Cyanokit"* and is now carried by many first responders as their first-line therapy for treating cyanide toxicity. Hydroxycobalamin and sodium thiosulfate may be used in combination for managing acute cyanide toxicity. Although the data are limited, HCO has also been shown to be effective for treating canine patients suffering HCN poisoning.

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Section 16: Allergic Reactions and Anaphylaxis

Background

Anaphylaxis is an acute, generalized, and possibly severe allergic reaction that can be rapidly fatal. An anaphylactic (or anaphylactoid) reaction is considered a multiorgan systemic hypersensitivity with signs that can be divided into 4 major categories:

1. Cutaneous: generalized erythema (redness), urticaria, pruritus (itchy), and facial angioedema (swelling).
2. Respiratory: dyspnea, bronchospasm, stridor, tachypnea, and cough.
3. Cardiovascular (CV): pale mucous membranes with a prolonged capillary refill time, poor pulse quality, hypothermia, and a depressed to dull mentation; see *Guidelines for Shock/Resuscitation*.
4. Gastrointestinal (GI): nausea, vomiting, and diarrhea, which may be hemorrhagic.

There are multiple causes of anaphylaxis. The most common causes (allergens) are injected substances such as medications (eg, penicillins) or vaccines, venoms (eg, reptile and insect/*Hymenoptera*), and intravenous contrast materials. In people, up to 20% of anaphylactic reactions are considered idiopathic. Management is based upon severity of signs.

Recognition and treatment of anaphylaxis should occur within 20 minutes to avoid fatalities. Both dogs and cats can exhibit cutaneous signs only that do not progress, cutaneous signs with rapid progression, or

multiorgan anaphylaxis with no evidence of cutaneous manifestations. Mild systemic reactions may develop more slowly and with less severe signs. Moderate to severe reactions rapidly develop and progress. Anaphylaxis should be suspected in any patient with exposure to an allergen and rapid (< 10 min) progression of the following:

1. In dogs, cutaneous signs are most commonly seen. However, with progression clinical signs are often associated with the CV and GI systems. Respiratory signs may also develop, along with urticaria (ie, hives), pruritus (ie, itching), seizures, and anxiousness progressing to weakness and collapse. Signs include:
   a. CV: tachycardia, weakness, weak pulses, mucous membrane color changes
   b. GI: urinating, vomiting, and diarrhea that is often hemorrhagic
   c. Respiratory: increased respiratory effort, wheezes, crackles
2. In cats, respiratory and GI systems are commonly affected, but one may also see facial and head pruritus, followed by dyspnea, salivation, vomiting, incoordination, and collapse.

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

1. Contact a veterinarian for advice and seek immediate attention.
2. Place the patient in a position of comfort.
3. Check for respirations. Initiate BLS (*Refer to BLS guidelines*) if you cannot confirm respirations are present, and/or you are unsure if a pulse is present. If arrest is not readily reversible, and patient is in need of ALS, *scoop and run* and consider the following steps in transport.
4. Determine treatment based on signs (see step 5 for dosages):
   a. Cutaneous only; administer antihistamines.
   b. CV and GI; Administer epinephrine.
   c. Respiratory; Administer a bronchodilator (albuterol) and epinephrine.
5. Medications based on signs (see above):
   a. Epinephrine
      i. EpiPen Jr (0.15 mg) can be used for ≤ 20 kg patient
         EpiPen (0.3 mg) can be used for ≤ 20 kg patient
      ii. Repeat every 5–15 min for a total of three doses IF signs of anaphylaxis continue or return despite initial response to treatment
   b. H1 antihistamine (one of the following):
      i. Diphenhydramine: 2–4 mg/kg PO every 8–12 hours
      ii. Cetirizine: 0.5–1.0 mg/kg PO every 24 hours
      iii. Hydroxyzine: 2 mg/kg PO every 12 hours
   c. Bronchodilators
      i. Albuterol 1–2 puffs MDI (90 μg per activation) every 15 minutes (max of 3 doses) to be used with face and holding chamber or nebulizer.
         1. May be used in patients with continued respiratory distress that are refractory to administration of epinephrine.
         2. Use with difficulty breathing that is not obstructive (upper airway obstruction) in nature (Refer to *Guidelines for Respiratory Distress*).
         3. Caution: May potentiate epinephrine-induced arrhythmias.
6. Initiate transport as soon as possible, with BLS continued in transport if needed.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Follow all guidelines for First Response with the following exceptions.
2. ALS (*Refer to ALS guidelines*) if capable.
3. Cutaneous signs; diphenhydramine: 2–4 mg/kg IM (preferred) or SQ; alternative and preferred route to PO above if scope and skills allow.
4. CV, GI, or respiratory; epinephrine: 0.01 mg/kg (0.01 mL/kg of 1:1000 solution) IM, as alternative to EpiPen above if scope and skills allow.
5. To treat delayed or biphasic reactions; dexamethasone: 0.1–0.15 mg/kg IV or IM can be administered if scope and skills allow.

Recommendations for medics in the setting of delayed veterinary care

1. Follow all guidelines listed above.
2. Fluid Resuscitation:
   a. If signs consistent with shock are present that do not normalize with the aforementioned efforts, proceed to fluid algorithm provided in *Guidelines for Shock/Resuscitation* (Follow Category 3 – with signs of shock).
3. Check blood glucose if weak or altered level of consciousness is present. If glucose concentration is below 3.3–3.9 mmol/L [60–70 mg/dL]:
   a. Administer D50W (50% dextrose)

i. 0.5–1.0 mL/kg IV bolus every 5 minutes until hypoglycemia resolves. Ideally, this should be diluted 1:3 with saline or other crystalloid fluid.
ii. Assess blood glucose hourly for 4 hours, and then every 6–8 hours.
iii. If glucose normalizes then drops again after bolus therapy, consider supplementing intravenous fluid bag with dextrose. Administer 2–4 mL/kg/h of lactated ringers solution or normal saline with 2.5% dextrose (50 mL of 50% dextrose into a 1 L bag after removing 50 mL of volume).

Discussion

The use of epinephrine as the primary drug of choice in anaphylactic patients experiencing CV, GI, or respiratory signs is generally undisputed. However, some debate remains around the effectiveness of anti-histamines. Regardless, clinical recommendations continue to advocate the use of antihistamines, alone or combined, as they may relieve cutaneous signs and symptoms, reduce gastric acid, improve cardiac function, and assist in calming the animal, with little risk. Although evidence based dosage recommendations for the use of antihistamines in dogs and cats are lacking, diphenhydramine, hydroxyzine, and cetirizine are most commonly recommended.

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Section 17: Poisoning Guidelines

Background

This guideline addresses primarily operational canine (eg, Police K9, military Working Dog [MWD]), exposure to a potentially toxic material. The following routes of exposure will be considered in this guideline:

1. *Oral exposure* occurs when the agent is ingested. Chemical agents that contaminate food and drink can be absorbed through the gastrointestinal tract.
2. *Dermal exposure* where the agent is in contact with the fur or skin. Mixed dermal and oral exposure can occur since dogs will often groom their fur resulting in ingestion of the chemical. Dermal absorption of a chemical can vary. In general, wounds or abrasions are presumed to be more susceptible to chemical absorption than the intact skin. Additional factors that affect absorption include occlusion of contaminated skin and warm and moist environments.
3. *Inhalation exposure*. When inhaled, gases, vapors, and aerosols may be absorbed by the respiratory tract. Absorption may occur through the mucosa of the upper and lower airway to include the nose, mouth, throat, or the alveoli of the lungs. Depending on the chemical, dermal exposure is also likely to occur.
4. *Ocular exposure* from fumes, liquids, particulate matter, and corrosive agents carries the main medical concern of inciting moderate to severe corneal injury. Severe corneal injury may result in blindness that could end the career of some operational canines. From an operational standpoint, ocular exposure may cause local irritation and discomfort as well as conjunctivitis that may interfere with the canine's ability to work effectively. Please refer to the *Guidelines on Ocular Injury*.
5. Liquid droplets and solid particles can be absorbed by the surface of the skin, eyes, and mucous membranes.

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First response (< 20 minutes)

Immediate transport is always considered the preferred course of action for personal pets and operational or service dogs < 20 minutes from veterinary care (eg, "*Scoop and Run*").

1. If toxicity is suspected or known, proceed to the nearest veterinary emergency facility.
2. *Exceptions:*
   a. If dog/pet is otherwise stable and exposure is dermal, consider decontamination prior to transport (see Dermal Exposure below).
   b. Ocular exposures, especially when corrosive injury may occur, should involve timely flushing of the eyes for 10–15 minutes prior to seeking veterinary attention (see *Guidelines on Ocular Injury*.)

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training)

1. Consultation with a veterinary toxicologist is highly recommended. If definitive care will be delayed beyond 20 minutes, it is advisable to contact an animal poison control center for advice prior to or during transport. A fee is often charged but may be waived for service and OpK9s. Options for consideration, in alphabetical order:
   a. Animal Poison Control Center (ASPCA) at (888) 426-4435
   b. Pet Poison Helpline at (800) 213-6680

Recommendations for medics in the setting of delayed veterinary care

These guidelines are provided for first responders and advanced medics in the setting of delayed veterinary care. This is most likely to occur with operational canines that are owned by the personnel administering the care; hence, permission to take action is inherent.

1. It is advisable to contact an animal poison control center for advice prior to or during transport (See Delayed Veterinary Care above). Specific items to note are dependent upon type of exposure. This information will aid in identification (if unknown) and treatment.
2. **Prevent ongoing human and animal exposure**
   a. Wear proper Body Substance Isolation (BSI) and personal protection equipment (PPE) when handling exposed animals, animal waste, or bodily fluids. May require:
      i. Respiratory protection;
      ii. Protective eye wear or face shield;
      iii. Wear proper gloves and outer protective garments. Certain chemicals can rapidly penetrate ordinary clothing.
   b. Food and equipment including leather leashes and collars and leather or plastic muzzles are subject to surface contamination and may be difficult to decontaminate.
      i. Avoid surface contamination of medical and other equipment.
      ii. Expert advice regarding proper surface decontamination methods may be needed. If available, consult the on-site toxicologist or decontamination/disaster management team.
3. **Limit or prevent exposure to operational canines for handlers**:
   a. Prevent dermal exposure by considering:
      i. K9 booties
         1. some canines do not tolerate these
         2. may compromise footing
         3. may frequently fall off
      ii. Protective eyewear for dogs
      iii. Bathing and rinsing off hair coat frequently. Disposable wipes may also be used.
      iv. Flushing eyes on a regular basis
      v. Light-weight, plastic canine poncho
   b. Do not let the dog drink any ground water or ingest any foreign material from the scene site. If your dog has been exposed to a hazard:
      i. Keep the dog isolated and quiet.
      ii. Do not let the dog shake, lick its fur or feet, or scratch.
4. **First aid (human victims)**
   a. This may be especially important during chemical mass casualty situations. Examples of scenarios where this may occur include:
      i. Terrorist actions with chemical agents or industrial chemicals.
      ii. Industrial fires where chemicals are stored.
      iii. Large-scale leakage from chemical storage vessels (eg, maritime accidents, train derailments).
      iv. Use of riot control agents.
      v. Smoke inhalation exposures from household or industrial fires.
   b. Self-aid measures include individual decontamination and assumption of the appropriate personnel protection equipment. **Protect yourself first** then consider buddy aid, which may include an operational canine.
   c. Buddy aid consists of emergency actions to restore or maintain vital body functions in a patient who cannot administer self-aid. Mental confusion, muscular incoordination, physical collapse, unconsciousness, and cessation of breathing may occur so rapidly that the individual is incapable of providing self-aid. Dependent on clinical signs and symptoms, the toxicant, skill level, and scope of practice, trained EMTs and other individuals may need to:
      i. Establish a patent airway and ventilate
         1. Administer supplemental oxygen.

2. Treat bronchoconstriction with bronchodilators in the case of bronchospasm or reactive airways.
ii. Start IV infusions for control of shock.
iii. Enforce rest to reduce exertion. This may be especially important following inhalation of certain chemicals.
iv. Administer anticonvulsants (eg, valium).
v. Administer atropine (eg, following exposure to nerve gas agents, organophosphate, or carbamate insecticides).

5. **Assess chemical exposure**
a. Evidence of exposure
i. Direct observation that an exposure occurred.
ii. Indirect evidence of chemical exposure.
1. *Odor*. Some agents have odors, which may aid in their detection and identification. May impart an odor to the skin or fur. Many chemicals are essentially odorless.
2. *Discoloration* to the skin or fur.
3. Foreign material observed in vomitus, feces, or gastrointestinal contents.
b. Note clinical signs/exam findings and progression from initial onset/exposure. The duration and rapidity of clinical signs should also be recorded.
i. Inhalation
1. Inhalation of irritant gases, vapors, and other inhalation hazards is often marked by dyspnea (ie, shortness of breath), coughing, and changes in respiratory rate, effort, or quality.
2. Crackles and abnormal lung sounds and a decrease in arterial oxygen saturation may occur but are often present later in the course of disease.
ii. Dermal
1. Presence of chemical odor or discoloration to the skin or fur.
2. Evidence of dermal irritation (eg, scratching, rubbing).
3. Evidence of erythema (ie, redness), skin edema, skin blistering.
iii. Oral exposure
1. Clinical signs can vary depending upon the agent but may include vomiting, abdominal pain, or diarrhea.
iv. Ocular
1. Scratching at or rubbing at the eye; excessive tearing; squinting; hyperemic sclera (ie, red eye); red, inflamed conjunctiva; chemosis; blepharoedema (ie, swollen eyelids); blepharospasm (ie, eye twitching).
c. Identify agent
i. Identification of the chemical agent will assist in the treatment of chemical toxicities.
ii. **Do not** delay treatment of life-threatening conditions or toxicosis for the sole reason of trying to confirm the toxic agent involved (*"Treat the patient, not the poison").*

6. **Emergency medical management** (Airway, Breathing, Circulation, Disability, or ABCDs)
a. Airway/Breathing (Refer to *Guidelines for Respiratory Distress*)
i. Unconscious animals without obstruction of the airway or conscious animals with respiratory distress/effort should be transported on oxygen when possible.
ii. Ensure neck is extended (not kinked/flexed) and deliver oxygen by facemask at 3–8 L/min. If conscious, some animals will not tolerate the rubber diaphragm around the mask. In this case, remove the diaphragm or use any flow-by that will be tolerated.
iii. If the airway appears obstructed and the animal is stuporous or unconscious, attempt to the clear the airway (See *Guidelines for Respiratory Distress*) and consider intubation and inflation of low pressure cuff. If spontaneous ventilation is present, oxygen can be flowed by the front of the tube to increase the amount of inspired oxygen.
iv. If the animal is not breathing, intubation, and assisted ventilation should be delivered via Ambu-bag at 8–12 breaths per minute. Refer to *Guidelines on BLS*.
b. Circulation/shock (See *Guidelines for Fluid Resuscitation*)
i. A 16–18 Ga catheter can be placed in the cephalic or lateral saphenous vein. If stuporous or unconscious, an intraosseous (IO) catheter can be placed in the humeral head or medial tibial crest.
ii. Fluid resuscitation
1. See *Guidelines for Fluid Resuscitation*.
iii. If cardiac arrest is present, follow *Guidelines for BLS and ALS* and deliver thoracic compressions (lateral recumbency; widest portion of thorax; typically the 8–10th rib space) at a rate of 100–120 compressions per minute.
c. Neurologic/seizures
i. In the event of a seizure:
1. With IV or IO access, administer diazepam or midazolam (0.5 mg/kg). Consider lorazepam (0.2 mg/kg) if aforementioned are not available.
2. Without vascular access, consider the following routes:

a. IM: Midazolam (0.5 mg/kg)
b. Intranasal: Diazepam or midazolam (0.5 mg/kg), lorazepam (0.2 mg/kg).
c. Per rectum: Diazepam 1–2 mg/kg.

ii. If recumbent, keep head, and neck aligned in a neutral position and elevated at 15–30°.
iii. Avoid jugular compressions or kinking the neck.

7. **Medical management of oral exposure**
   a. Corrosive ingestion including acids (eg, muriatic [hydrochloric] acid) or bases (eg, bleaches). Other examples of acids and alkalis include: Lye, concentrated hydroxide, drain cleaners, electric dish washing detergents, and batteries.
      i. Dilute with ingestion of milk or water. May require flushing the mouth for 15–20 minutes with tepid water.
      ii. Gastrointestinal protectants (eg, sucralfate) and demulcents (eg, milk, egg white, kaolin-pectin) may help protect from mucosal damage if administered shortly after exposure.
      iii. Neutralization of the corrosive with vinegar, sodium bicarbonate are contraindicated since thermal injury may occur.
      iv. Do not induce vomiting.
   b. Petroleum distillate (eg, kerosene, diesel) or volatile hydrocarbon (eg, lighter fluid, mineral seal oil) ingestion. This also applies when these chemicals are used as solvents used with certain pesticides, cleaning products, and other agents.
      i. These volatile liquids can cause pneumonia if aspirated or inhaled. The signs of petroleum distillate toxicity include vomiting, difficulty of breathing, tremors, convulsions, and coma. Death is by respiratory failure.
         1. Provide supplemental oxygen
      ii. Do not induce vomiting unless under the advice of a veterinarian
   c. Other ingested chemicals (ie, noncorrosive or petroleum distillate based). If asymptomatic, consider administration of an emetic to induce vomiting and administration of medical-grade activated charcoal (often with a cathartic) to decrease gastrointestinal absorption of the chemical.
      i. Indications
         1. Emetics
            a. Recent exposure within 1–2 hours of ingestion
            b. Asymptomatic animal
            c. Toxic dose ingested
         2. Activated charcoal
            a. Recent (< 2 to 6 h) ingestion
            b. Toxic dose ingested
            c. Binds activated charcoal
         3. Cathartic (eg, sorbitol, magnesium sulfate)
            a. Agents combined with activated charcoal to accelerate clearance of gastrointestinal contents
            b. Give once; usually combined with first administration of charcoal
         4. Cholestyramine
            a. Prevents enterohepatic recirculation of bile acids and associated bound substances
            b. Limited veterinary experience
      ii. Contraindications
         1. Emetics
            a. Chemical agent's (product) label instructions state: "Do not induce vomiting."
            b. Symptomatic animal. Do not administer if the animal is severely depressed, comatose, unable to swallow, or experiencing seizures.
            c. Previous episode of vomiting.
            d. Ingestion of a corrosive/caustic chemical, petroleum distillate, or hydrocarbon.
         2. Activated charcoal
            a. Same contraindications as listed for emetics
            b. Dehydration/hypovolemic shock
            c. Avoid in patients with excessive free water loss
            d. Gastric or intestinal obstruction
            e. Does not bind to activated charcoal (eg, certain metals, aliphatic alcohols and other low molecular weight chemicals)
            f. Hypernatremia
         3. Cathartic
            a. Agents that affect renal function
            b. Ingestion of a chemical with cathartic effects
            c. Presence of dehydration or hypovolemia
            d. Patients with excessive free water loss
         4. Cholestyramine
            a. Presence of dehydration or hypovolemia
            b. Patients with excessive free water loss
      iii. Emetics and their doses (in order of preference)
         1. Apomorphine: 0.03 mg/kg IV or 0.04 mg/kg IM, or eye drops if available (follow label instructions).
         2. 3% hydrogen peroxide: 1–2 mL/kg PO once, repeat 5–10 minutes later if no emesis. Not to exceed 50–150 mL per dog.

3. Emetic efficacy
    a. Vomiting will generally occur within 10–20 minutes after administration of these drugs.
    b. Repeated episodes of vomiting (2 or more) are also common.
    c. Often removes approximately 40–60% of the stomach contents. Repeated administration of emetics is unlikely to increase recovery rates.

iv. Activated charcoal administration
1. Administer orally at 1–4 g activated charcoal/kg. Consider repeat administration every 4–6 hours for 1 or 2 days (consult poison control).
    a. Repeated dosages are typically smaller in volume (lower end of dose) for patient compliance.
    b. Often formulated as a slurry (suspension) with 5–10 mL water per gram of activated charcoal.
2. Premixed products with and without a cathartic for veterinary use are available (eg, ToxiBan).
    a. ToxiBan dose is 10–20 mL/kg
    b. Only use products containing cathartics for the initial treatment. Repeated treatments of activated charcoal combined with a cathartic may lead to excessive free water loss and clinically significant hypernatremia.

v. Cholestyramine
1. Oral administration of cholestyramine: 0.3–1 g/kg every 8 hours.

8. **Medical management of dermal exposure**
a. Skin decontamination serves two purposes: It prevents the animal's system from absorbing additional contaminants. It also protects medical personnel treating the animal and equipment and supplies from surface contamination.
b. Keep the dog isolated from other people and animals. Prevent the dog from licking or scratching at its skin or rubbing at it eyes.
c. Utilize on-site decontamination stations whenever available.
d. Bathe skin with a mild detergent (degreasing) shampoo (eg, Dawn dishwashing soap) when possible. Alternatively, flush area with lukewarm water for 20 minutes.
    i. Avoid use of detergents containing insecticides
e. Moist disposable wipes may be used to clean around the eyes, nares, and mouth.
f. Flush the animal's eyes with saline solution and apply eye ointment/lubricant (NO steroids).
g. Consider clipping fur that is matted with or will not wash clean of toxic residue (eg, tars).
h. Once decontaminated, reexamine the dog for any remaining contaminates. If still contaminated repeat the cleaning process.
i. Once fully decontaminated, dry the dog off to prevent hypothermia.
j. If less than 20 minutes from definitive care, transport at this time.
k. Consider administering activated charcoal if oral exposure through grooming may have occurred (see Oral Exposure above).
l. Specialized approaches to skin decontamination are needed for management of skin exposure to certain chemical agents including nerve agents, blistering agents, vessicants. Seek advice of a veterinarian or on-site toxicologist or decontamination team.
m. Decontaminate or dispose of the dog's gear and equipment.

9. **Medical management of inhalation exposure**
a. Reminder: Protect and treat yourself first. Don PPE prior to entering the scene, and perform self-decontamination as appropriate.
b. Pending the hazard, do not enter the scene without appropriate respiratory protection (eg, self-contained breathing apparatus, air-purifying respirator).
c. Always approach upwind of the exposure.
d. Suggested measures include:
    i. Remove patient from exposure source. Whenever possible take care to move upwind and into fresh air.
    ii. Remove any restrictive materials/collars, vests, muzzles etc.
        1. Be aware of the toxic agent off-gassing from the canine.
    iii. Administer oxygen. Hypoxemia may be controlled by supplemental oxygen given by flow-by, oxygen mask, or in an unconscious animal via an endotracheal tube. See *Guidelines for Respiratory Distress*.
    iv. Depending on the hazard (eg, ocular irritant), flush the animal's eyes with saline solution or sterile water for 10–15 minutes and apply eye ointment/lubricant (no steroids).
    v. Rest and warmth. An animal with potentially significant unprotected exposure to a lung-damaging agent should be kept at rest until the danger of pulmonary edema has passed, if the situation permits.
    vi. Monitor for progression of clinical signs.

e. Measures with restricted application (Refer to *Guidelines on Respiratory Distress* for options and dosages):
   i. Sedation should be sparingly used, unless the toxicant is causing upper airway obstruction, which requires sedation. If used, ensure adequate oxygen is available and facilities for possible respiratory assistance are available.
   ii. Bronchodilators (eg, albuterol) may be warranted if signs of bronchospasm, such are wheezing, are apparent.
   iii. Steroids may be useful for treatment of some chemical injury and may lessen the severity of chemical-induced pulmonary edema or upper airway edema. Steroid administration should be performed on advice of a veterinarian.

10. **Emergency information**
   a. An animal poison control center is usually your best resource for additional information because it is staffed by veterinarians trained in the diagnosis and management of animal poisonings. Centers include:
      i. The ASPCA Animal Poison Control Center in Urbana, IL, charges a consultation fee that may be paid by credit card. They may be reached at **(888) 426-4435**. Their website has additional information and is located at: www.aspca.org/pet-care/animal-poison-control.
      ii. The Pet Poison Helpline, which is located in Bloomington, MN and is a service of Safety-Call International, PLLC, charges a consultation fee that may be paid by credit card. They may be reached at **(800) 213-6680**. Their website has additional information and is located at: http://www.petpoisonhelpline.com/.

Discussion

Significant uncertainty remains regarding the efficacy of activated charcoal and other adsorbents (eg, cholestyramine) in the management of exposed people and animals. Systematic reviews of the literature often fail to demonstrate any benefit associated with their use despite promising in vitro binding studies or in vivo data indicating reduced chemical absorption. These inconsistent results may reflect delays in the administration of activated charcoal or oral exposures that result in significant residual free chemical available for gastrointestinal absorption. Despite these concerns, activated charcoal remains a mainstay treatment for the management of acute (< 1–2 hours) ingestion of many toxic agents.

Further Reading

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Section 18: Ocular Injury

Background

Ophthalmic injuries occur commonly in the field, both in companion animals and working dogs. Ocular trauma should be treated particularly seriously, as open wounds from penetrating injuries can rapidly lead to sight-threatening infections.

Terminology: **Injuries to eye may be described as**

1. *Closed globe injuries*—the eye wall is intact (eg, corneal ulcer; ocular surface foreign body).
2. *Open globe injuries*—the eye wall (cornea or sclera) has been breached. Open injuries arise either from a penetrating object or from a blunt injury severe enough to cause rupture of the globe. Open globe injuries may be called a penetrating injury, perforating injury, or ruptured globe.
3. An *intraocular foreign body (FB)* is a type of penetrating injury where a penetrating object remains in the eye.

Focused ocular assessment

The animal should be initially assessed for any threats to life. If none are present (airway, breathing, circulatory) and ocular injury is the primary concern, a more focused assessment can be performed. If threat to life is present, refer to the appropriate *Guidelines* and consider a more focused ocular assessment in transit or defer to definitive care.

A detailed and accurate history is important to determine the approximate time of injury and the potential underlying mechanism of injury (MOI) that led to the ocular trauma. Trauma-related MOIs may be defined as blunt or penetrating and low versus high-velocity impacts. It will be important to quickly determine whether or not the dog sustained a high-velocity injury with

increased the risk for open globe trauma (eg, *dog was near power tools, lawn equipment, sports activities [eg, golf, baseball], glass, explosion*). Further defining characteristics for MOIs to consider include physical, chemical, and thermal properties, nature and size of object, and the possibility of a foreign body (on the surface or penetrating).

Review of an ocular examination

1. NOTE: If there are signs of an **open globe (penetrating) injury**, stop the examination and see "Open globe (penetrating) eye injuries" section, below. DO NOT manipulate the eye or apply any pressure to the globe. Do not measure the intraocular pressure.
   a. Examination findings suggesting a possible **open globe injury** are: history of sharp/high-velocity injury; deep eyelid laceration; distorted globe; subconjunctival hemorrhage; conjunctival laceration (may be subtle); black protruding uveal tissue; distorted iris or pupil; teardrop-shaped pupil; hyphema (blood pooled in eye); ocular hypotony; shallow anterior chamber; positive Seidel's test (see "Seidel's test," below).
2. Examination of the eye should be performed from front to back using the following systematic approach:
   a. Consider placing a single drop of topical anesthetic (1% Proparacaine HCl) into the eye if the dog cannot open their eyes because of pain—do not force open a painful, blepharospastic eye. Note: The degree of pain or visual impairment in ocular trauma does not necessarily correlate with the seriousness of the injury.
   b. *Orbit and eyelids*: evaluate for lacerations, subcutaneous, or subconjunctival emphysema, bruising, deformity of the orbital rim (orbital fractures)
   c. *Conjunctiva*: evaluated for hemorrhage and lacerations (small lacerations can be subtle and can indicate an open globe injury).
   d. *Cornea*: lacerations may be small and missed. One can perform a Seidel's test first (to assess for leakage from the cornea) and then assess for corneal abrasion with dilute fluorescein. Use of fluoroscein would only apply to delayed care by a medic, if scope of work and supplies allow.
      i. *Seidel test:*
         1. Apply a slightly moistened fluorescein strip directly to the suspicious cornea area creating an orange deposit of concentrated fluorescein.
         2. Do not allow the dog to blink.
         3. *Positive test*: A stream of fluid will be seen in the pool of dye. This indicates that aqueous fluid leaking through the corneal defect is diluting the orange fluorescein.
         4. A positive Seidel's test warrants treatment as an **open globe injury.**
   e. *Anterior chamber*: evaluate for depth of the chamber (compare to opposite eye, if possible) and presence of hyphema.
   f. *Iris and pupils*: evaluate for shape, size, symmetry to the opposite pupil, and direct and consensual pupillary light reflexes. Any pupil or iris damage is a serious sign of ocular trauma.
   g. *Lens*: evaluate for location of the lens (should be behind pupil), ability to see edge of lens (never is this normal—indicates luxation or subluxation), or opacity.
   h. *Cataract* – acute development may indicate a penetrating injury.
   i. *Ocular fundus*: a loss of tapetal reflex (bright/iridescent reflection when light is shone through pupil) could be due to opacification of the ocular media (eg, cataract, blood in vitreous) or a retinal detachment.
   j. Ideally, intraocular pressure should also be assessed unless you suspect an open globe injury. Use of a tonometer to assess pressure would only apply to delayed care by an advanced medic, if scope of work and supplies allow.
3. Ocular examination findings that would suggest serious symptoms and need for immediate care:
   a. Reduced or lack of menace response (vision loss).
   b. Pain unrelieved by local anesthetic drops.
   c. Deep eyelid laceration—possible undiagnosed underlying globe injury.
   d. Subconjunctival hemorrhage or laceration: possible globe penetration.
   e. Any pupil, iris, or fundus abnormality.
   f. A positive Seidel's test—indicates penetration of the cornea, that is open globe injury.
   g. Abnormalities of eye movements or position (excessive protrusion or recession of eye): proptosis, exophthalmos, or enophthalmos.
   h. Chemical or thermal burn of the eyelid or cornea.
   i. Intraocular penetrating foreign material—known or suspected (if a high-velocity injury, this must be excluded).
   j. Corneal foreign body that cannot be removed by gentle saline irrigation.

General precautions (see general approach to prehospital trauma)

Ensure in all scenarios that the **scene is safe** before approaching the patient, **personal protective equipment (PPE)** is used if needed, and the **animal is properly restrained**, including a muzzle if necessary (see exceptions).

First Response (< 20 minutes) (See Figure 7):

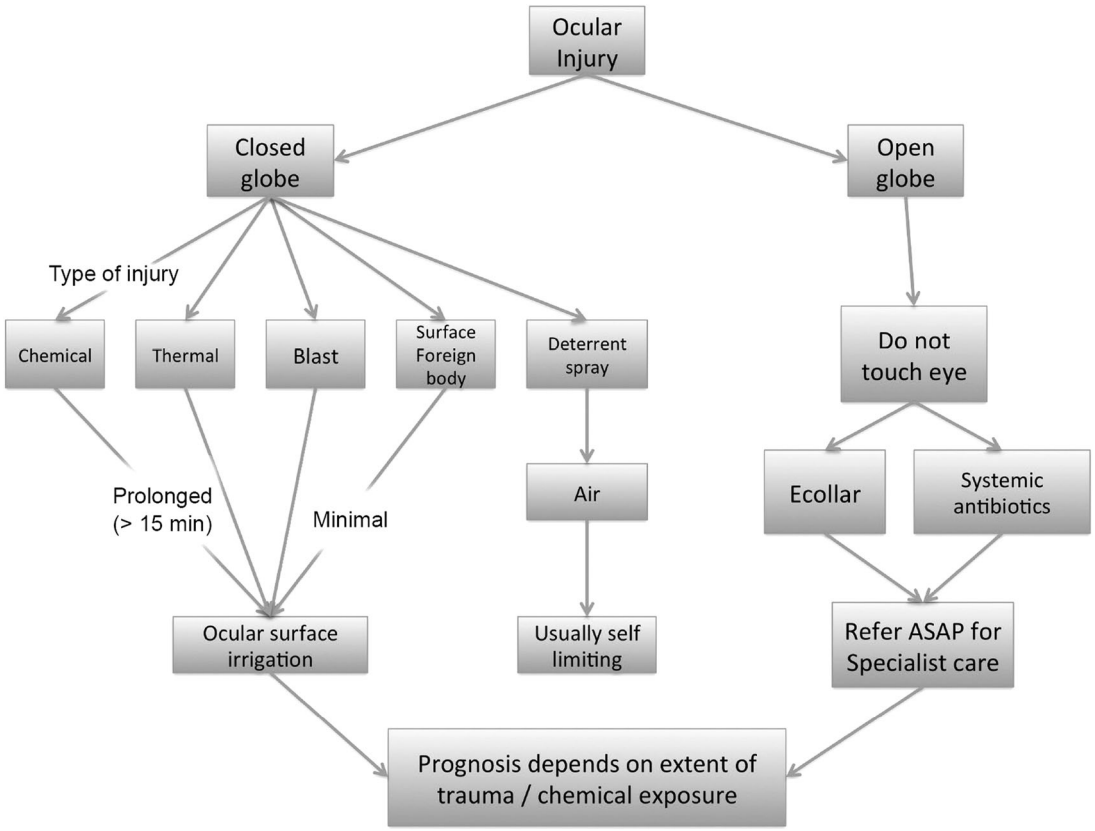

Figure 7: Algorithm depicting the approach to ocular injury in the canine or feline.

1. Assess ABCDs and stabilize any threats to life; see *Guidelines for each scenario*.
2. **Chemical injuries**
   a. Chemical injuries develop after ocular surface exposure to an alkali or acid substance. Alkali burns are more serious, as they may result in a deep or penetrating eye injury. Examples: Acids—sulfuric, sulfurous, hydrofluoric, acetic, chromic, and hydrochloric. Alkalis—ammonia, sodium hydroxide, and lime.
      i. Copious irrigation for 15–30 minutes using normal saline—evert the lids to irrigate out any trapped particulate matter. If saline or eye irrigation solution is not available, clean tap or bottled water can be used.
      ii. Topical anesthetic can be applied every 5 minutes to help keep the eye open; if scope of practice/work allows.
3. **Thermal injuries**
   a. Thermal injuries to the eye generally occur as a result of exposure to scalding liquid, hot objects, direct flame (eg, fire place; house fire), or rarely from an explosive blast. Usually, the injury is to the surrounding adnexal structures (ie, periocular skin, eyelid, eyelashes) and only rarely is the cornea and conjunctiva affected. Determining the source of the heat injury is important to determine prognosis because hot oils and greases are more adherent and subsequently result in deeper thermal injury.
      i. Remove the dog from the source of thermal injury (refer to *Guidelines for Burns*).
      ii. Irrigate the eye with normal saline or clean tap or bottled water for 15 minutes followed by application of cold compresses (decrease thermal injury and help to relieve discomfort).
4. **Open globe (penetrating) eye injuries**
   a. An open globe occurs after the injury penetrates the cornea or sclera.
      i. Do not touch or manipulate the eye or eyelids.
      ii. Do not remove foreign bodies if present; this could cause prolapse of eye contents.
      iii. If an Elizabethan (E) collar is present, put it on the dog to prevent further self-trauma. Alternatively, hold the dog's legs during transport to prevent scratching.
5. **Ocular or intraocular foreign bodies**
   a. Foreign bodies (FB) become lodged on the surface or penetrate the globe from sharp or from

high-velocity injures. Intraocular FB must always be excluded in high velocity eye injuries or where the cause/history of injury is unclear. Organic ocular FBs (eg, plant material, tissue, insects) are usually poorly tolerated by the eye and result in high rates of infection. Metals such as copper and iron are highly inflammatory. Inert materials such as glass or high-grade plastic cause severe injuries but are relatively well tolerated by the eye (ie, no secondary inflammation).

i. If a FB is located on the corneal surface (or surface of the eye), very gentle irrigation with saline, preferably, or clean tap water may be performed to irrigate the FB out of the eye.
ii. If the saline does not remove the FB or if you believe the FB is penetrated into the eye (ie, intraocular), DO NOT attempt to remove it—this could cause leakage of aqueous humor (fluid in eye).
iii. Place an E collar, if available, or restrain the dog to prevent pawing, rubbing, or movement of the eye and associated foreign material.

b. Most lodged FBs require surgical removal—this should be done as soon as possible to prevent further inflammation, ocular damage, and infection.
c. Transport as soon as possible

6. **Deterrent spray (eg, CS gas, tear gas, mace, pepper spray) injuries**
   a. Deterrent sprays produces ocular irritation that usually lasts 15–30 minutes, though it can be prolonged (up to 3 days). Injuries can also result from the mechanical force or powder involved when the spray is used at close range. Clinical signs are most commonly severe blepharospasm, lacrimation, and conjunctival swelling. Pepper spray contains oleoresin capsicum and may result in corneal ulcers.
      i. Expose animal to fresh air. Blowing dry, cool air with a fan across the dog's eyes may help to vaporize the gases faster.
      ii. If no improvement or with pepper spray, use irrigation as described above for chemical injuries.
7. **Blast (bomb) injuries**
   a. Most blast injuries to the eye are caused by rapidly accelerated sharp particles (glass, bomb metal fragments, wood, concrete, other) and cause both sharp and blunt trauma resulting in a laceration of the eyelids or rupture of the cornea or sclera. Usually both eyes are affected. Injuries may range from minor corneal ulcers and foreign bodies to extensive eyelid lacerations, open globe injuries, intraocular FB, or orbital fractures. Blunt trauma may result in nonpenetrating injuries including cataract, hyphema, vitreous hemorrhage, retinal detachment, and optic nerve injuries.
      i. After a blast injury to the eyes, assume there is an **open globe** and manage as described above. Use only minimal irrigation and do not put pressure on the eye.

Recommendations for responders in the setting of delayed veterinary care (assumes minimal to no medical training) (see Figure 7)

1. Follow all recommendations listed under First Response with minor categorical additions as noted below.
2. **Chemical injuries**
   a. When irrigating, one can check pH of the ocular surface (litmus paper IF available) every 5 minutes and continue irrigation until pH has returned to 7.4.
3. **Thermal injuries**
   a. Thermal injuries are painful. Refer to *Guidelines for Analgesia* for guidance on proper pain-relieving medications to administer.
4. **Deterrent spray**
   a. Wash the head and neck to remove residual spray material to prevent further irritation.

Recommendations for medics in the setting of delayed veterinary care (see Figure 7)

1. Follow the above recommendations cited above under First and Delayed Response with minor categorical additions as noted below:
2. **Chemical injuries**
   a. Consider treating corneal ulceration and secondary uveitis with:
      i. Topical oxytetracyline or available antibiotic drops (one drop every 30 minutes).
      ii. Cycloplegics (1% atropine or tropicamide (HCl) (one drop).
      iii. Oral antibiotics (dependent upon availability) (eg, amoxicillin/clavulanic acid (14 mg/kg body weight PO every 12 hours).
      iv. Analgesics (see *Guidelines on Analgesia*).
3. **Thermal injuries**
   a. Apply topical antibiotic drops (Topical oxytetracyline or available antibiotic drops (one drop every 30 minutes).
   b. Apply topical atropine (once).
4. **Open globe (penetrating) eye injuries**
   a. Administer oral antibiotics, dependent upon availability (eg, amoxicillin/clavulanic acid (14 mg/kg

body weight PO every 12 hours) to prevent secondary infections.

b. Avoid touching the eye.

5. **Ocular or intraocular foreign bodies**
   a. If sedation and analgesics are available, one can use further precautions to ensure the FB does not move or cause further damage. See *Guidelines on Analgesia* for recommendations regarding sedation and analgesia.
   b. While sedated, stabilize the foreign body in place:
      i. Form a doughnut ring made out of 2-inch role gauze.
      ii. As you make the ring, adjust the size of the inner diameter to fit around the eye.
      iii. Place the ring around the object without bumping the object.
      iv. Secure the gauze doughnut to the eye using roll gauze bandaged around the head.
      v. Cover the uninjured eye to prevent eye movement that would cause the injured eye to move as well.

Further Reading

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January 29, 2018

California Board of Veterinary Medicine
1747 N Market Blvd #230
Sacramento, CA 95834

Via email

Distinguished Members of the Board:

I am a small animal veterinarian from San Diego, currently licensed to practice in Colorado, Texas, and Pennsylvania. I moved to California in July of 2017, and have been attempting to attain licensure here since October. This has not been straightforward, and as of this writing I still do not have a California veterinary license. Here is my story.

I graduated from Colorado State University's College of Veterinary Medicine and Biomedical Sciences in 2007. After graduation I entered small animal practice in Fort Collins, Colorado, and worked full time at the same clinic for nearly seven years, logging over 20,000 hours engaged in the provision of routine and emergency medical care, soft tissue and orthopedic surgery, chronic disease management, acupuncture, dentistry, and preventive care to thousands of patients. During that time I also served as an adjunct faculty member at CSU, teaching communication skills and compassion fatigue management to veterinary students, served one three-year term on CSU's veterinary school admissions committee, served as a member of the board of directors for the Fort Collins Cat Rescue (the largest feline rescue in Colorado) for four years, hosted and participated in multiple feral cat TNR events, volunteered as a surgeon for Animal House Dog Rescue, and wrote a bi-weekly column in The Fort Collins Coloradoan, our local newspaper, about dog and cat care and medical issues.

I loved practice, as well as my clients and patients, but my husband and I longed to give our son a broader cultural world view, so in the summer of 2014, we went to live for three years in Mexico. During our first year there, I volunteered every week in our town's local dog shelter, doing surgeries and providing patient care in difficult conditions and with minimal supplies and equipment. In year two of our time there, I accepted the role of Chief Veterinarian for the start-up company PetCoach, managing a global community of over one hundred licensed veterinarians offering advice to nearly half a million pet parents around the world regarding a large variety of medical, training, nutritional, and behavioral issues.

In 2017, Petco bought our little start-up company, and thus I find myself in the state of California. Additionally, I find myself in the state of being unable to attain licensure through any of the normal mechanisms afforded by California to veterinarians who are already licensed in other states, as I have not "within three years immediately preceding filing an application for licensure in this state, … practiced clinical veterinary medicine for a minimum of two years and completed a minimum of 2,944 hours of clinical practice" (BPC 4848(b)1)).

When, in the process of attempting to obtain a license, I discovered this provision of the California state law, I was obviously dismayed. How can seven years of practice, along with everything else I have done in and for veterinary medicine, not count towards the provision of reciprocity, in the eyes of this state? Am I somehow not qualified, or not competent, because I did not work full time as a clinical veterinarian for three years?

While I can appreciate the Board's desire to prevent those with suboptimal skills from obtaining licensure in California, I cannot understand why it apparently will not consider exceptions to this provision. I know with certainty that other states do this, as I obtained a Pennsylvania license by supplying that state's board with letters from colleagues who could attest to my proficiency and experience as a medical practitioner.

Furthermore, it begs the question: what does California consider "clinical veterinary medicine"? Is 2,944 hours of nothing but at-home euthanasia in two of the previous three years adequate? Does working at only vaccination clinics for that time qualify someone to step immediately into a "regular" clinic job? If I had worked as a dairy vet for my entire career, would you give me a reciprocal license that I could then immediately turn around and use to open my own clinic treating birds and exotic species? The answer in all three cases is yes, you likely would. Yet you will not grant reciprocity to me, despite my experience.

So now the only path to licensure that is open to me is that which is used by new graduates, which means that I must take and pass the California-specific board exam (done) and also the NAVLE, which I of course have done, and like all veterinary students, believed at the time it would be "the last test." In an almost comical (at this point) turn of events, I was informed by CBVM staff in December that because I passed the NAVLE more than five years before I took and passed the California exam, those scores are no longer considered valid for purposes of licensing. So now it would seem that I must take and pass an exam that does not measure clinical competency for the purposes of getting a license, because I could not prove a sufficient degree of clinical competency to get the license through any other mechanism.

Perhaps the most ironic part of my story is that I don't really need a California license to do my job. But because I employ veterinarians, I believe that part of being the boss is being able to step in when your doctors need you, in whatever way they need you. I also believe in collegiality and in supporting the profession through any means possible. To that end, I am currently studying (once again!) swine dysentery and Glander's and warbles, and am scheduled to take the NAVLE in April.

Thank you for taking the time to hear my story. Hopefully you might consider a change to the practice act such that others like me have an easier road to licensure.

Sincerely,

Christie C. Long, DVM
Director, Veterinary Medicine, Petco Corporation

275 Escobar Rd.
Portola Valley, Ca. 94028
January 25, 2018

Veterinary Medical Board
1747 N. Market Blvd., Suite 230
Sacramento, Ca. 95834

Dear Veterinary Medical Board,

It has come to my attention since selling my practice and working at different veterinary hospitals in my area that the VMB regulation 2036 section b is extremely vague and it is being abused. Although it is not in their purview RVT's in many hospitals are being encouraged to diagnose and perform oral surgery on diseased teeth. Many state practice acts are much more discerning in their definition of extraction.

Instead what I have found in my area is that techs are diagnosing diseased teeth without veterinary supervision, sectioning teeth and drilling bone, again without a veterinarian present in the operatory. All of these activities are illegal per section 2036 section a.

I would suggest that section 2036 b be amended to say "A veterinary technician working under the direction, supervision and control of a duly licensed veterinarian may provide the following animal patient care under direct supervision: dental procedures including, but not limited to the removal of calculus, soft deposits, plaque and stains; the smoothing, filing, and polishing of teeth; or the floatation or dressing of equine teeth; and dental extraction not requiring sectioning of the tooth or the re-sectioning of bone."

Sincerely,

Lorrie Clemens, DVM

Lorrie Clemens, DVM
cc: Valerie Fenstermaker, CVMA

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Veterinary Medical Board
1747 N. Market Boulevard, Suite 230, Sacramento, CA 95834
Telephone: 916-515-5220 Fax: 916-928-6849 | www.vmb.ca.gov

MEMORANDUM

DATE	February 2018
TO	Veterinary Medical Board
FROM	Ethan Mathes. Operations Manager
SUBJECT	**Administrative/Budget Report**

Expenditure Report and Fund Condition Status

Expenditure Reports and Fund Condition Status pending output from FI$Cal.

Budget Activities

FI$Cal: The State of California has implemented a new accounting system, FI$Cal, starting this current FY 2017-18. Due to the new accounting system, regular reporting of Expenditure Reports has been delayed. The Department has confirmed expenditure reports should start flowing to the Board in February 2018.

Throughout the current FY staff will continue to closely monitor the Board's expenditures and projections. We anticipate Attorney General and Office of Administrative Hearings expenditures to be significantly higher this FY, trending between $70K-$80K per month, for Attorney General expenditures where in previous years the average was approximately $55k-$60K per month. If necessary, staff will request a one-time augmentation to these expenditures through the State budget process similar to the Board's one-time augmentation request in FY 2016-17.

Budget Change Proposal(s): Staff submitted a FY 2018-19 BCP request in June to make its 4.0 Veterinary Assistant Controlled Substances Permit Program staff permanently funded. Prior VACSP BCPs gave the Board authority to hire staff on a 2-year temporary basis, with the most recent VACSP Budget Change Proposal (BCP) giving the Board permanently tenured staff with 2-year temporary funding. The current VACSP BCP seeks to permanently fund its authorized 4.0 VACSP staff. The BCP was approved by the Department and the Business, Consumers Services, and Housing Agency (Agency)and the Department of Finance and has been included as part of the Governor's FY 2018-19 Budget.

Fee Schedule: At the time of the Board's approval, in July 2017, to increase application and licensing fees, the projected Fund Condition and reserve was healthy enough in future Fiscal Years (FY) to initiate a regular rulemaking that would take approximately 12-18 months to become effective. An analysis of current FY 2017-2018 spending found the Board's Fund Condition reserve is expected to be insolvent in FY 2018-2019 due to several factors that include increased

Attorney General expenditures, higher personnel costs, continuing BreEZe costs, , and Departmental pro rata.

The Board held a teleconference meeting in December 2017 to discuss the filing of an emergency rulemaking to implement the approved fee increase expeditiously and begin collecting much needed revenue to fund the Board operations and its fund its reserve. From that meeting, staff was authorized to initiate the emergency rulemaking and has been working with the Department to file the rulemaking package and make other operational adjustments to begin collecting increased fees beginning early-March 2018.

The rulemaking file is currently being reviewed for approval by the Department, Agency, and Office of Administrative Law. If approved, and made effective in early-March 2018, application fees will immediately increase and license renewal fees will increase for licensees expiring in May 2018.

ENFORCEMENT REPORT

Prepared by Candace Raney, Enforcement Program Manager February 2018

Complaint Investigations

The Board received a total of 260 complaints during the second quarter of the 17/18 fiscal year, 27 of which alleged unlicensed activity.

Probation Monitoring

The Board is currently monitoring a total of 106 probationers on active probation.

The Board currently has 9 Petitions to Revoke Probation pending against probationers for issues of non-compliance.

The Board has inquired about the type of violation of probation that would trigger a petition to revoke. As in most enforcement matters, violations are assessed based on the initial cause of discipline, the probationer's general compliance with the terms and conditions of probation and most importantly whether the violation is of a nature that poses an immediate risk to the public. Violations of probation range from failure of the respondent to submit a quarterly report timely, to a confirmed positive drug or alcohol test, to an unsatisfactory supervisory report. While some violations may require more intensive monitoring, which may be the case with an unsatisfactory supervisory report, some violations call in to question the probationer's fitness to continue to practice. In cases where the confirmed violations present a fitness to practice issue, the probation monitor will engage with Deputy Attorney General's Office regarding the process to revoke probation.

Procedurally, the probation monitor will send a compliance letter to the probationer within 10 days of any initial noncompliance with a term and condition. The letter will educate the probationer and identify where the probationer is in non-compliance. It will allow them sufficient time to submit any necessary documents to come into compliance. Subsequent noncompliance, for the same reason or reasons will result in a Violation Letter which elevates the matter to the next level. If the matter of noncompliance is something the probationer can rectify in a timely manner and is not something that may place the public at risk, the issue can be managed internally. However, multiple issues of noncompliance (even if of a less serious nature) may result in a petition to revoke probation.

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ENFORCEMENT REPORT

Prepared by Candace Raney, Enforcement Program Manager February 2018

Statistical Report

The statistical report for quarter two of the 17/18 fiscal year is attached.

Enforcement Forecast (FY 17/18 Q3)

Board members can anticipate two mail votes between the February and May 2018 Board meetings.

Staffing Update

We continue to search for the perfect candidate to fill the current vacancy for a Probation Monitor in the Enforcement Program. Catherine Hayes, Retired Annuitant, continues to support the desk until such time that a permanent staff member is in place.

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ENFORCEMENT STATISTICS FISCAL YEAR 2017 - 2018

Veterinary Medical Board

COMPLAINTS AND CONVICTIONS

Complaints and Convictions	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Complaints Received	281	238			
Convictions Received	20	22			
Average Days to Intake	3	3			
Closed at Intake	0	0			
Pending at intake	0	4			

Average Days to Intake - Average cycle time from complaint received, to the date the complaint was assigned to an investigator.

UNLICENSED COMPLAINTS RECEIVED

Unlicensed Complaints	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
	34	27			

DESK INVESTIGATIONS

Desk Investigation	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Assigned	304	257			
Closed	201	268			
Average Days to Complete	235	178			
Pending	807	779			

Average Days to Complete Desk Investigations - Average cycle time from complaint receipt to closure of the investigation process.

SWORN INVESTIGATIONS

Sworn Investigations	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Assigned	4	32			
Closed	15	13			
Average Days to Complete	490	279			
Pending	60	77			

Average Days to Complete Sworn Investigations - Average cycle time from complaint receipt to closure of the investigation process.

ALL TYPES OF INVESTIGATIONS

All Types of Investigations	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Closed Without Discipline	176	243			
Cycle Time - No Discipline	261	161			
All pending cases	867	860			

CITATIONS

Citations	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Issued	13	2			
Avg Days to Complete Cite	703	175			
Citations appealed	3	0			

Average Days to Issue a Citation - Average cycle time from complaint receipt to the effective date of the citation.

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ENFORCEMENT STATISTICS FISCAL YEAR 2017 - 2018

Veterinary Medical Board

ATTORNEY GENERAL CASES

Attorney General Cases	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Initiated / Referred to the AG	27	19			
Pending at the AG	95	100			
Statement of Issues Filed	11	8			
Accusations Filed	9	11			

AG Case Action	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Closed Without Discipline	2	2			
Closed With Discipline	11	10			
Probation	7	5			
Public Letter of Reprimand	0	0			
Surrender of License	1	3			
License Revoked	3	1			
License Denied (SOI)	0	1			
W/D, Dismissed, Declined	2	2			
Average Days to Close	756	553			

Average Days to Close a Discipline Case - Average cycle time from complaint receipt to the effective date of the disciplinary order.

AG Case Violation Type	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
Substance Abuse (A)		1			
Unsafe/Unsanitary Cond (E)					
Applicant Investigation (I)	2	3			
Incompetence/Gross Negligence (N)	3	2			
Unprofessional Conduct (R)	3	1			
Criminal Conduct/Conv (V)	2	1			
Discipline by Another State (T)		1			
Unlicensed Activity (U)	1				
Drug Related Offenses (D)		1			
Fraud (F)					

PROBATION

Probation	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2017 - 2018 TOTAL
New Probation Cases	11	4			
Probation Completed	4	7			
Active Cases	108	106			
Probationary Licenses	4	1			
All applicants pending licensure	17	22			
Tolled	6	7			
Petition to Revoke	4	9			

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ENFORCEMENT STATISTICS FISCAL YEAR 2016 - 2017

Veterinary Medical Board

COMPLAINTS AND CONVICTIONS

Complaints and Convictions	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Complaints Received	250	226	275	268	1019
Convictions Received	14	6	18	26	64
Average Days to Intake	2	2	2	2	2
Closed at Intake	2	0	0	1	3
Pending at intake	0	4	5	0	0

Average Days to Intake - Average cycle time from complaint received, to the date the complaint was assigned to an investigator.

ENFORCEMENT STATISTICS FISCAL YEAR 2016 - 2017

Veterinary Medical Board

DESK INVESTIGATIONS

Desk Investigation	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Assigned	261	227	276	301	1065
Closed	183	260	224	247	914
Average Days to Complete	223	198	225	205	213
Pending	584	632	650	697	697

Average Days to Complete Desk Investigations - Average cycle time from complaint receipt to closure of the investigation process.

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ENFORCEMENT STATISTICS FISCAL YEAR 2016 - 2017

Veterinary Medical Board

SWORN INVESTIGATIONS

Sworn Investigations	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Assigned	25	9	20	31	85
Closed	13	24	24	43	104
Average Days to Complete	513	273	404	290	261
Pending	108	95	84	71	71

Average Days to Complete Sworn Investigations - Average cycle time from complaint receipt to closure of the investigation process.

ENFORCEMENT STATISTICS FISCAL YEAR 2016 - 2017

Veterinary Medical Board

ALL TYPES OF INVESTIGATIONS

All Types of Investigations	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Closed Without Discipline	180	226	191	227	824
Cycle Time - No Discipline	228	214	245	214	225
All pending cases	692	727	739	768	768

CITATIONS

Citations	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Issued	7	5	6	16	34
Avg Days to Complete Cite	1222	669	959	935	959
Citations appealed	0	0	0	0	0

Average Days to Issue a Citation - Average cycle time from complaint receipt to the effective date of the citation.

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ENFORCEMENT STATISTICS FISCAL YEAR 2016 - 2017

Veterinary Medical Board

ATTORNEY GENERAL CASES

Attorney General Cases	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Initiated / Referred to the AG	11	23	19	18	71
Pending at the AG	70	75	83	81	81
Statement of Issues Filed	2	5	5	14	26
Accusations Filed	14	1	11	5	31

AG Case Action	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Closed Without Discipline	1	0	0	2	3
Closed With Discipline	4	13	19	11	46
Probation	1	5	8	8	22
Public Letter of Reprimand	0	0	2	0	2
Surrender of License	2	4	4	2	12
License Revoked	1	4	3	0	8
License Denied (SOI)	0	0	0	0	0
W/D, Dismissed, Declined	1	0	2	1	4
Average Days to Close	618	935	1010	837	974

Average Days to Close a Discipline Case - Average cycle time from complaint receipt to the effective date of the disciplinary order.

AG Case Violation Type	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
Substance Abuse (A)			1		1
Unsafe/Unsanitary Cond (E)					
Applicant Investigation (I)			4	4	8
Incompetence/Gross Negligence (N)	2	3	5	4	14
Unprofessional Conduct (R)	1	9	6	1	17
Criminal Conduct/Conv (V)		1	1		2
Discipline by Another State (T)			1	1	2
Unlicensed Activity (U)					
Drug Related Offenses (D)	1		1	1	3
Fraud (F)					

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ENFORCEMENT STATISTICS FISCAL YEAR 2016 - 2017

Veterinary Medical Board

PROBATION

Probation	QTR 1 (Jul - Sep)	QTR 2 (Oct - Dec)	QTR 3 (Jan - Mar)	QTR 4 (Apri - Jun)	FY 2016 - 2017 TOTAL
New Probation Cases	3	4	7	6	20
Probation Completed	5	4	5	2	16
Active Cases	88	88	90	94	94
Probationary Licenses	0	4	5	3	3
All applicants pending licensure	9	14	19	22	22
Tolled	5	5	6	8	8
Petition to Revoke	6	4	4	4	4

Veterinary Medical Board
1747 N. Market Boulevard, Suite 230, Sacramento, CA 95834
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MEMORANDUM

DATE	February 2018
TO	Veterinary Medical Board
FROM	Ethan Mathes. Operations Manager
SUBJECT	**Administration/Examination/Licensing Report**

Applications

Applications Received		
as of January 2018		
	Jan. 2016 - Dec. 2016	*Jan. 2017 - Dec. 2017*
Veterinarian	671	903
Veterinary Technician	927	876
Veterinary Premises	290	315
Veterinary Asst. Cont. Sub. Permit	1,507	3,052

Examinations

CALIFORNIA STATE BOARD EXAMINATION			
May 2017 – October 2017		November 2017 – April 2018*	
Candidates	Pass Pct.	Candidates	Pass Pct.
217	84%	72	77%
**partial year data*			

NORTH AMERICAN VETERINARY LICENSING EXAMINATION			
Mar./Apr. 2017		Nov./Dec. 2017	
Candidates	Pass Pct.	Candidates	Pass Pct.
87	68%	412	85%

CALIFORNIA VETERINARY TECHNICIAN EXAMINATION					
Jan. – Jun. 2017		Jul. – Dec. 2017		Jan. – Jun. 2018*	
Candidates	Pass Pct.	Candidates	Pass Pct.	Candidates	Pass Pct.
251	88%	297	78%	46	94%
**partial year data*					

VETERINARY TECHNICIAN NATIONAL EXAMINATION					
Mar./Apr. 2017		Jul./Aug. 2017		Nov./Dec. 2017	
Candidates	Pass Pct.	Candidates	Pass Pct.	Candidates	Pass Pct.
315	52%	460	57%	363	53%

Examination statistics by school for the California veterinary technician examination (July-December 2017) are attached.

Examination statistics by school for the Veterinary Technician National Examination (VTNE) are delayed due to the new American Association of Veterinary State Boards (AAVSB) score reporting portal. Staff is working with AAVSB to obtain examination scores by veterinary technician school/program.

Licensing

Licensees	
as of January 2018	
Veterinarian Licenses*/**	14,502/12,380
Veterinarian Licenses – California**	11,527
Veterinarian – Internship**	23
Veterinarian – Reciprocity**	53
Registered Veterinary Technician Licenses*/**	8,838/6,680
Registered Veterinary Technician Licenses – California**	6,648
Premise Permits*/**	4,041/3,778
Premise Permits – Exempt**	97
Veterinary Asst. Cont. Sub. Permit	3,665
**includes delinquent, inactive, and clear licensees; **clear licensees*	

Licenses Issued		
as of January 2018		
	Jan. 2016 - Dec. 2016	*Jan. 2017 - Dec. 2017*
Veterinarian	630	737
Reciprocity	47	78
Intern	27	24
Registered Veterinary Technician	518	671
Premises	312	289
Veterinary Asst. Cont. Sub. Permit	314	3,281
**partial year data*		

Examination Development and Workshops

Examination Development Workshops: Workshops include Item Writing, Item Review, Examination Construction, and Pass Score Setting. Staff recruits and contracts with licensees to serve as Workshop Subject Matter Experts (SME); approximately 6-8 SMEs participate in each Workshop.

For each yearly series of Workshops, the Board acquires two new examination forms for the State veterinary and veterinary technician examinations.

The following are scheduled Workshops for 2018:

Veterinarian Examination Workshops 2017	
May 30 -31, 2018	Exam Item Writing
June 27-28, 2018	Exam Item Review
July 11-13, 2018	Exam Construction
August 8-9, 2018	Exam Passing Score
Registered Veterinary Technician Examination Workshops 2017	
July 25-26, 2018	Exam Item Writing
August 22-23, 2018	Exam Item Review
September 26-28, 2018	Exam Construction/Passing Score

Veterinary Technician Occupational Analysis: The Department's Office of Professional Examination Services (OPES) has completed its Occupational Analysis (OA) of the California Registered Veterinary Technician Profession. The document is on the Board's website.

The AAVSB-VTNE Job Analysis was completed in September 2017. The OPES conducted its comparison study workshop in December 2017 and is finalizing its comparison study report with planned completion and presentation before the Board in May 2018.

Veterinary Occupational Analysis: OPES will initiate an OA of the veterinary profession in Fiscal Year 2018-2019; the last OA of the profession was completed in December 2013. The veterinary OA is scheduled for completion in December 2019.

Veterinary Law Examination: Board staff is working in cooperation with OPES to develop a means to administer the Veterinary Law Examination electronically rather than by mail; however, to update to an electronic format the Board will be required to amend the statute. Discussion to update Business and Professions Code 4842 has been included in the February 2018 meeting.

Diversion Program

The next Diversion Evaluation Committee (DEC) meeting is scheduled for June 2018.

The DEC meets every February, June, and October. There are currently five participants in the Diversion Program.

BreEZe

Update [October 2017] – Work Authorization (WA) 120 – implementing the new University License – occurred with the BreEZe system update in late-January and is now fully implemented and able to take applications for university license eligibility.

Staff has also been tasked with updating the BreEZe system due to the emergency implementation of fee schedule regulations. If the regulations are approved by the Office of Administrative Law the system will be prepared to adjust the new fees immediately upon enactment of the regulations.

Staff has begun preliminary work to initiate retroactive fingerprinting in accordance with California Code of Regulations section 2010.05 for those licensees who do not have electronic fingerprint records on file. Staff is in the process of determining the number of affected licensees in order to notify those individuals of their requirement to obtain fingerprints at time of license renewal.

Due to the scope of the University License WA, all non-critical system enhancement requests were on hold until implementation of the new license type; this included retroactive fingerprinting implementation. Staff anticipates work will continue on implementing retroactive fingerprint requirements to begin accepting fingerprints sometime in 2018.

Outreach

125 Years of Veterinary Medical Board: 2018 marks 125 years of regulated veterinary medicine in California. Staff is working with the Department's Office of Publications, Design, and Editing (OPDE) and Public Affairs (PA) to mark this historic milestone. OPDE designed a 125th logo, new letterhead and some graphical website enhancements to celebrate this milestone. Staff, in cooperation with the PA office, will additionally publish historical veterinary profession facts and details throughout the year starting in May, the official 125th anniversary of regulated veterinary practice. Happy birthday VMB!

Website: Staff has begun work to transition the Board's website to the newest State template which will significantly improve the web interface and make the end user experience more modern and streamlined. Staff is taking a full review of existing website content as well as adding additional sections to the site to include the Board's Inspection and Enforcement programs. Implementation of the newly designed website will launch sometime in Summer of 2018.

California Curriculum Presentation(s): Staff members Moneel Singh and Helen Park will present in February and March at Western University to discuss the Board's application, licensing and enforcement functions and laws.

Personnel

No new information to report at this time.

Pass Fail Rates By School

Between Jul 1, 2017 12:00 AM and Dec 31, 2017 11:59 PM

License Type: 4602

Exam Code: RVT

School Name	Pass Count - 1st Attempt	Pass Rate - 1st Attempt	Fail Count - 1st Attempt	Fail Rate - 1st Attempt	Total Exam Count - 1st Attempt	Pass Count - Retake	Pass Rate - Retake	Fail Count - Retake	Fail Rate - Retake	Total Exam Count - Retake	Pass Count - TOTAL	Pass Rate - TOTAL	Fail Count - TOTAL	Fail Rate - TOTAL	Total Exam Count - TOTAL
	1	100.0%	0	0.0%	1	0		0		0	1	100.0%	0	0.0%	1
-----	1	50.0%	1	50.0%	2	0		0		0	1	50.0%	1	50.0%	2
ALT RTE - Banfield	7	87.5%	1	12.5%	8	0		0		0	7	87.5%	1	12.5%	8
ALT RTE - Heritage	5	83.3%	1	16.7%	6	0		0		0	5	83.3%	1	16.7%	6
ALT RTE - Modesto JC	3	60.0%	2	40.0%	5	0		0		0	3	60.0%	2	40.0%	5
ALT RTE - Platt College	5	62.5%	3	37.5%	8	1	50.0%	1	50.0%	2	6	60.0%	4	40.0%	10
ALT RTE - Santa Rosa JC	13	92.9%	1	7.1%	14	1	100.0%	0	0.0%	1	14	93.3%	1	6.7%	15
ALT RTE - Vet Allied Staff	32	78.0%	9	22.0%	41	4	57.1%	3	42.9%	7	36	75.0%	12	25.0%	48
B.S.DEGREE - Section 2068	3	100.0%	0	0.0%	3	0		0		0	3	100.0%	0	0.0%	3
Cal Poly State University	14	82.4%	3	17.6%	17	0	0.0%	1	100.0%	1	14	77.8%	4	22.2%	18
Carrington College - Citrus Heights	9	75.0%	3	25.0%	12	2	100.0%	0	0.0%	2	11	78.6%	3	21.4%	14
Carrington College - Pleasant Hill	4	66.7%	2	33.3%	6	2	66.7%	1	33.3%	3	6	66.7%	3	33.3%	9
Carrington College - Pomona	17	77.3%	5	22.7%	22	0		0		0	17	77.3%	5	22.7%	22
Carrington College - Sacramento	11	91.7%	1	8.3%	12	2	100.0%	0	0.0%	2	13	92.9%	1	7.1%	14
Carrington College - San Jose	4	66.7%	2	33.3%	6	0		0		0	4	66.7%	2	33.3%	6
Carrington College - San Leandro	4	66.7%	2	33.3%	6	1	50.0%	1	50.0%	2	5	62.5%	3	37.5%	8
Carrington College - Stockton	6	75.0%	2	25.0%	8	2	100.0%	0	0.0%	2	8	80.0%	2	20.0%	10
Consumes River College	9	90.0%	1	10.0%	10	1	100.0%	0	0.0%	1	10	90.9%	1	9.1%	11
Foothill College	11	100.0%	0	0.0%	11	2	100.0%	0	0.0%	2	13	100.0%	0	0.0%	13
Mt. San Antonio College	7	87.5%	1	12.5%	8	0		0		0	7	87.5%	1	12.5%	8
Oklahoma State University	1	100.0%	0	0.0%	1	0		0		0	1	100.0%	0	0.0%	1
Orange Coast College	1	100.0%	0	0.0%	1	0		0		0	1	100.0%	0	0.0%	1
Out of State AVMA approved school	17	94.4%	1	5.6%	18	3	100.0%	0	0.0%	3	20	95.2%	1	4.8%	21
Pierce College	13	100.0%	0	0.0%	13	0		0		0	13	100.0%	0	0.0%	13
Pima Medical Inst. - Chula Vista	8	61.5%	5	38.5%	13	0	0.0%	2	100.0%	2	8	53.3%	7	46.7%	15
Platt College - Alhambra	9	100.0%	0	0.0%	9	2	66.7%	1	33.3%	3	11	91.7%	1	8.3%	12
Platt College - Ontario	1	100.0%	0	0.0%	1	2	100.0%	0	0.0%	2	3	100.0%	0	0.0%	3
Platt College - Riverside	3	100.0%	0	0.0%	3	0		0		0	3	100.0%	0	0.0%	3
PLATT COLLEGE - RIVERSIDE	1	100.0%	0	0.0%	1	0		0		0	1	100.0%	0	0.0%	1
Purdue University	0	0.0%	1	100.0%	1	0		0		0	0	0.0%	1	100.0%	1
San Diego Mesa College	9	90.0%	1	10.0%	10	1	100.0%	0	0.0%	1	10	90.9%	1	9.1%	11
San Joaquin Valley College, Fresno	2	66.7%	1	33.3%	3	0		0		0	2	66.7%	1	33.3%	3
SCHOOL NOT LISTED	5	83.3%	1	16.7%	6	0		0		0	5	83.3%	1	16.7%	6
Section 2067- 2 yr Non-approved	1	100.0%	0	0.0%	1	0		0		0	1	100.0%	0	0.0%	1
Section 2068.5 - Alternate Route	15	75.0%	5	25.0%	20	4	80.0%	1	20.0%	5	19	76.0%	6	24.0%	25
Section 2068.6 - Out of State RVT	3	100.0%	0	0.0%	3	0		0		0	3	100.0%	0	0.0%	3
STANBRIDGE UNIVERSITY VETERINARY	8	100.0%	0	0.0%	8	2	100.0%	0	0.0%	2	10	100.0%	0	0.0%	10
4602 - Total	**263**		**55**		**318**	**32**		**11**		**43**	**295**		**66**		**361**
4602 - Average		**82.8%**		**17.2%**			**76.1%**		**23.9%**			**82.4%**		**17.6%**	

Hospital Inspection Report – February 2018

On November 17, routine inspections were suspended for the remainder of the fiscal year due to budget constraints. Unfortunately, unless the emergency fee regulations are approved, we will fall short of the 20% inspection goal for the 2017-2018 fiscal year, possibly inspecting just 12% of the premises population.

Inspector performance evaluations will be postponed until next fiscal year due to budgetary constraints.

Ride-alongs

Ride-alongs for board members and staff have been postponed until next fiscal year.

Outreach

Staff will be participating in local VMA chapter meetings as requests are received; the local area Inspector will also participate in these meetings.
Staff will also continue to work on Inspection FAQ's for the website as well as revamping the Inspection and Premises sections in preparation for the new Board website later this year.

Statistics (as of 12/31/17)

- Routine Inspections Assigned: 459
- Routine Inspection Performed: 283
- Routine Inspections Pending (not yet assigned): 273
- Complaint/Probation Related Inspections Performed: 12
- Complaint/Probation Related Inspections Pending: 24
- Document Review Status: reviewing compliance documents from February 2017 inspections
- Compliance Rate: approximately 40% after initial inspection
- Expenditures: $116,400 to date