STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY • GOVERNOR EDMUND G. BROWN JR.

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

MEETING NOTICE and AGENDA
MULTIDISCIPLINARY ADVISORY COMMITTEE

April 18, 2017
Waterfront Hotel
10 Washington Street, Oakland, CA 94607

10:00 a.m. Tuesday, April 18, 2017

1. Call to Order/Roll Call/Establishment of a Quorum
2. Introductions
3. Review and Approval of January 17, 2017 Committee Meeting Minutes
4. Update from the Complaint Process Audit Subcommittee
5. Discussion and Consideration of "Extended Duty" for Registered Veterinary Technicians Regulations; Potential Recommendation to Full Board
6. Review Legal Counsel's Guidance on the Federal Drug Mobility Act and its Impact on Registered Veterinary Technicians Transporting Controlled Substances for Emergency Treatment
7. Discussion and Consideration of Recommendations from State Humane Association of California and California Veterinary Medical Association Regarding Public and Private Shelters and Minimum Standards & Protocols for Shelter Medicine; Potential Recommendation to Full Board
8. Review and Consider Proposed Regulations Regarding the Compounding of Drugs Pursuant to the Enactment of Senate Bill 1193 (2016), Potential Recommendation to Full Board
9. Discussion and Consideration of Proposed Amendments Regarding Drug Information to be Provided to Clients – Section 2032.1 of Title 16 of the California Code of Regulations; Possible Recommendation to Full Board
10. Discuss Definitions and Scope of Responsibility for "Induction" of Anesthesia vs. Sedation – Section 2034 of Title 16 of the California Code of Regulations; Potential Recommendation to Board
11. Discuss Minimum Standards for Spay/Neuter Clinics
12. Discuss Minimum Standards for Mobile Specialists
13. Review, Discussion, and Possible Recommendation on Reciprocity Issues and License Eligibility for Veterinary Applicants Who Possess Work Experience in a Foreign Territory; Consider Equivalent Credentials of Board Certification (Business and Professions Code section 4848(b)(1))
14. 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).)

15. Future Agenda Items and Next Meeting Dates –
    - July 25, 2017 (Sacramento)
    - October 17, 2017 (Fresno)

    A. Multidisciplinary Advisory Committee Assignment Priorities
    B. Agenda Items for Next Meeting – Minimum Standards for Small Animal Spay and Neuter Clinics

16. 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 approximate and 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 Committee are open to the public.

The Board plans to webcast this meeting on its website at www.vmb.ca.gov. Webcast availability cannot, however, be guaranteed due to limitations on resources or technical difficulties that may arise. The meeting will not be cancelled if webcast is not available. If you wish to participate or to have a guaranteed opportunity to observe, please plan to attend at a physical location. Adjournment, if it is the only item that occurs after a closed session, may not be webcast.

*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 in order to participate in the meeting may make a request by contacting: Nina Galang (916) 515-5220, email: nina.galang@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

MISSION

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.

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MEETING MINUTES
MULTIDISCIPLINARY ADVISORY COMMITTEE

January 17, 2017
1747 N. Market Blvd. – 1st Floor Hearing room
Sacramento, California

10:00 a.m. Tuesday, January 17, 2017

1. Call to Order- Establishment of a Quorum

Multidisciplinary Advisory Committee (MDC) Chair, Dr. Jon Klingborg called the meeting to order at 10:01 a.m. Veterinary Medical Board (Board) Executive Officer, Annemarie Del Mugnaio called roll; nine members of the MDC were present and thus a quorum was established. Dr. Allan Drusys arrived at 10:22 a.m.

2. Introductions

Members Present
Jon Klingborg, DVM, Chair
Allan Drusys, DVM, Vice Chair
William Grant, DVM
David Johnson, RVT
Jennifer Loredo, RVT, Board Liaison
Kristi Pawlowski, RVT
Jeff Pollard, DVM
Richard Sullivan, DVM, Board Liaison
Diana Woodward-Hagle, Public Member

Staff Present
Annemarie Del Mugnaio, Executive Officer
Nina Galang, Administrative Program Coordinator
Kurt Heppler, Legal Counsel
Ethan Mathes, Administrative Program Manager
Candace Raney, Enforcement Manager
Caesar Victoria, DCA Webcast

Guests Present
Kathy Bowler, Veterinary Medical Board
Tuesday Cool, California Registered Veterinary Technician Association
Nancy Ehrlich, RVT, California Registered Veterinary Technician Association
Valerie Fenstermaker, California Veterinary Medical Association
Erica Hughes, State Humane Association of California
Grant Miller, DVM, California Veterinary Medical Association
Eric Mills, Action for Animals
Allyne Moon, RVT, California Registered Veterinary Technician Association

Mark Nunez, DVM, Veterinary Medical Board
John Pascoe, DVM, University of California, Davis
Ken Pawlowski, DVM, California Veterinary Medical Association
Cindy Savely, RVT, Sacramento Valley Veterinary Technician Association
Dan Segna, DVM, California Veterinary Medical Association
Leah Shufelt, RVT, California Veterinary Medical Association
Cheryl Waterhouse, DVM, Veterinary Medical Board

3. Review and Approval of October 18, 2016 Meeting Minutes

The MDC made a minor correction to the minutes.

- Dr. William Grant moved and David Johnson seconded the motion to approve the minutes as amended. The motion carried 8-0. Dr. Drusys was not present to vote on the motion.

4. Update from the Complaint Process Audit Subcommittee

Dr. Jeff Pollard presented a list of points discussed at the Expert Witness roundtable that he and Dr. William Grant attended on November 3, 2016 in San Diego, CA.

Dr. Pollard stated that from his experience auditing enforcement cases, the letters sent to respondents, from the Board appeared to be educational, rather than punitive.

Dr. Pollard discussed the concept of multiple expert reviews for Board enforcement cases and expressed his opinion regarding the inherent problems with employing two experts to render the same expert opinion.

Ms. Del Mugnaio added that there are two layers of review: 1) in-house consultants and 2) expert witnesses. However, the Board ensures that both layers are not involved in the disciplinary aspect of cases. Criminal cases do not necessary rely on expert witnesses, but standard of care cases do.

Dr. Pollard expressed support for continuation of the Complaint Process Audit Subcommittee review.

5. Discussion and Consideration of "Extended Duty" for Registered Veterinary Technicians Regulations; Potential Recommendation to Full Board

David Johnson suggested that there may be a need to look at access, the risk to the consumer and animal patient, as well as examine what is being practiced in private shelters and review the complaints that the Board receives. It is important in the discussion to provide justification for any proposed regulatory changes when submitting a rulemaking file to the Office of Administrative Law (OAL).

Jennifer Loredo suggested that the "extended duty" discussion on tasks are isolated to Registered Veterinary Technicians (RVT) only.

Allyne Moon, California Registered Veterinary Technicians Association (CaRVTA) President, added that CaRVTA is willing and able to assist on a workgroup or taskforce to discuss these issues.

Cindy Savely, Sacramento Valley Veterinary Technician Association, also offered to assist on a workgroup or taskforce and emphasized that her focus would be on protecting the patient at all times.

Ms. Del Mugnaio pointed out that the Board's role is to respond to potential risk of harm, not to advance the profession. She stated that the Board may want to evaluate whether this is an issue of inappropriate delegation or supervision, or if this is something that should be codified as an excluded function for a veterinary assistant. It may be possible to pull data from the last several years to identify violations of aiding and abetting of unlicensed practice where delegation of complex or higher risk task was the bases for the complaint.

Ms. Loredo opined that having a license can cause one to perform tasks more carefully, since there is a risk of losing their license should something go wrong. Veterinary assistants do not have a license to lose and in Ms. Loredo's experience, veterinary assistants frequently perform the tasks identified in the RVT "Extended Duty" list.

Ms. Del Mugnaio added that survey data will be available based on an Occupational Analysis that is being done for the RVT profession, but it does not cover veterinary assistant duties.

- Jennifer Loredo moved and David Johnson seconded the motion to suggest to the Veterinary Medical Board at the January 18, 2017 meeting to form a task force or work group to develop a tool or guideline to determine the appropriateness of scope of practice changes for veterinary assistants and RVTs. The task force or work group may include members of the MDC, CaRVTA, and other stakeholders. The motion carried 9-0.

6. Discussion and Consideration of Proposed Amendments to RVT Job Tasks, Emergency Animal Care – Sedation and Pain Management – Section 2069 of Title 16 of the California Code of Regulations; Potential Recommendation to Full Board

Ms. Del Mugnaio provided background information on RVT job tasks authorized during emergency situations. One item that is missing from the list that had been identified for discussion is the administration of drugs. Existing regulations address any emergency situation, and the addition of new provisions regarding the administration of drugs was important in addressing emergency care at rodeo events.

Eric Mills, Action for Animals, provided background of alleged underreporting of animal injuries at rodeos and expressed support for the proposed language.

The proposed language, as written, is open-ended as far as its inclusion of controlled drugs, and members of the MDC agreed that it should be clarified.

Legal Counsel, Kurt Heppler, suggested further refining the drug administration aspect of the language, but also noted that it may be difficult to promulgate the regulations if it is in conflict with federal law. Dr. Sullivan suggested adding "in compliance with state and federal law".

Ms. Hughes suggested that it might make sense to expand Penal Code section 597.1 to include RVTs as well. Ms. Del Mugnaio responded that it may be challenging to find a legislative vehicle to permit the transport of controlled substances. If non-controlled drugs are sufficient, this could be handled through regulations. Dr. Klingborg opined that it would not be easy to add it into Penal Code section 597.1 since it contains other requirements (e.g. firearms training) that would not apply to RVTs.

Ms. Woodward-Hagle suggested clarifying that "other sporting events" excludes horse-racing events. Ms. Del Mugnaio noted that horse-racing events are not spelled out as an exclusion in other areas of the

Practice Act since those events are generally understood to be under the California Horse Racing Board's jurisdiction.

Mr. Johnson suggested adding the drug-aspect of the proposed language under BPC section 4840 which allows RVTs to purchase controlled substances for the purposes of euthanasia.

Mr. Heppler suggested tabling the statutory language discussion for the next agenda since it was not on this agenda to discuss changes to BPC section 4840 or Penal Code section 597.1 to authorize RVTs to transport controlled drugs.

Dr. Klingborg clarified that the proposed language has been amended to include "the administration of drugs in compliance with state and federal laws".

- Dr. Richard Sullivan moved and Jennifer Loredo seconded the motion to recommend to the Board to move forward with CCR section 2069, Item #9, as amended. The motion carried 9-0.

7. Discussion and Consideration of Alternate Route for DVM Graduates to Practice as RVTs – Proposed Section 2027.5 of Title 16 of the California Code of Regulations; Potential Recommendation to Full Board

The proposed language was developed by a task force consisting of Dr. Klingborg, Ms. Loredo, Ms. Del Mugnaio, and Ethan Mathes. The task force confirmed that the proposed eight months prequalification option to sit for the national RVT examination and California RVT examination prior to graduation is consistent with current law allowing a veterinary student to sit for the veterinarian examinations eight months prior to graduation.

Dr. Klingborg clarified that the one-year eligibility option in the proposed language is a grace period to obtain an RVT license or a veterinary license. Members of the MDC expressed opposition with restricting the ability to take the examination past the one-year grace period, arguing that the one year period might not be enough time.

Mr. Heppler suggested that it may be better to apply this regulation prospectively, as there is a legal risk if the Board tries to apply the regulation retroactively. Ms. Del Mugnaio added that it is the understanding that practice as an unlicensed RVT would need to cease one year from the date the regulation is implemented.

Mr. Heppler noted that a "grandfather" clause typically applies to licensees that keep renewing. Veterinary graduates that have been practicing as RVTs would not need to be fingerprinted because you cannot cite for unlicensed activity since they will be given a pass for one year. Mr. Johnson suggested an alternative to make a new regulation, which, in essence, states that graduates under California Code of Regulations (CCR) sections 2022(a) and 2022(b) who have not successfully become a veterinarian who are performing RVT tasks must apply for and pass the RVT examination in order to continue performing RVT tasks.

Dr. Drusys expressed concern regarding the terms "recognized" and "accredited" when referring to the veterinary colleges as used interchangeably in CCR sections 2022(a) and 2022(b). Ms. Del Mugnaio noted that the language used in CCR section 2022(a) speaks to "Board recognition of accreditation" and CCR section 2022(b) speaks to "Board recognition of an equivalent accredited college". The MDC still felt that the language was unclear.

Dr. Drusys expressed support for changing the term "recognized" to "accredited" in CCR section 2022(a).

The MDC proposed the following new section and proposed language of CCR section 2027.5(a): "any person who receives a veterinary medical degree from an accredited veterinary college listed in CCR section 2022(a) or a person who is within eight months of his or her anticipated graduation date from an accredited veterinary college, shall be eligible to apply for the national veterinary technician examination and the California veterinary technician examination as provided for in CCR section 2010."

An additional subsection, CCR section 2027.5(b), would be created to read "a graduate from a recognized veterinary college listed in CCR section 2022(a), may perform RVT job tasks for a period of one year from the date of graduation without holding an RVT license."

Another new section, CCR section 2027.5(c) was proposed with the following language: "any graduate who is currently performing RVT job tasks shall cease practice after one year until or unless the individual passes the RVT examination as prescribed in subsection (a)."

Ms. Del Mugnaio clarified that it may be difficult to reverse an exemption by way of regulation without statutory authority, but the MDC intends to move forward with the proposed language to seek adoption.

- Dr. Richard Sullivan moved and Dr. Allan Drusys seconded the motion to adopt the proposed language for CCR sections 2027.5(a), 2027.5(b), and 2027.5(c) and direct staff to seek legal guidance on the implantation of the requirement for all DVM graduates to obtain an RVT license by a specified date. The motion carried 9-0.

8. Discussion and Consideration of Recommendations from State Humane Association of California and California Veterinary Medical Association Regarding Public and Private Shelters and Minimum Standards & Protocols for Shelter Medicine; Potential Recommendation to Full Board

Erica Hughes, SHAC, expressed that the most important goal for shelters is to make sure that veterinary assistants are lawfully able to perform certain basic tasks upon intake. Ms. Hughes requested that unlicensed shelter staff be allowed to perform the duties identified by CaRVTA.

Ms. Del Mugnaio noted that changes to the scope of authority for veterinary assistants to perform specified tasks would require a statutory amendment.

The MDC and members of the public discussed various levels of veterinary assistant training provided in animal shelters, ranging from on-the-job training, self-paced training with an examination, to no training.

Mr. Johnson added that some Animal Control Officers (ACOs) are considered "veterinary assistants" but may receive formal training through an ACO academy.

Dr. Drusys provided a background on the large showing at his Riverside vaccination clinic to emphasize the need for the service. He presented the results of a survey conducted of Riverside pet owners during free vaccination clinics.

Some highlights from the results include: majority of people surveyed own less than four pets, almost half of those surveyed have never brought their pets in to see a veterinarian, and two-thirds do not have a

regular veterinarian. Approximately 80 percent of those studied attended the free vaccination clinic because it was inexpensive and more than 20 percent were responding to a citation.

9. Review and Consider Proposed Regulations Regarding the Compounding of Drugs Pursuant to the Enactment of Senate Bill 1193 (2016), Potential Recommendation to Full Board

Dr. Sullivan provided an overview of the proposed drug compounding language and emphasized that the goal is to clarify existing processes, not to expand the practice.

Dr. Valerie Wiebe, University of California, Davis (UCD), Director of Pharmacy, suggested changing section 2033.1(a) to allow for certain drugs to be prepared in advance due to historic need and justifying the use of the product over time. Under CCR section 2033.6, Item #5, Dr. Wiebe suggested changing the language "beyond use date of 30 days unless an ingredient has a shorter beyond use date" to allow using the beyond use date of 30 days, regardless of a shorter beyond use date, if it can be justified through scientific data.

Dr. Sullivan suggested changing 2033(a) from "under the indirect orders of that veterinarian" to "under written orders of that veterinarian."

Dr. Wiebe clarified that it is legal to sell drug compounds that were made in-house, but the problem comes when you have outsourced the drug compounding mixture to a licensed compounding pharmacy, it was sold to the veterinarian, and then the veterinarian re-sold it to the client.

Dr. Drusys suggested that the shelter environment should be exempted from the Veterinary-Client-Patient Relationship (VCPR) requirement. In the shelter environment, there may be times when the owner is not known and the animal patient must be treated with compounded products regardless of if the owner shows up or not.

Dr. Wiebe noted that there is a recent Pharmacy regulations which removes the time limit for compounding pharmacies to get the compounded products to veterinarians.

Dr. Sullivan reviewed the proposed amended regulatory language.

Dr. Grant suggested removing CCR section 2033.6(a)(6) since there is a compounded product that is commonly used that includes a hazardous drug.

Dr. Wiebe suggested that for all sterile products, the beyond use date should be changed to 28 days after the first puncture and then it must be thrown away.

Ms. Del Mugnaio shared that the Pharmacy Board expressed interest in having joint oversight if compounding is involved.

Dr. Klingborg suggested continuing the MDC's work and meeting again with Dr. Wiebe, other representatives from UCD, and the Board of Pharmacy. No further action was needed from the MDC.

10. Discussion and Consideration of Proposed Amendments Regarding Drug Information to be Provided to Clients – Section 2032.1 of Title 16 of the California Code of Regulations; Possible Recommendation to Full Board

Solomon Stupp presented the document on his Lizzie Law initiative. Mr. Stupp expressed his feeling that some veterinarians do not communicate any potential adverse effects of medication and more information should be given to the client. He opined that long-acting drugs should be re-classified as a more dangerous drug.

Mr. Stupp felt that the MDC's proposed language was not enough and stated that the client needs to know what the drugs do and why they are necessary. He requested that the client should be given printed information on the potential risks and adverse effects of the medication, an acknowledgement form to sign, and posters informing clients of this right should be displayed in each of the examination rooms. He expressed that informed consent is just an advisory and he would like this initiative to be accepted as a minimum standard. He clarified that his request only applies to non-emergency, outpatient situations.

Ms. Del Mugnaio clarified that the section in which the proposed language would be placed would make the requirement a minimum standard.

Dr. Sullivan reminded Mr. Stupp that when a client signs a release, it does not change the liability of the veterinarian.

Dr. Klingborg referenced CCR section 1707.2, Duty to Consult, of the Pharmacy Practice Act, which states "a pharmacist shall provide oral consultation to his or her patient or the patient's agent in all care settings: (1) upon request; or (2) whenever the pharmacist deems it warranted in the exercise of his or her professional judgment." CCR section 1707.2 also discusses directions for use and storage and the importance of compliance with directions of the prescribed drugs. Dr. Klingborg opined that it is difficult to communicate things to the client that are unknown or are difficult to anticipate.

Mr. Heppler noted that it was not on the agenda to vote on Mr. Stupp's initiative and suggested taking additional public comment and make revisions to the MDC's language as appropriate.

Dr. Sullivan suggested utilizing "PLUMB'S Veterinary Drugs," a resource tool which provides up-to-date veterinary drug information, as a way of satisfying Mr. Stupp's request. Mr. Stupp expressed support for this idea or a website that can be developed that provides professional information.

Ms. Woodward-Hagle noted that it might be beyond the scope of the MDC's and Board's authority to adopt the regulation, unless there is a statute that is identified which provides authority to require drug consultation as a minimum standard of veterinary practice.

Ken Pawlowski, CVMA, expressed that he is not opposed to clients having more information and is encouraged to look more into the Board of Pharmacy language.

Dr. Klingborg assigned Dr. Sullivan and Dr. Pollard to form a subcommittee to research the matter further and develop proposed language.

11. Discuss Definitions and Scope of Responsibility for "Induction" of Anesthesia vs. Sedation – Section 2034 of Title 16 of the California Code of Regulations; Potential Recommendation to Board

Dr. Drusys opined that the differentiations between "anesthesia" and "sedation" are few, and in the field and shelter settings, where precise weight measurements cannot be taken of an unruly animal, the two are virtually the same.

Dr. Sullivan shared his concern that there are two separate standards being applied to public shelters vs. private shelters, which can be problematic since public shelters sometimes provide care to owned animals. Dr. Johnson shared his method of handling a situation in which the animal is owned and meets the criteria for "prompt and necessary veterinary care."

Ms. Loredo added that there are exigent circumstances where, based on the time it would take to get to an emergency clinic, it is not in the best interest to ship the animal out. Ms. Loredo felt that there should be a separate standard for shelters.

Dr. Drusys expressed that he could not support allowing veterinary assistants to perform sedation since there is no criteria to become a veterinary assistant.

Dr. Klingborg noted that there are a number of drugs classified as sedatives. Since sedation is not clearly spelled out, RVTs are currently allowed by law to induce sedation. Given at a high enough dosage, sedation can induce anesthesia and intent can be questioned.

The MDC identified the need to allow RVTs to induce anesthesia under indirect supervision in shelter settings. Dr. Klingborg tabled the item to discuss at the next MDC meeting.

12. Discuss Minimum Standards for Spay/Neuter Clinics

The MDC was unable to discuss this item during the allotted amount of time; therefore, it will be placed on the agenda for discussion at the next MDC meeting.

13. Public Comments on Items Not on the Agenda

There were no comments from public/outside agencies/associations.

14. Future Agenda Items and Next Meeting Dates –

- April 18, 2017 (Oakland)
- July 25, 2017 (Sacramento/Southern California)
- October 17, 2017 (Fresno)

A. Multidisciplinary Advisory Committee Assignment Priorities
B. Agenda Items for Next Meeting – Minimum Standards for Small Animal Spay and Neuter Clinics

The Minimum Standards for Mobile Specialists topic will be discussed at the next meeting if there is sufficient time to add the item to the agenda.

15. Adjournment

The MDC adjourned at 4:52 p.m.

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February 8, 2017

Allyne Moon, President
California Registered Veterinary Technician Association
1017 L Street #389
Sacramento CA 95814

Re: Extended Functions for RVTs

Dear Ms. Moon,

Thank you for submitting the list of "Suggestions for Extended Functions for RVTs" in October 2016. As you know, the Veterinary Medical Board has asked its 'workhorse' the Multi-Disciplinary Advisory Committee (MDC) to examine the seven job tasks listed below:

1. Central line placement (jugular or femoral PICCs)
2. Invasive procedures including inserting nasogastric tubes, inserting urinary catheters, or
   tracheal placement/suctioning
3. CSF/spinal tabs
4. Chest tube placement
5. Intraosseous catheter placement
6. Centesis including (cysto, abdominal, thoraco)
7. Advanced nerve blocking techniques

As part of the fact gathering process, I am seeking CaRVTA's assistance in providing background information to both the MDC and those who attend the public hearing. It would be helpful if CaRVTA would provide information in response to the questions below for each task listed above so that the MDC may consider the tasks individually.

Question 1: Does this procedure involve any element of surgery? (incising or severing tissue.)

Question 2: Does this procedure involve suturing tissue?

Question 3: Is there the potential that 'extending' or 'restricting' this task impacts consumer *access*? If so, how does it impact consumer access?

Question 4: Does 'extending' or 'restricting' this job task address an area of consumer *need*? If so, how does it address an area of need?

Question 5: Does 'extending' or 'restricting' this job task create the potential or reduce the potential for *harm* (to the consumer and/or patient)?

Question 6: Is this commonly recognized as a task for RVTs or Veterinary Assistants to perform, perhaps in other states?

Question 7: Is the RVT trained to perform the task as part of their formal curriculum? Does the training prepare the RVT to perform the task under supervision, if so, what type? Please provide specifics regarding the coursework or clinical training.

Our goal is for the MDC to fully explore the public protection considerations. We intend to begin addressing the above at the next meeting, so it is necessary to have submitted your research in writing to the VMB by April 1, 2017, so that the information will be available to the MDC and the public prior to the meeting.

Sincerely,

Annemarie Del Mugnaio
Executive Officer

cc: Jon Klingborg, Chair, Multidisciplinary Advisory Committee
Nancy Ehrlich, Regulatory/Legislative Liaison CaRVTA
Cheryl Waterhouse, President VMB

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Allyne Moon, RVT
CaRVTA President
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Sacramento, CA 95814

Dr. Jon Klingborn, MDC Chair
Dr. Cheryl Waterhouse, VMB President
Ms. Anne Marie Del Mugnaio, VMB Executive Officer
Veterinary Medical Board
1747 N. Market Blvd, Suite 230
Sacramento, CA 95834
March 29, 2017

Dear Dr. Klingborn, Dr. Waterhouse, and Ms. Del Mugnaio,

In response to a letter sent by Ms. Del Mugnaio on February 8, 2017, CaRVTA has submitted your request to our subcommittee on RVT tasks. This subcommittee was composed of two members; Mr. Stephen Cital RVT, RLAT, SRA, VTS- Lab Animal (OC), and Ms. Liz Hughston, MEd., RVT, CVT, VTS (SAIM, ECC).

Patient and consumer protection is vital to the VMB purview, with that said, so is the professional and ethical strides a profession must eventually make to stay relevant in the public eye. Although all the following questions are necessary, one piece seems to be missing, *consumer awareness of whom is performing all of the suggested additions to the RVT extended functions list*. If a consumer were to understand the lack of education, training and credentials of those performing some of these invasive techniques on their pets they would be outraged. As once the human nursing field had to endure, credentialing of veterinary staff members is the future and a necessity for consumer protection, patient safety, and the advancement of the profession.

Attached, please find CaRVTA's position and justification for restricting the performance these tasks to the Registered Veterinary Technician and veterinarian.

Respectfully,

Allyne Moon, RVT
CaRVTA President

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Recommendations and Justifications for Restricting Job Tasks to RVT's

Patient and consumer protection is vital to the VMB purview, with that said so is the professional and ethical strides a profession must eventually make to stay relevant in the public eye. Although all the following questions are necessary, one piece seems to be missing, consumer awareness of whom is performing all of the suggested additions to the RVT extended functions list. If a consumer were to understand the lack of education, training and credentials of those performing some of these invasive techniques on their pets they would be outraged. As once the human nursing field had to endure, credentialing of veterinary staff members is the future and a necessity for patient safety and the advancement of the profession.

Question 1: Does this procedure involve any element of surgery (incising or severing tissue)?

Task 1: Central Line Placement

This procedure can be completed with a relief hole, as is already approved in the RVT-restricted tasks. No incision or severing of tissue is required.

Task 2: Placement of nasogastric (NG) tubes, urinary catheters, tracheal tubes

Placement of NG tubes and urinary catheters require no incision or severing of tissue. Tracheal tube placement does require an initial surgery (performed by a licensed veterinarian), but replacement with a new, sterile tube and suctioning or other care of the tube, does not require any element of surgery.

Task 3: CSF/Spinal taps

The procedures are performed via needle puncture. No surgery is required.

Task 4: Chest tube placement

There are many products available on the market that do not require any surgery or incisions for placement.

Task 5: Intraosseus (IO) catheter placement

This is accomplished with a variety of needles, but no surgery is required. Occasionally a relief hole may be necessary, which is already an approved RVT-restricted task.

Task 6: Centeses (urinary bladder, abdominocentesis, thoracocentesis)

These procedures are done with needles and no surgery is required.

Task 7: Advanced nerve blocking techniques

Epidural administration, regional anesthesia, and local anesthesia are all accomplished via injection and no surgery is required.

Question 2: Does this procedure involve suturing tissue?

Task 1: Central Line Placement

Suturing to secure the catheter to the skin is performed, but not to appose tissue or close any incision.

Task 2: Placement of NG tubes, urinary catheters, tracheal tubes

Suturing to secure the tubes in place may be required, though many technicians and veterinarians may opt to use skin staples instead. For tracheal tubes, often sutures are placed around the tracheal rings cranial and caudal to the insertion point to facilitate changing the tube and aid in maintaining the opening in the trachea.

Task 3: CSF/Spinal taps

No suturing is required.

Task 4: Chest tube placement

Suturing to secure the tube to the skin of the thorax may be required.

Task 5: IO catheter placement

Depending on the technique used, suturing may be required to attach the IO catheter to the skin.

Task 6: Centeses (urinary bladder, abdominocentesis, thoracocentesis)

No suturing is required.

Task 7: Advanced nerve blocking techniques

No suturing is required.

Question 3: Is there the potential that 'extending' or 'restricting' this task impacts consumer *access*? If so, how does it impact consumer access?

Restricting these tasks to RVTs and veterinarians should increase consumer access to these tasks, assuming that RVTs will be able to perform them under indirect supervision.

Question 4: Does 'extending' or 'restricting' this job task address an area of consumer *need*? If so, how does it address an area of need?

Restricting these tasks to RVTs and veterinarians should not impact consumer need.

Question 5: Does 'extending' or 'restricting' this job task create the potential or reduce the potential for *harm* (to the consumer and/or patient)?

Task 1: Central Line Placement

Restricting this task to be performed by RVTs or veterinarians only will greatly reduce potential harm to the patient. RVTs have specific training in anatomy and physiology and are taught the potential pitfalls and dangers of intravenous access. It is especially important for those accessing the central circulation to understand the potential complications of said access including but not limited to: infection, hemorrhage, laceration of tissues, and others. Because the potential complications can be quite serious, restricting this task to RVTs or veterinarians only further protects the consumer by giving the consumer an avenue to pursue complaints with the Veterinary Medical Board.

Task 2: Placement of NG tubes, urinary catheters, tracheal tubes

Restricting these tasks to be performed by RVTs or veterinarians only will greatly reduce potential harm to the patient:

- NG tubes can be mistakenly place within the lumen of the trachea and advanced into the lungs. If the tube is then used to provide liquid nutrition, aspiration pneumonia may be induced, leading to a need for a prolonged hospital stay, and many more complications and expenses. RVTs are trained in placement of these tubes, along with knowledge of anatomy and physiology, which attunes them to the potential complications and how they may be avoided. Additionally, placement of these tubes must be confirmed with properly positioned radiographs – a skill for which RVTs are specifically trained.
- Urinary catheterization must be performed as aseptically as possible to avoid iatrogenic urinary tract contamination and infection. RVTs are trained in proper aseptic techniques and are better equipped than non-credentialed staff to avoid contaminating the urinary tract. Urinary catheterization can be fraught with complications including urethral or

bladder rupture. RVTs are trained in the complications surrounding urinary catheterization and methods to avoid them.

- Veterinarians place tracheal breathing tubes surgically and maintaining these tubes falls to veterinary team members. Because these tubes are placed to preserve a patient's airway in the face of trauma, inflammation, or upper airway obstruction, keeping them open is paramount to keeping patients breathing. Care of these tubes, particularly suctioning or swapping out tubes as part of regular tracheal tube maintenance, is a potentially dangerous procedure, which should only be undertaken by the most highly qualified staff members, which include RVTs. With their training in anatomy and physiology, and care and maintenance of life-sustaining apparatuses, RVTs are the ideal team members to provide tracheal tube care.

Task 3: CSF/Spinal taps

Accessing the epidural or other spinal cord spaces is a high-risk procedure with numerous serious complications possible. Because of this risk, only team members with training in anatomy and physiology and a thorough knowledge of the potential complications of this procedure should be performing any collection of cerebrospinal fluid. Restricting this task to RVTs or veterinarians will provide more safety for patients and accountability for clients.

Task 4: Chest tube placement

The thoracic cavity contains many vital structures, most notably the lungs. There are many potential complications associated with chest tube placement including laceration of lung tissue or of major vessels within the thoracic cavity. RVTs and veterinarians should be the only veterinary team members performing this task both to increase patient safety and provide accountability for clients in the event of an adverse event.

Task 5: IO catheter placement

Placing catheters in the medullary cavity of bones to provide access to the systemic circulation should be restricted to RVTs and veterinarians only. There are several risks associated with IO catheters, including fractures and infection. By restricting this task to those staff members with training in and knowledge of anatomy and physiology, as well as the potential complications, the VMB will add safety protection for patients and consumer protection as well.

Task 6: Centeses (urinary bladder, abdominocentesis, thoracocentesis)

Centeses require accessing body cavities with a needle, an inherently dangerous procedure with many potential complications. RVTs and veterinarians have knowledge of anatomy and physiology that allows them to avoid potential complications, as well as recognize complications and intervene quickly and appropriately. Restricting this task to RVTs or veterinarians only will allow for the highest level of patient safety and will enhance consumer protection.

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Task 7: Advanced nerve blocking techniques

Advanced nerve blocks – such as epidurals, brachial-plexus blocks, sacrococcygeal blocks, and others – require injection of local anesthetics and/or opioid drugs into areas (including the epidural space of the spinal cord) to induce local anesthesia. As an anesthetic technique, these blocks should be restricted to RVTs or veterinarians only, just as general anesthetic induction is currently restricted. Overdoses of local anesthetics can be quite dangerous or even lethal; as such the administration of these agents should be restricted to those members of the veterinary team who have the knowledge to: correctly calculate drug doses; recognize adverse effects of local anesthetics; intervene promptly and appropriately in response to complications. Handling of opioids is already currently restricted to RVTs, veterinarians, or those assistants who hold Controlled Substance Permits (VACSP) and these agents are often used in nerve blocking techniques.

Question 6: Is this commonly recognized as a task for RVTs or veterinary assistants to perform, perhaps in other states?

The following table outlines those states whose practice acts address the tasks under consideration here by the California VMB and the level of supervision required for a credentialed technician to perform those tasks. It is worth noting that there are several states with many more restricted job tasks including intravenous access, medication injections, and maintenance and monitoring of anesthesia.

STATE	Level of Supervision Required for a Credentialed Technician to Perform the Listed Task		
	Immediate	**Direct**	**Indirect**
Alabama		• Thoracocentesis • Abdominocentesis	• Urinary catheterization (unobstructed) • Cystocentesis • Vascular access devices
Delaware		• Urinary catheterization (unobstructed) • Cystocentesis	
Massachusetts		Urinary catheterization (indwelling)	
Nebraska			• Cystocentesis • Urinary catheterization
Nevada	• Thoracocentesis • Abdominocentesis	• Cystocentesis • Urinary catheterization (unobstructed)	
North Dakota	Urinary catheterization (Level of supervision required unspecified)		

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Oklahoma	• Thoracocentesis • Abdominocentesis		
Pennsylvania		Establish an open airway	
South Carolina		Central venous catheters	Cystocentesis
Washington		Central venous catheters	• All centeses (including FNA) • Urinary catheterization (unobstructed) • NG tube placement
West Virginia		Establish an open airway	
Wisconsin		Local anesthesia	

Question 7: Is the RVT trained to perform the task as part of their formal curriculum? Does the training prepare the RVT to perform the task under supervision? If so, what type? Please provide specifics regarding the coursework or clinical training.

A complete review of every veterinary technology schools curriculum is not feasible. However, every veterinary technician program is required to teach veterinary anatomy and physiology. This training alone makes the RVT much more qualified to perform the tasks listed than any non-credentialed staff member. It is our recommendation that these tasks be restricted to RVTs under direct supervision.

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STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY • GOVERNOR EDMUND G. BROWN JR.

LEGAL AFFAIRS DIVISION
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MEMORANDUM

DATE	March 27, 2017
TO	**Members,** Veterinary Medical Board
FROM	**Tara Welch, Attorney** Legal Affairs Division, Department of Consumer Affairs
SUBJECT	**Controlled Substances Act and RVT Registration**

Below are the major points regarding the operation of the federal Controlled Substances Act (CSA) and its registration requirements as applied to a registered veterinary technician (RVT) who transports and administers a controlled substance at a location other than the veterinarian's principal place of business.

CSA – Registration: The CSA requires a practitioner, which includes 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 USCA §§ 802(2)(A), (10), (21), (22), and 822(a)(2).) The CSA also requires a separate registration at each principal place of business or professional practice where a registration applicant prescribes, dispenses, or administers controlled substances. (21 USCA § 822(e)(1).)

Veterinary Medicine Mobility Act of 2014 (Mobility Act) – Registration Exemption: Pursuant to the Mobility Act, a veterinarian, whose principal place of business is registered by the DEA, is not required to have a separate registration in order to transport and dispense controlled substances in the usual course of veterinary practice so long as the site of transporting and dispensing is located in a State where the veterinarian is licensed to practice veterinary medicine and is not a principal place of business or professional practice. (21 USCA § 822 (e)(2).) In effect, the Mobility Act did not authorize or prohibit transport or administration of a controlled substance **– it only exempted the transporting/administering veterinarian from having to register with the DEA his automobile or location where the controlled substance is ultimately administered.**

CSA Registration – RVT: The CSA defines practitioner as a "person licensed, registered, or otherwise permitted, by the United States or the jurisdiction in which he practices . . . to distribute, dispense, . . . administer . . . a controlled substance." (21 USCA § 802(21).) Different categories of practitioners are specified in the Code of Federal Regulations (CFR), which provides that a "mid-level" practitioner means an individual practitioner, other than a physician, dentist, veterinarian, or podiatrist, who is licensed, registered, or otherwise permitted by the United States or the jurisdiction in which he/she practices, to dispense a controlled substance in the course of professional practice. (21 CFR

1300.01.) An RVT falls under this definition because he or she is required to be registered by the Board (Business and Professions Code (BPC) § 4841) and is authorized to administer a controlled substance pursuant to BPC section 4836.1(a), which requires direct or indirect supervision by the licensed veterinarian.

Although an RVT is a mid-level practitioner under the CSA, the CSA provides an exemption from the DEA registration requirement for an agent or employee of the practitioner if such agent or employee is acting in the usual course of his business or employment. (21 USCA § 822(c)(1).) The federal regulations clarify that an individual practitioner (RVT) who is an agent or employee of another practitioner (licensed veterinarian) registered by the DEA to dispense controlled substances may, when acting in the normal course of business or employment, administer, dispense, or transport a controlled substance if and to the extent that such individual practitioner is authorized or permitted to do so by the jurisdiction in which he or she practices. (21 CFR 1301.22(b).) Accordingly, when an RVT is transporting and dispensing a controlled substance at a site other than the veterinarian's principal place of business and under the direct or indirect supervision of the licensed veterinarian, the RVT would be operating under the DEA registration of the licensed veterinarian. As such, the RVT would not need his or her own DEA registration under the CSA in order to lawfully transport controlled substances.

Public Law 113–143
113th Congress

An Act

Aug. 1, 2014
[H.R. 1528]

To amend the Controlled Substances Act to allow a veterinarian to transport and dispense controlled substances in the usual course of veterinary practice outside of the registered location.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Veterinary Medicine Mobility Act of 2014.
21 USC 801 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Veterinary Medicine Mobility Act of 2014".

SEC. 2. TRANSPORT AND DISPENSING OF CONTROLLED SUBSTANCES IN THE USUAL COURSE OF VETERINARY PRACTICE.

Section 302(e) of the Controlled Substances Act (21 U.S.C. 822(e)) is amended—

(1) by striking "(e)" and inserting "(e)(1)"; and

(2) by adding at the end the following:

"(2) Notwithstanding paragraph (1), a registrant who is a veterinarian shall not be required to have a separate registration in order to transport and dispense controlled substances in the usual course of veterinary practice at a site other than the registrant's registered principal place of business or professional practice, so long as the site of transporting and dispensing is located in a State where the veterinarian is licensed to practice veterinary medicine and is not a principal place of business or professional practice.".

Approved August 1, 2014.

LEGISLATIVE HISTORY—H.R. 1528:

HOUSE REPORTS: No. 113–457, Pt. 1 (Comm. on Energy and Commerce).
CONGRESSIONAL RECORD, Vol. 160 (2014):
July 8, considered and passed House.
July 16, considered and passed Senate.

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MDC Agenda Item #7

HAND CARRY

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Veterinary Drug Compounding

BPC 4826.5. Notwithstanding any other law, a licensed veterinarian or registered veterinary technician under the supervision of a licensed veterinarian may compound drugs for animal use pursuant to Section 530 of Title 21 of the Code of Federal Regulations and in accordance with regulations promulgated by the board. The regulations promulgated by the board shall, at a minimum, address the storage of drugs, the level and type of supervision required for compounding drugs by a registered veterinary technician, and the equipment necessary for the safe compounding of drugs. Any violation of the regulations adopted by the board pursuant to this section shall constitute grounds for an enforcement or disciplinary actions. (SB 1193 (Hill, Chapter 484, Statutes of 201600

Proposed Regulations:

Article 11 Compounding in a Veterinary Premises.
2090 Definitions.

(a) "Compounding" means any of the following activities performed in a registered veterinary premises by a licensed veterinarian that has established the veterinary-client-patient relationship for the patient(s) or a registered veterinary technician under the direct or indirect supervision of that veterinarian.
  (1) Altering the dosage form or delivery system of a drug.
  (2) Altering the strength of a drug.
  (3) Combining components or active ingredients.
  (4) Preparing a compounded drug preparation from chemicals or bulk substances.

(b) "Compounding" does not include reconstitution of a drug pursuant to a manufacturer's direction(s) for oral, rectal, topical, or injectable administration, nor does it include the sole act of tablet splitting or crushing, capsule opening, or the addition of flavoring agent(s) to enhance palatability.

(c) "Beyond use date" means the date, or date and time, determined from the date the preparation is compounded, after which administration of a compounded drug preparation shall not begin, the preparation shall not be dispensed, and the preparation shall not be stored other than for quarantine purposes.
  (1) For non-sterile compounding, the beyond use date shall not exceed either of the following:
    (A) 180 days from the date the preparation is compounded.
    (B) The shortest expiration date or beyond use date of any ingredient in the non-sterile compounded drug preparation.
  (2) For sterile compounding, the beyond use date shall not exceed any of the following:
    (A) 30 days from the date the preparation is compounded.

(B) The shortest expiration date or beyond use date of any ingredient in the sterile compounded drug preparation

(d) "Hazardous" means all anti-neoplastic agents identified by the National Institute for Occupational Safety and Health (NIOSH) as meeting the criteria for a hazardous drug and any other drugs, compounds, or materials identified as hazardous by the supervising veterinarian.

(e) "Non-sterile compounding" means simple compounding or making a preparation that has a United States Pharmacopeia (USP) compounding monograph or that appears in a peer-reviewed journal article that contains specific quantities of all components, compounding procedure and equipment, and stability data for that formulation with appropriate beyond use dates, or reconstituting or manipulating commercial products that may require the addition of one or more ingredients as directed by the manufacturer.

(f) Non-sterile compounding' does not include "moderate compounding" or "complex compounding" as defined in USP because of their need for specific equipment and environment for the production of these more complex drug preparation.

OR

(f) A veterinarian must ensure the safety and efficacy of a compounded drug, including, but not limited to, avoiding known drug incompatibilities and inappropriate complications, and must use a pharmacist to perform drug compounding when the complexity of the compounding exceeds the veterinarian's knowledge, skill, facilities, or available equipment.

(If the second definition of (f) is chosen, it may be better under 2091 or 2093.)

2091. Compounding Limitations and Requirements.

(a) A veterinarian or registered veterinary technician may perform non-sterile compounding or sterile compounding.

(b) A compounded drug preparation shall not be prepared until the veterinarian has first prepared a written master formula document that includes the following elements.

(1) Active ingredients to be used

(2) Equipment to be used

(3) Beyond use day or expiration date of the preparation.

(4) Inactive ingredients to be used.

(5) Specific compounding steps to be used to prepare the drug.

(6) Instructions for storage, handling, and administration of the compounded preparation.

(c) Where the veterinarian does not routinely compound a particular drug preparation, the master formula record for the preparation may be kept in the medical record of the patient.

(d) The veterinarian performing or supervising compounding is the person that is responsible for all of the following:

(1) Training and oversight of the registered veterinary technician who is compounding the preparation.

(2) Labeling the compounded drug according to section 2093.

(3) Proper storage of the drugs used in compounding and the compounded drug preparations.

2092. Recordkeeping for Compounded Drug Preparations:

(a) For each compounded drug preparation, the veterinarian who prepares or supervises the preparation of the compounded drug preparation shall maintain all of the following records:

(1) The master formula document.

(2) Must be sure that the following information is in the patient's medical record.

(A) The name or initials of the veterinarian who established the veterinary-client-patient relationship that established the need for the compounded drug preparation.

(B) The name or initials of the veterinarian that made or supervised the registered veterinary technician (name or initials) who made the compounded drug preparation.

(C) Its beyond use date or expiration date.

(D) The directions for its storage and administration.

(E) Name, amount, and strength of the compounded drug preparation.

(F) The date the drug preparation was compounded.

(G) Proper storage of the drug preparation.

2093. Labeling of Compounded Preparations:

All labeling of any compounded drug preparation shall comply with subdivision (b) of section 2032.2.

2094. Compounding Policies and Procedures.

(a) A veterinary premises that engages in compounding drug preparations shall develop and maintain a written policies and procedures manual.

(b) This master formula document may be a part of this manual.

(c) This manual will have a list of all the requirements of sections 2091, 2092, and 2093.

(d) The manual shall establish the policies and procedures for the training of a registered veterinary technician who performs compounded drug preparations.

2095. Compounding Facilities and Equipment;

No hazardous drug compounding shall be performed at veterinary premises without the proper equipment, protective gear, and trained personnel.

2096. Training of Compounding Staff.

A registered veterinary technician who performs drug compounding shall demonstrate to the supervising veterinarian sufficient knowledge about processes and procedures used in compounding prior to compounding any drug preparation. This will then be recorded in the Policies and Procedures Manual.

2097. Sterile Compounding in Veterinary Premises.

(a) Sterile compounding shall be for immediate use except in the following conditions:

(1) A dilution of the ingredients is essential for the safe administration of the preparation.

(2) There are no other human or animal drugs that satisfy the need of this preparation.

(3) There is a historical documentation of the need, safety, and efficacy of the preparation.

(b) Only drugs approved by the United States Food and Drug Administration shall be used as the ingredients in a sterile compounded drug preparation.

2098. Inspection Authority.

The California State Board of Pharmacy and the California Veterinary Medical Board shall have authority to inspect any veterinary premises engaged in compounding to ensure compliance.

The Veterinary Medical Board is charged with enforcing the provisions of this Chapter

Proposed Language –Veterinary Drug Information
MDC Subcommittee – Dr. Sullivan and Dr. Pollard
April 18, 2017

(a) It shall constitute unprofessional conduct for a veterinarian to fail to provide, when furnishing a dangerous drug to a client, or his or her representative, for administration to an animal patient, a consultation that includes the following information:
  (1) the name and description of the drug;
  (2) details for preparation and administration to the animal patient by the client, or his or her representative.
  (3) route of administration, dosage form, dosage, and duration of drug therapy;
  (4) directions for proper use and storage;
  (5) precautions and relevant warnings provided by the drug's manufacturer, including common severe adverse effects or interactions that may be encountered and adverse interactions with other medications including those available with or without a prescription;
  (6) drug prescription refill information; and,
  (7) actions to be taken in the event of a missed dose.

(b) A veterinarian may delegate the task of providing the consultation to a registered veterinary technician or veterinary assistant under his or her supervision, and the required information may be provided in written form.

(c) The provisions of subdivision (a) shall not apply if the client, or his or her representative, declines or refuses the consultation or elects to have a prescription filled at a location other than a registered veterinary premises. If a consultation is not provided, that fact shall be recorded in the patient's records.

(d) A registered veterinary premises where dangerous drugs are furnished shall post a sign in a conspicuous location, with the form to be specified by the board, indicating that the consultation specified in subdivision (a) must be offered to the client, or his or her representative.

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16 CA ADC § 1707.2
BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations Currentness
Title 16. Professional and Vocational Regulations
Division 17. California State Board of Pharmacy
Article 2. Pharmacies (Refs & Annos)

16 CCR § 1707.2

§ 1707.2. Duty to Consult.

(a) A pharmacist shall provide oral consultation to his or her patient or the patient's agent in all care settings:

(1) upon request; or

(2) whenever the pharmacist deems it warranted in the exercise of his or her professional judgment.

(b)(1) In addition to the obligation to consult set forth in subsection (a), a pharmacist shall provide oral consultation to his or her patient or the patient's agent in any care setting in which the patient or agent is present:

(A) whenever the prescription drug has not previously been dispensed to a patient; or

(B) whenever a prescription drug not previously dispensed to a patient in the same dosage form, strength or with the same written directions, is dispensed by the pharmacy.

(2) When the patient or agent is not present (including but not limited to a prescription drug that was shipped by mail) a pharmacy shall ensure that the patient receives written notice:

(A) of his or her right to request consultation; and

(B) a telephone number from which the patient may obtain oral consultation from a pharmacist who has ready access to the patient's record.

(3) A pharmacist is not required by this subsection to provide oral consultation to an inpatient of a health care facility licensed pursuant to section 1250 of the Health and Safety Code, or to an inmate of an adult correctional facility or a juvenile detention facility, except upon the patient's discharge. A pharmacist is not obligated to consult about discharge medications if a health facility licensed pursuant to subdivision (a) or (b) of Health and Safety Code Section 1250 has implemented a written policy about discharge medications which meets the requirements of Business and Professions Code Section 4074.

(c) When oral consultation is provided, it shall include at least the following:

(1) directions for use and storage and the importance of compliance with directions; and

(2) precautions and relevant warnings, including common severe side or adverse effects or interactions that may be encountered.

(d) Whenever a pharmacist deems it warranted in the exercise of his or her professional judgment, oral consultation shall also include:

(1) the name and description of the medication;

(2) the route of administration, dosage form, dosage, and duration of drug therapy;

(3) any special directions for use and storage;

(4) precautions for preparation and administration by the patient, including techniques for self-monitoring drug therapy;

(5) prescription refill information;

(6) therapeutic contraindications, avoidance of common severe side or adverse effects or known interactions, including serious potential interactions with known nonprescription medications and therapeutic contraindications and the action required if such side or adverse effects or interactions or therapeutic contraindications are present or occur;

(7) action to be taken in the event of a missed dose.

(e) Notwithstanding the requirements set forth in subsection (a) and (b), a pharmacist is not required to provide oral consultation when a patient or the patient's agent refuses such consultation.

Note: Authority cited: Sections 4005, 4076 and 4122, Business and Professions Code. Reference: Sections 4005, 4076 and 4122, Business and Professions Code.

HISTORY

1. Renumbering and amendment of former section 1707.1 to section 1707.2 filed 8-10-90; operative 3-1-91 (Register 90, No. 39).

2. Request for change in operative date to 1-1-92 pursuant to Government Code section 11346.2 filed 1-11-91; operative 1-11-91 (Register 91, No. 6).

3. Request for change in operative date to 11-1-92 filed 12-23-91 as an emergency; operative 12-23-91 (Register 92, No. 11). A Certificate of Compliance must be transmitted to OAL 4-21-92 or emergency language will be repealed by operation of law on the following day.

4. Certificate of Compliance as to 12-23-91 order transmitted to OAL 4-21-92 and filed 5-28-92 (Register 92, No. 22).

5. Amendment filed 3-12-93; operative 4-12-93 (Register 93, No. 11).

6. Editorial correction of subsections (b)(1)(A) and (f) (Register 95, No. 16).

7. Amendment of subsections (b)(3)-(c) and (f) and amendment of Note filed 8-8-2002; operative 9-7-2002 (Register 2002, No. 32).

8. New subsection (g) and amendment of Note filed 10-31-2007 as an emergency; operative 11-30-2007 (Register 2007, No. 44).

9. Amendment of section heading, repealer of subsections (f) and (g) and amendment of Note filed 1-17-2012; operative 2-16-2012 (Register 2012, No. 3).

This database is current through 3/17/17 Register 2017, No. 11

16 CCR § 1707.2, 16 **CA ADC § 1707 . 2**

END OF DOCUMENT

Definitions of Sedation, SA

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(Approved by ASA October 13, 1999)

Minimal Sedation (Anxiolysis)

- A drug-induced state during which patients respond normally to verbal commands.
- Cognitive function and coordination may be impaired.
- Ventilatory and cardiovascular functions are unaffected.

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Moderate Sedation/ Analgesia ("Conscious Sedation")

- A drug-induced depression of consciousness during which
  - patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation
  - reflex withdrawal from a painful stimulus is NOT considered a purposeful response
- No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate.
- Cardiovascular function is usually maintained.

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Deep Sedation/ Analgesia

- A drug-induced depression of consciousness during which patients cannot be easily aroused, but
  - respond purposefully following repeated or painful stimulation.
  - reflex withdrawal from a painful stimulus is NOT considered a purposeful response
- The ability to independently maintain ventilatory function may be impaired.
  - Patients may require assistance in maintaining a patent airway.
  - Spontaneous ventilation may be inadequate.
- Cardiovascular function is usually maintained.

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General Anesthesia

- A drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation.
- The ability to independently maintain ventilatory function is often impaired.

    - Patients often require assistance in maintaining a patent airway.
    - Positive pressure ventilation may be required because of depresseous ventilation or drug-induced depression of neuromuscular function.
- Cardiovascular function may be impaired.

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The Continuum of Sedation -- Anesthesia

- Because sedation is a continuum, it is not always possible to predict how an individual patient will respond.
- Practitioners intending to produce a given level of sedation should be able to rescue patients whose level of sedation becomes deeper than initially intended.
    - Individuals administering Moderate Sedation/Analgesia ("Conscious Sedation") should be able to rescue patients who enter a state of Deep Sedation/Analgesia
    - Those administering Deep Sedation/Analgesia should be able to rescue patients who enter a state of general anesthesia.

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Monitored Anesthesia Care (MAC)

- Does not describe the continuum of depth of sedation.
- Rather, it describes "a specific anesthesia service in which an anesthesiologist has been requested to participate in the care of a patient undergoing a diagnostic or therapeutic procedure."

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American Society of Anesthesiologists®

CONTINUUM OF DEPTH OF SEDATION: DEFINITION OF GENERAL ANESTHESIA AND LEVELS OF SEDATION/ANALGESIA*

Committee of Origin: Quality Management and Departmental Administration

(Approved by the ASA House of Delegates on October 13, 1999, and last amended on October 15, 2014)

	Minimal Sedation Anxiolysis	*Moderate Sedation/ Analgesia ("Conscious Sedation")*	*Deep Sedation/ Analgesia*	*General Anesthesia*
Responsiveness	Normal response to verbal stimulation	Purposeful** response to verbal or tactile stimulation	Purposeful** response following repeated or painful stimulation	Unarousable even with painful stimulus
Airway	Unaffected	No intervention required	Intervention may be required	Intervention often required
Spontaneous Ventilation	Unaffected	Adequate	May be inadequate	Frequently inadequate
Cardiovascular Function	Unaffected	Usually maintained	Usually maintained	May be impaired

Minimal Sedation (Anxiolysis) is a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and physical coordination may be impaired, airway reflexes, and ventilatory and cardiovascular functions are unaffected.

Moderate Sedation/Analgesia ("Conscious Sedation") is a drug-induced depression of consciousness during which patients respond purposefully** to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

* Monitored Anesthesia Care ("MAC") does not describe the continuum of depth of sedation, rather it describes "a specific anesthesia service in which an anesthesiologist has been requested to participate in the care of a patient undergoing a diagnostic or therapeutic procedure."

** Reflex withdrawal from a painful stimulus is NOT considered a purposeful response.

Deep Sedation/Analgesia is a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully** following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

General Anesthesia is a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

Because sedation is a continuum, it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to rescue*** patients whose level of sedation becomes deeper than initially intended. Individuals administering Moderate Sedation/Analgesia ("Conscious Sedation") should be able to rescue*** patients who enter a state of Deep Sedation/Analgesia, while those administering Deep Sedation/Analgesia should be able to rescue*** patients who enter a state of General Anesthesia.

** Reflex withdrawal from a painful stimulus is NOT considered a purposeful response.

*** Rescue of a patient from a deeper level of sedation than intended is an intervention by a practitioner proficient in airway management and advanced life support. The qualified practitioner corrects adverse physiologic consequences of the deeper-than-intended level of sedation (such as hypoventilation, hypoxia and hypotension) and returns the patient to the originally intended level of sedation. It is not appropriate to continue the procedure at an unintended level of sedation.

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Dexmedetomidine & Atipamezole

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Dexmedetomidine is an α_2-agonist that produces varying degrees of sedation, muscle relaxation, and analgesia. The duration of sedation is approximately 1 to 3 hours when administered at the recommended IM or IV doses (1-10 µg/kg), with IM administration providing longer periods of sedation. These effects are reversed by the α_2-antagonist atipamezole (0.1-0.3 mg/kg IM), which is available in a 5 mg/mL formulation (Antisedan; zoetisus.com).

Dexmedetomidine

Indications

Dexmedetomidine is approved for use in dogs and cats to facilitate physical examination, minor clinical procedures, and as a preanesthetic medication. Dexmedetomidine is also used to provide sedation during emergence delirium from general anesthesia. Constant rate infusions of dexmedetomidine (0.5-3.0 µg/kg/h IV) can also provide prolonged sedation for anxious or disorderly inpatients.[1]

Contraindications & Drug Interactions

Dexmedetomidine should, in general, be reserved for young, healthy patients. Dexmedetomidine has significant negative cardiovascular effects (see **Advantages & Disadvantages**, next page) and is contraindicated in any patient suffering from or having a predilection for cardiovascular disease. There is argument, however, that dexmedetomidine may be beneficial in cats with hypertrophic cardiomyopathy (HCM) showing dynamic left ventricular outflow tract (LVOT) obstruction, where the increase in systemic vascular resistance and decrease in heart rate produced by α_2-agonists may actually eliminate the LVOT obstruction.[2] Dexmedetomidine is also contraindicated in patients suffering from respiratory disorders, liver disease, kidney disease, shock, severe debilitation, or stress caused by extreme heat, cold, or fatigue.[3] The medication can produce vomiting in dogs and cats following IM administration, so it is also contraindicated when vomiting could be significantly detrimental to the patient (eg, increased intraocular pressure, increased intracranial pressure, increased intragastric pressure). Because α_2-agonists reduce uterine blood flow and may affect intrauterine pressure, dexmedetomidine is not recommended for use in pregnant animals.

Because of its sedative and analgesic properties, dexmedetomidine can potentiate the effects of other sedatives, induction agents, inhalant anesthetics, and opioids. Administered alone, α_2-agonists produce minimal respiratory effects in healthy dogs and cats, characterized by a decrease or no change in respiratory rate and minimal change in

1 **Oxygen supplementation via face mask to a dog following dexmedetomidine sedation. Hemoglobin saturation, read from the pulse oximeter placed on the lip, is 100% and heart rate is 75 beats per minute.**

HCM = hypertrophic cardiomyopathy, LVOT = left ventricular outflow tract

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blood gas tension.[4] Nonetheless, significant hypoventilation resulting in hypoxia can occur when α_2-agonists are administered with other drugs (eg, opioids, ketamine, propofol), so oxygen supplementation is recommended when dexmedetomidine is administered with other drugs (**Figure 1**, previous page).[5] Supplemental oxygen may prevent hypoxemia but will not prevent respiratory acidosis. Premedication with dexmedetomidine can reduce the amount of anesthetic induction drug required by approximately 30% to 60% and the inhalant anesthetic requirements by approximately 35% to 90%, depending on dose.[3,5] With this in mind, anesthetic induction and maintenance drugs should always be titrated to effect, and patients should be closely monitored throughout the procedure.

Administration of dexmedetomidine results in increased systemic vascular resistance, bradycardia, and a marked decrease in cardiac output.[6] The initial decrease in heart rate is a reflex bradycardia caused by the increase in systemic vascular resistance. The use of anticholinergics before or after administration of dexmedetomidine is controversial. Treatment with anticholinergics before administration of dexmedetomidine prevents bradycardia; however, cardiac output can still be decreased by over 50%, despite normalization of heart rate.[6] Administering an anticholinergic after dexmedetomidine administration increases the risk of dysrhythmias; thus, routine use of anticholinergics concurrently or after treatment with dexmedetomidine is not recommended.[3] If a patient has profound bradycardia (ie, heart rate <40 beats per minute for dogs, <100 beats per minute for cats) following administration of dexmedetomidine, an electrocardiogram should be evaluated to assess rhythm and, if ventricular escape beats are present, atipamezole should be administered.

Advantages & Disadvantages

Dexmedetomidine produces profound sedation and muscle relaxation that facilitates examination, IV catheter placement, diagnostic procedures, and minor surgical procedures (eg, laceration repair, small tissue biopsy). Analgesia provided by α_2-agonists has been shown to be synergistic with opioids.[7] In addition, premedication with α_2-agonists attenuates the stress response elicited by surgery.[8,9] The 0.5 mg/mL formulation of dexmedetomidine also allows for smaller volumes to be injected IM, which may be easier to administer to fractious or less cooperative patients.

Dexmedetomidine has a relatively short duration of action, with sedation lasting from 1-3 hours in dogs and cats at the recommended doses, making it ideal for short procedures or when a patient needs to be discharged on the same day as the procedure. Another advantage of dexmedetomidine is that in the event of complications or excessive sedation, its effects can be reversed by atipamezole administration.

2 **Second-degree AV block in a dog following dexmedetomidine administration. There are multiple P waves on the electrocardiogram that do not have associated QRS complexes (arrows). Heart rate is 52 beats per minute.**

The major disadvantage of dexmedetomidine is its cardiovascular effects, limiting its use to young, healthy patients (American Society of Anesthesiologists [ASA] classification status I and II). Even small doses of α_2-agonists (approximately 1 µg/kg) can decrease cardiac output by approximately 50%.[10] The administration of α_2-agonists commonly results in a biphasic blood pressure response; initially the patient is bradycardic with elevated blood pressure, but with time the systemic vascular resistance may decrease, resulting in hypotension with continued bradycardia.[11] In addition to bradycardia, a variety of dysrhythmias may be observed, including second-degree atrioventricular (AV) block, third-degree AV block, supraventricular or ventricular tachycardia, supraventricular or ventricular precontractions, and ventricular or junctional escape beats (**Figure 2**).

Cost

Although the cost of dexmedetomidine may be more than for other sedatives (eg, acepromazine), the reduced amount of induction and maintenance drugs required for anesthesia is likely to offset any additional cost incurred by dexmedetomidine use.

AV = atrioventricular

Atipamezole

Indications

Atipamezole reverses the sedative, analgesic, and cardiovascular effects of dexmedetomidine. Atipamezole is approved for IM administration in dogs; it has also been used successfully off-label in cats.[12] Atipamezole is typically administered after completion of a minor procedure performed under dexmedetomidine sedation. When dexmedetomidine has been used for premedication, atipamezole can be administered during anesthesia to treat excessive bradycardia and dysrhythmias, or it can be administered after anesthesia if recovery is prolonged. Atipamezole is also indicated during cardiopulmonary resuscitation when the patient has received dexmedetomidine; in this circumstance, it can be administered IV (0.1 mg/kg).[13]

Contraindications & Drug Interactions

IV administration of atipamezole is usually contraindicated, except for emergency situations. Atipamezole administered IV may result in rapid relaxation of vascular tone, which coupled with bradycardia could result in cardiovascular collapse.[11] Atipamezole is also formulated with the preservative methylparaben, which can cause histamine release leading to hypotension. It has been recommended that atipamezole and anticholinergics not be used concurrently, as both can cause significant increases in heart rate.[14]

Advantages & Disadvantages

The major advantage of atipamezole is that it can rapidly reverse the sedative and cardiovascular effects of dexmedetomidine, and cardiac output is returned to baseline levels following administration.[6] Atipamezole is highly selective for the α_2-receptor and does not have some of the adverse effects associated with less selective α_2-antagonists (eg, tolazoline, yohimbine). Atipamezole also has a wide safety margin when administered IM.[11]

The major advantage of atipamezole is that it can rapidly reverse the sedative and cardiovascular effects of dexmedetomidine, and cardiac output is returned to baseline levels following administration.[6]

Atipamezole is approved only for IM use, as IV administration of α_2-antagonists can result in hypotension, tachycardia, or even cardiovascular collapse. Another disadvantage is that all analgesia and sedation provided by dexmedetomidine will be reversed by atipamezole. Appropriate analgesia (ie, opioids) should be provided for painful procedures; this will help reduce the dose of dexmedetomidine and provide additional pain control if atipamazole is administered.

In addition, there is the potential for resedation from the initial dose of α_2-agonist approximately 30 to 60 minutes after atipamezole because of its short duration of action.

Cost

Any additional cost associated with atipamezole can be easily justified by its ability to reverse the negative cardiovascular effects of dexmedetomidine. Atipamezole can minimize the time that patients experience significant cardiovascular depression.

Conclusion

Dexmedetomidine and atipamezole are useful in many veterinary situations involving healthy dogs and cats requiring sedation, muscle relaxation, and analgesia. However, selection should be on an individual patient basis as dexmedetomidine is associated with significant negative cardiovascular effects. ■ cb

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Injectable Anesthetics

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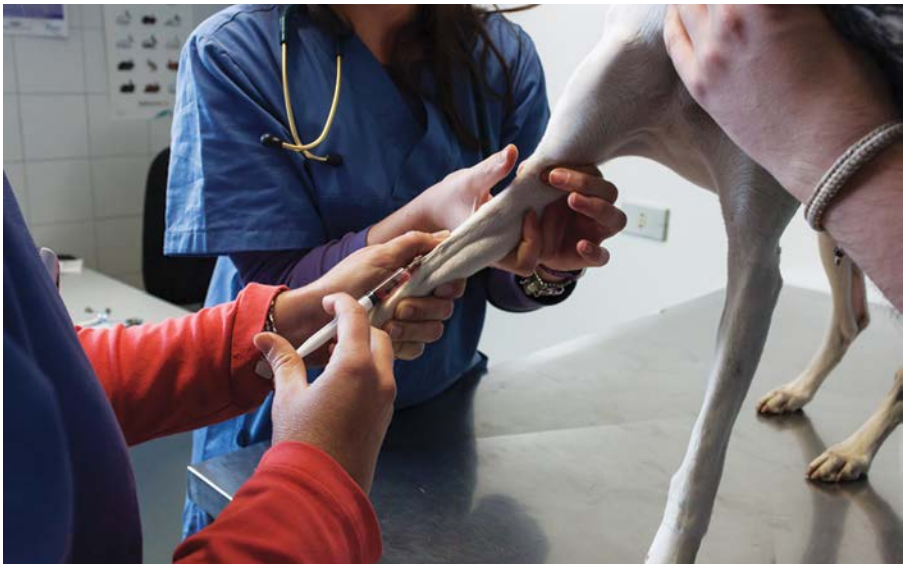
Injectable anesthetics are useful in situations where inhalational techniques are not readily available. They are also a suitable alternative when anesthesia must be provided outside of a hospital setting or for quick procedures, such as clinical examinations, diagnostic imaging, and minor surgical procedures.



Indications

Injectable anesthetic agents are mostly employed in situations where rapid induction of anesthesia is indicated, and some agents are also suitable for maintenance of anesthesia. Important factors for the indication of these agents include onset of action, duration of anesthetic effect, routes of administration, and cardiorespiratory responses.[1]

Products with rapid onset of action and brief duration of effects (propofol, thiopental, alfaxalone) are mainly employed as induction agents.[1]

The author mainly uses products with rapid onset of action and brief duration of effect (eg, propofol, thiopental, or alfaxalone) for anesthetic induction. These agents are administered IV because of tissue irritation (thiopental) or poor bioavailability (propofol) when administered via other routes.

Alfaxalone can be administered IM to induce a light plane of anesthesia in sedated cats, but the large volume of the injection and the potential for a poor recovery are limiting factors for use by this route.[2]

Although these agents produce loss of consciousness and reasonable muscle relaxation, they do not provide analgesia. They should be injected slowly to effect because they can easily induce states of hypotension, respiratory depression, and post-induction apnea.

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Agents with rapid metabolism and no cumulative effects, such as propofol and alfaxalone, are also suitable for maintenance of anesthesia via repeated boluses or through constant/variable rate infusions, depending on the case.[3–6] Long or repeated infusions of propofol can accumulate in cats, because they cannot rapidly metabolize the drug.[1,6] Thiopental is not suitable for anesthetic maintenance because it has cumulative effects and is metabolized slowly.

Orotracheal intubation should be performed to protect the patient's airway, as these agents will suppress protective reflexes; intubation will also help in management of apneic events. Oxygen supplementation is also recommended to prevent hypoxemia. These agents are rarely employed in settings with few technical capabilities, aside from providing anesthesia for very brief procedures (between 5–15 minutes).

Dissociative anesthetics (eg, ketamine, tiletamine) have a relatively rapid onset of action, a longer duration of effect (20–45 minutes), and are suitable for IV and IM administration.[7,8,9] Dissociative anesthetics are preferred for shelter anesthesia protocols.

This type of anesthesia is characterized by catalepsy, amnesia, profound somatic analgesia, muscle rigidity (spontaneous movements and tremors are possible), the presence of active reflexes (ie, palpebral reflexes, gagging, swallowing), and salivation.

These agents cause minimal respiratory depression (irregular and apneustic breathing patterns may be observed) and moderate cardiovascular stimulation in healthy patients.[1,7,8] Because of potential adverse effects, dissociative anesthetics should not be used alone. Ketamine is routinely employed in combination with sedatives (eg, benzodiazepines or α–2 agonists) and analgesics to improve muscle relaxation, surgical analgesia (antinociception), and quality of recovery.

1 **A lubricating ointment has been administered to protect the cornea in a 1-year-old male cat anesthetized with IM dexmedetomidine (30 µg/kg), buprenorphine (0.02 mg/kg), and ketamine (7.5 mg/kg).**

2 **The same cat intubated. A nebulization of lidocaine 2% has been sprayed onto the larynx to facilitate intubation.**

Dissociative anesthetics (ketamine and tiletamine) have a relatively rapid onset of action, a longer duration of effects, and are suitable for IV and IM administration.

3 **Two-year-old male dog admitted for suturing of lacerations. The patient was sedated with IM dexmedetomidine (7 µg/kg)and methadone (0.2 mg/kg). After 10 minutes, ketamine (7.5 mg/kg) was administered IV, providing 20 minutes of surgical anesthesia.**

4 **External disturbances, such as intense light and noises, should be reduced during recovery from dissociative anesthesia.**

Injectable Anesthesia: The Good & the Bad

Pros

- Less equipment compared with inhaled anesthesia
- No human exposure to waste gases
- Decreased cost

Cons

- Increased risk for overdose
- Rapid manipulation of anesthetic plane not possible
- For many of these agents, reversal is not possible once administered, even if severe complications occur
- Safety measures can easily be neglected

Tiletamine is closely related to ketamine but is more potent with a longer duration of effect.[1,7] It is marketed in combination with zolazepam, a benzodiazepine, to reduce muscle rigidity. Because of its higher potency, small injection volumes of tiletamine-zolazepam are effective for achieving a rapid effect in fractious patients, even when administered IM.[8]

The quality of anesthesia with tiletamine-zolazepam can also be improved and its dose reduced by the inclusion of α-2 agonists and analgesics within the protocol. The persistence of cranial reflexes with dissociative agents does not guarantee adequate protection of the patient's airway. Therefore, tracheal intubation and oxygen supplementation are also recommended.

If the eyes remain open and centered in their orbit and the ocular reflexes are active, judgment of the adequacy of the anesthetic plane may be difficult under dissociative anesthesia. This eye position may also increase the risk of corneal drying and ulceration. The use of an eye lubricant is recommended in anesthetized patients to prevent corneal injuries.

Complete recovery from dissociative anesthesia is typically prolonged. Spontaneous movements, tonic-clonic spasms, and excitation are observed in cats and dogs if adjunctive drugs are not administered or if they are given at inadequate doses.[7,9] These undesirable effects can be accentuated by an inadequate use of α–2 antagonists (atipamezole) to enhance the speed of recovery.

In the author's experience, reversal drugs can be safely administered 45–50 minutes after the administration of the dissociative agent. Premature reversal may result in a rough recovery, particularly in dogs.[8] In these cases, the use of diazepam or midazolam at normal doses (0.2–0.4 mg/kg IM or IV) is useful to alleviate the excitatory effects of dissociative agents. During recovery, external disturbances such as intense light and loud noises, should be avoided.

Drug Interactions & Contraindications

Anesthesia is a complex state where unconsciousness, lack of perception or memory, and antinociception and proper muscle relaxation (the so-called "triad of general anesthesia") must be ensured. "Balanced" anesthesia can only be achieved by the use of several drugs.[1] Therefore, it is essential to provide the patient with a suitable preanesthetic medication (or adjuvant drug combination) that includes the use of sedatives and analgesics. It is particularly important to consider the use of analgesics, tailoring potency to the aggressiveness of the intended procedure.

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Table 1. Sedatives & Opioids for Pre-anesthetic Medication

Drug	*Dog*	*Cat*	*Comments*
Acepromazine	0.01–0.05 mg/kg IM	0.05–0.1 mg/kg IM	Mild sedative effect Onset of action: 20–40 min Prolonged effect: 4–8 hr Enhanced sedation with opioids Vasodilation
Medetomidine	5–15 µg/kg IM	5–50 µg/kg IM	Potent sedative effect Onset of action: 10–15 min Duration of action: 40–140 min Reduced doses in combination with opioids Vomiting may occur Bradycardia, initial hypertension Can be antagonized with atipamezole to speed recovery (approximately same volume of medetomidine administered in dogs and half that volume in cats) Dexmedetomidine has similar effects with half the dose; can also be antagonized, but this is usually unnecessary
Xylazine	0.2–1.0 mg/kg IM	0.2–2.0 mg/kg IM	Potent sedative effect Onset of action: 5–15 min Duration of action: 60 min Reduced doses in combination with opioids Vomiting, bradycardia, and hypertension followed by prolonged hypotension Can be antagonized with low doses of atipamezole (xylazine is not a highly selective α-2 agonist)
Buprenorphine	0.01–0.02 mg/kg IM Half the dose IV	0.01–0.02 mg/kg IM Half the dose IV	Enhances sedation Slow onset of action: 20–40 min Prolonged effects 6–8 hr Good in postoperative phase to treat moderate pain Moderate analgesia (potent in cats) Unlikely to cause vomiting
Butorphanol	0.1–0.5 mg/kg IM Half the dose IV	0.2–0.5 mg/kg IM Half the dose IV	Enhances sedation Suitable analgesia (1–2 hr) for minor to moderate procedures (eg, castration) Unlikely to cause vomiting or panting
Hydromorphone	0.05–0.2 mg/kg IM	0.05–0.1 mg/kg IM	Similar to oxymorphone
Morphine	0.1–0.5 mg/kg IM	0.1–0.2 mg/kg IM	Enhances sedation Onset of action: 10–20 min Effect: 2–6 hrs Potent analgesic Salivation, vomiting, defecation Bradycardia, dose-dependent respiratory depression Unlikely to cause panting
Methadone	0.1–0.3 mg/kg IM	0.1–0.3 mg/kg IM	Enhance sedation Rapid onset of action: 5–10 min Effect: 2–6 hrs Potent analgesia Bradycardia, dose-dependent respiratory depression, panting effect Unlikely to cause vomiting
Oxymorphone	0.05–0.2 mg/kg IM	0.05–0.1 mg/kg IM	Similar to morphine Less likely to cause vomiting, panting effect

Table 2. Injectable General Anesthetics

Drug	*Induction dose*	*Maintenance*	*Comments*
Alfaxalone	Dogs: 2–3 mg/kg Cats: 5 mg/kg Lower doses may be required after sedation	Additional boluses as required (30%–50% of the initial dose) CRI studies conducted, but need to be better evaluated for clinical use	Inject slowly (over 1 min) to avoid respiratory depression Rapid effect (1–2 min) Rapid metabolism Minimally cumulative Minimal cardiovascular depression
Propofol	Dogs & cats: 5–8 mg/kg in nonpremedicated patients Reduced doses after premedication	Additional boluses as required (30%–50% of the initial dose) CRI: 0.5–1.0 mg/kg reduced over time	Rapid effect (1–2 min) Recovery after 5–15 min Rapid metabolism Cardiovascular and respiratory depression Minimally cumulative (except in cats)
Thiopental	Dogs & cats: 5–10 mg/kg after acepromazine-opioid premedication Half the dose after α-2/opioid premedication	Not recommended	Rapid effect (30–60 sec) Recovery after 5–15 min Cardiovascular and respiratory depression Irritant if given extravascularly Cumulative effects

Table 3. Dissociative Anesthetics

Drug	*Anesthetic dose*		*Comments*
Ketamine	Dogs: 2.5–10 mg/kg IM Cats: 5–10 mg/kg IM Use lower doses after α-2/opioid premedication Suitable doses for combination with 0.1–0.3 mg/kg of diazepam (IV) or midazolam (IM or IV) for noninvasive procedures; otherwise, analgesics should be added to this combination; half the doses for IV use	Additional boluses can be given as required to prolong anesthesia (30%–40% of the initial dose)	Effect in 5–10 min Duration 20–30 min Use in combination with sedatives (α-2 agonists) and opioids Excitement during recovery
Tiletamine-zolazepam	Dogs: 7–13 mg/kg IM Cats: 9–12 mg/kg IM Use lower doses after α-2/opioid premedication Reduce dose by 50%–60% for IV use	One or two additional boluses can be given to prolong anesthesia (25%–30% of the initial dose)	Effect in 5–10 min Duration: 40–45 min Better results in combination with sedatives (α-2 agonists) and opioids Excitement during recovery

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Good control of intraoperative nociception will produce a more stable plane of surgical anesthesia. Dissociative anesthetics are able to provide intense but brief analgesia, mainly for somatic-type pain. Ketamine (and possibly other dissociative drugs) has an antihyperalgesic effect through the inhibitory action on *N*-methyl D-aspartate (NMDA) receptors. At subanesthetic doses, it can be effective for treatment of patients with chronic pain and central sensitization, and to reduce hyperalgesia following tissue trauma.[1,6,7,10]

The inclusion of an NSAID in the anesthetic protocol is also recommended when opioids are not available or in combination with opioids for major procedures (eg, orthopedic surgery, major soft tissue procedures).[10] The availability of veterinary licensed products with a cyclooxygenase-2 (COX-2) selective profile has improved the safety profile of these drugs. However, adverse effects may be induced if these drugs are used in anesthetized patients with hypovolemia, hypotension, or renal, gastrointestinal, or coagulation disorders.

Close monitoring of blood pressure and adequate intraoperative cardiovascular support (fluid therapy) should be performed when NSAIDs are administered preoperatively. The inclusion of locoregional analgesia techniques can be extremely useful to achieve balanced anesthesia and to control perioperative pain more efficiently.[10]

In the author's experience, the administration of the pre-anesthetic medication before anesthesia will decrease the necessary doses of anesthetic agents and will enhance the quality of the anesthesia and recovery. In healthy cats, for example, a suitable protocol may involve sedation with a combination of medetomidine (40 µg/kg) and butorphanol (0.3 mg/kg) IM. Once sedation is established, anesthesia may be induced with ketamine 2.5–5.0 mg/kg IV or 5.0–7.5 mg/kg IM. The final dose of ketamine can be adjusted based on depth of sedation and duration of the scheduled procedure.

In fractious animals, simultaneous administration of sedative, analgesic, and dissociative agent could be a preferred technique to ensure quicker effect.

Every anesthetic event has risks, even in young, healthy patients. Injectable techniques should be employed with caution. The patient should be fasted to reduce the incidence of vomiting or regurgitation, particularly when tracheal intubation cannot be performed.

Routine examinations and laboratory studies should be performed to determine the health status of the patient, as anesthesia may not be well tolerated in all patients. Body weight should also be accurately measured to avoid the risk of overdose. Every effort should be made to ensure that tracheal intubation, supplemental oxygen, and a form of respiratory support are readily available if necessary.

Pulse rate and rhythm, respiratory rate and breathing pattern, mucous membrane color, muscle tone, and eye position should be monitored at regular intervals, even if electronic monitoring devices are available. Hypothermia should be prevented, as it slows the metabolism of injectable agents and may cause unwanted consequences.

Cost

Injectable agents are not necessarily less expensive than inhalational agents, but the equipment required to administer the agents decreases the overall cost. Economic restrictions should not justify denying the patients rational anesthetic (and analgesic) protocols that can help ensure the basic safety principles required for an uneventful recovery from anesthesia. ■ cb

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Sedation & Analgesia for Canine Emergencies

Profile

Definition

- Procedural sedation and analgesia (PSA) techniques include a broad spectrum of protocols from anxiolysis and pain relief to deep sedation for patients undergoing diagnostic or therapeutic procedures.
- In many emergency situations, general anesthesia may be preferable to PSA because it allows complete control of the airway and the ability to assist ventilation and/or provide 100% oxygen. The following guidelines are based on the assumption that the veterinarian has appropriately selected sedation rather than general anesthesia.
- One challenge when discussing guidelines for PSA is covering the wide mix of patient situations, operator skills, procedures, and conditions under which a particular patient is treated. As such, these guidelines may require modification for individual case scenarios.
- Despite the commonality of PSA, no controlled veterinary trials are available. Therefore, recommendations provided in this article are based on the author's personal experiences and on consensus opinions from academic and private practice specialists.

PSA = procedural sedation & analgesia

Objective

The goal is to provide maximum patient comfort in the absence of general anesthesia and with minimal complications when performing painful or stressful procedures. Scenarios include:

- Necessary sedation to assess a patient or to complete a diagnostic or therapeutic procedure
- Necessary analgesia to relieve pain or anxiety caused by the underlying pathology or the required procedure or treatment.

Examination/Assessment

The needs of the patient and the concomitant procedure must be considered simultaneously when designing the protocol, selecting the procedural and monitoring equipment, and transitioning to postsedation care.

- First, establish the **degree of urgency**. Determine if the situation is life-threatening (in which case, general anesthesia may be faster and safer) or if the patient is stable but requires rapid treatment.
- Then, determine the **degree of presedation** preparation (hydration, electrolyte and metabolic status) necessary to stabilize the patient prior to the procedure. While it is always prudent to "fast" a patient when time permits, the fasting guideline is based upon consensus opinion rather than case-based evidence.[1] Often action must be taken immediately, regardless of the patient's fasting status. The risk of aspiration or regurgitation can be minimized by controlling the depth of sedation and by protecting the airway (head elevated and/or short-term intubation).
- Estimate **degree of sedation** necessary to perform the required procedure. This will be a main parameter in selection of the drugs and their dosages.
- Assess **severity of pain** caused by the underlying pathology or anticipated during and after the proposed procedure. Several articles provide detailed methods of quantifying pain in dogs.[2-4]

Medications

Applications

- Being familiar with the specifics of a particular drug, its potential side effects, and the degree of sedation and analgesia at different doses is an important factor in preventing complications. Unfamiliar drugs should not be used in critical situations.
- The route of administration (IV or IM) is case-dependent. IV administration is more potent, provides a more rapid onset, and has a shorter duration of effect. Therefore, it is generally the favored route of administration in acute care scenarios.
- Logically, a lower dose will provide lighter sedation of shorter duration. However, in

continues

severely debilitated patients, even a low dose may result in oversedation or even induction of general anesthesia. It is important to administer the dose slowly and progressively until the desired effect is achieved.

- The recommendations for PSA in the dog (listed below) are based on the author's personal experiences. They are neither exhaustive nor without controversy. See **Table 1** for suggested doses.

Hydromorphone + Diazepam *or* Fentanyl + Diazepam

- **Indications**: Provides analgesia and sedation; effect is similar to the combination of oxymorphone and diazepam with reported acceptable cardiovascular parameters in moderately hypovolemic dogs (30 mL/kg blood loss).[5]
- **Contraindications**: Fentanyl + diazepam should not be used in healthy dogs as excitation may occur. Due to mild respiratory depression and possible hypercapnia, avoid heavy sedation in dogs with head trauma since an increase in intracranial pressure may occur. Alternatively, these drugs can be used in a patient with head trauma but the patient should be intubated and ventilated to maintain normocapnia.
- **Monitoring**: Monitor for respiratory depression (pulse oximeter, respiratory rate, mucous membrane color, depth and quality of chest excursions) and treat as necessary (ie, intubation and ventilation, oxygen supplementation); also monitor for bradycardia and treat as necessary (ie, anticholinergic).
- **Duration**: Relatively short acting (5–20 min), depending upon dose and underlying condition of dog. Fentanyl combinations are of shorter duration (5–15 min) than hydromorphone combinations (10–20 min).
- Since dogs receiving any opioid/benzodiazepine combination are highly sensitive to noise, place cotton in ears or keep room quiet.

Fentanyl/Ketamine/Midazolam Combination

- **Indications**: Provides analgesia and sedation; primarily for debilitated dogs or those with mild to severe degree of shock. Dose likely to be inadequate for normal, healthy dogs and administering higher dose to healthy dogs may result in profound respiratory depression, necessitating intubation and possible ventilation.
- **Contraindications**: Ketamine combinations should be avoided in head trauma patients or those with corneal lacerations due to potential for an elevation in intracranial or intraocular pressure.
- **Dosages & Duration**:
  - *Single injection*: 1 mL each of ketamine (100 mg/mL) and midazolam (5 mg/mL) plus 2 to 3 mL of fentanyl (50 µg/mL), mixed in the same syringe and administered to effect (0.05–0.1 mL/kg IV). The higher dose results in about 2 hours of deep sedation. Reversal of midazolam using flumazenil (0.05–0.1 mg/kg slow IV) generally results in rapid recovery.
  - *CRI for procedures lasting longer than 2 hours*: Ketamine (0.5–1.5 mg/kg/H), midazolam (1–3 mg/kg/H), and fentanyl (10–20 µg/kg/H)
  - Drugs should be combined immediately prior to use (in any order) as stability has not been established.
- **Monitoring**: Monitor for respiratory depression and treat as necessary (ie, intubation and ventilation, oxygen supplementation). Due to inclusion of ketamine, bradycardia is not as likely to occur as with the hydromorphone or fentanyl + diazepam combination.

CRI = constant rate infusion; PSA = procedural sedation and analgesia

Table 1. Suggested Dosages

Medication Combination	Dose
Acepromazine + Buprenorphine	0.02–0.05 mg/kg IV 0.01 mg/kg IV
Acepromazine + Butorphanol	0.02–0.05 mg/kg IV 0.2 mg/kg IV
Acepromazine + Diazepam	0.02–0.05 mg/kg IV 0.1–0.2 mg/kg IV
Acepromazine + Hydromorphone	0.02–0.05 mg/kg IV 0.05–0.2 mg/kg IV
Acepromazine + Midazolam	0.02–0.05 mg/kg IV 0.05–0.1 mg/kg IV
Buprenorphrine + Diazepam	0.01–0.05 mg/kg IV 0.1–0.2 mg/kg IV
Butorphanol + Diazepam	0.2 mg/kg IV 0.1–0.2 mg/kg IV
Fentanyl + Diazepam	5–20 µg/kg IV 0.1–0.2 mg/kg IV
Fentanyl/ketamine/midazolam	0.05–0.1 mL of solution/kg IV (see text for preparation instructions)
Hydromorphone + Diazepam	0.05–0.2 mg/kg IV 0.1–0.2 mg/kg IV
Ketamine + Diazepam	3–10 mg/kg IV 0.1–0.2 mg/kg IV
Ketamine + Midazolam	3–10 mg/kg IV 0.05–0.1 mg/kg IV
Propofol	2–6 mg/kg IV
Propofol + Ketamine	1–4 mg/kg IV 0.5–2 mg/kg IV

Ketamine + Diazepam *or* Ketamine + Midazolam

- **Indications**: Provides analgesia and sedation; acceptable for both healthy and critically ill dogs when administered to effect.
- **Contraindications**: Ketamine combinations should be avoided in patients with head or corneal lacerations due to potential for an elevation in intracranial or intraocular pressure. These combinations should be avoided in dogs that are already very tachycardic (since dysrhythmias may occur) or in dogs with hypertrophic cardiomyopathy (where elevations in heart rate may reduce cardiac output).

- **Monitoring**: This combination is less likely to require airway interventions than an opioid combination.
- **Duration**: Sedation lasts 10 to 15 minutes.

Acepromazine + Opioid *or* Acepromazine + Benzodiazepine

- **Indications**: Acepromazine/benzodiazepine combinations provide only sedation; acepromazine/opioid combinations provide analgesia and sedation. Most useful for a healthy to mildly sick patient requiring PSA.
- **Contraindications**: Acepromazine combinations should be avoided in dogs in shock.
- **Monitoring**: Acepromazine combinations may cause hypotension due to associated vasodilation; therefore, volume replacement and monitoring of blood pressure are especially important.
- **Duration**: When acepromazine is used with an opioid, the result is a deeper and longer lasting sedation when compared to a combination of acepromazine and a benzodiazepine. This is most pronounced with acepromazine and hydromorphone.

Propofol

- **Indications**: Sedation only, no analgesia provided; most useful for a relatively healthy patient.
- **Contraindications**: Should not be used in hypovolemic dogs due to its detrimental cardiovascular effects (vasodilation, reduced cardiac output) or in hypoxemic dogs (ie, pneumothorax) because profound cyanosis may occur inconsistently (other drugs are adequate without having the potential to cause cyanosis). Oxygen supplementation (ie, oxygen mask) should be provided to all dogs receiving propofol PSA and, if dose results in oversedation, intubation may be required.
- **Dosages & Duration**: For procedures longer than a few minutes, a single dose may not provide sedation for entire procedure. Repeat doses, slowly to effect, may be necessary or CRI (6–15 mg/kg/H, starting at the low dose and adjusting to effect) can be used. Care must be taken to titrate this drug or general anesthesia, requiring intubation, may result.

Propofol + Ketamine

While this drug combination is not in most veterinary anesthesia textbooks, preliminary reports in human literature indicate it is a safe and effective protocol for induction or maintenance of anesthesia (the latter when administered via a CRI). It seems likely that this drug combination, while needing more investigation, may be quite useful for canine PSA as well.

Nerve Blocks

In many situations, a nerve block may be used to provide additional analgesia and reduce the dose, and therefore side effects, of PSA. Specific information on techniques for nerve blocks is outside the scope of this article but excellent reviews on peripheral and regional nerve blocks are found in most veterinary anesthesia textbooks (see also Peripheral Nerve Block Techniques in the March 2004 issue of *Clinician's Brief,* available at www.cliniciansbrief.com).

Dexmedetomidine & Pure μ-Receptor Agonists

The use of low-dose dexmedetomidine in combination with a pure μ-receptor agonist (ie, hydromorphone) is a controversial topic among anesthesiologists. This protocol is beyond the scope of this article and will be covered in a future issue of *Clinician's Brief*.

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When to Use—Common Examples

Drug/Drug Combination	Examples
Hydromorphone *or* fentanyl + Diazepam	Wound care (inspection, debriding, cleansing), bandaging
Fentanyl/ketamine/midazolam	Broad range of dose-dependent applications ranging from debriding superficial burns to chest tube placement to closed reduction of limb fracture and cast application
Ketamine + Diazepam *or* midazolam	Foreign body removal (thorn in footpad, quills in oral cavity or on muzzle), radiographs for gastrointestinal foreign body in elderly dog, lance & lavage of superficial abscess, insertion of nasal tube for oxygen supplementation
Acepromazine/opioid *or* Acepromazine/benzodiazepine	Examination or radiographs of rambunctious, healthy dog needing orthopedic exam (ie, acute lameness)
Propofol	Nonpainful, minor procedure such as removal of minor foreign body (stick in roof of mouth, thorn in footpad), bandage change in stable patient

CRI = constant rate infusion; PSA = procedural sedation and analgesia

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Follow-Up

Monitoring

- Depth of sedation:
  - Preservation of laryngeal reflex is essential or intervention to protect the airway is required.
  - Depth determined by muscle relaxation, jaw tone, palpebral reflex, eye positioning.
  - It is NOT necessary to prevent mild responses to the procedure unless strict immobility is required for patient safety or procedural success. Frequently, the depth of sedation necessary to achieve nonresponsiveness is also likely to result in adverse side effects (ie, loss of laryngeal reflex, hypoventilation, regurgitation, hypotension).
- Respiratory function:
  - Pulse oximetry
  - Respiratory rate and quality
  - Capnography for intubated patients
- Hemodynamic measures:
  - Indirect blood pressure monitoring
  - ECG for heart rate, rhythm, and signs of myocardial ischemia (hypoxemia)
- Post-PSA:
  - If patient is being admitted, monitor as per the standard hospital postanesthesia protocol.
  - If PSA is for outpatient procedure, assess patient for adequate recovery prior to hospital discharge.
  - Based on specifics of the case, a postprocedural analgesic plan should be established.

Complications

- The most common complications from PSA are hypoxia and vomiting. A cuffed endotracheal tube, laryngoscope blade with light, and method of manual ventilation should be available when PSA is used.
- Oversedation may occur, increasing the risk of cardiopulmonary complications and aspiration. It is essential that serial qualitative assessment of depth of sedation be made to decide whether or not to intubate, provide oxygen supplementation, or give the antidote to reversible drugs.
- **Table 2** lists some specific side effects of different individual drugs.

See Aids & Resources, back page, for references, contacts, and appendices.

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Table 2. Side Effects of Individual Drugs

Drug	Side Effects	Notes
Propofol	Respiratory depression, hypoxia, cyanosis;[6] causes vasodilation and reduced cardiac output	• All dogs should receive oxygen supplementation by oxygen mask; if dose results in anesthesia, patient should be intubated. • Since cerebral perfusion pressure may be decreased in dogs with head trauma, propofol should not be used in affected patients.
Ketamine	• Poor recovery, hallucination, hypersalivation, tachycardia • Potential for elevation in intracranial or intraocular pressure (avoid use in patients with head trauma or corneal laceration) • Direct depressant effects (negative inotropic effects) may be observed when administered to critically ill patients who have no additional catecholamine stores (more likely to be observed when used at higher doses; ie, induction or maintenance of anesthesia).	• Should not be used in cases where elevations in heart rate or blood pressure may be contraindicated • While hypersalivation can be offset with an anticholinergic, the author does not recommend its use because heart rate is further increased. • To minimize other side effects, ketamine should always be given in combination with another drug. • Less respiratory depression but more vomiting are present with ketamine/benzodiazepine combinations compared to ketamine/fentanyl combinations.[7]
Opioid	Respiratory depression (hypoxia and hypercapnia), bradycardia	• The need for respiratory support and airway intervention is dose-dependent and likely to be more common when fentanyl combinations are used instead of another opioid. • Heart rate should be monitored during the procedure or treatment and also during recovery. • Bradycardia can be treated prophylactically with a standard anticholinergic in dogs with normal heart rates but should not be administered to dogs with preexisting tachycardia or if elevations in heart rate are contraindicated.

ECG = electrocardiography; PSA = procedural sedation and analgesia

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Table 1. Sedatives & Opioids for Pre-anesthetic Medication

Drug	*Dog*	*Cat*	*Comments*
Acepromazine	0.01–0.05 mg/kg IM	0.05–0.1 mg/kg IM	Mild sedative effect Onset of action: 20–40 min Prolonged effect: 4–8 hr Enhanced sedation with opioids Vasodilation
Medetomidine	5–15 µg/kg IM	5–50 µg/kg IM	Potent sedative effect Onset of action: 10–15 min Duration of action: 40–140 min Reduced doses in combination with opioids Vomiting may occur Bradycardia, initial hypertension Can be antagonized with atipamezole to speed recovery (approximately same volume of medetomidine administered in dogs and half that volume in cats) Dexmedetomidine has similar effects with half the dose; can also be antagonized, but this is usually unnecessary
Xylazine	0.2–1.0 mg/kg IM	0.2–2.0 mg/kg IM	Potent sedative effect Onset of action: 5–15 min Duration of action: 60 min Reduced doses in combination with opioids Vomiting, bradycardia, and hypertension followed by prolonged hypotension Can be antagonized with low doses of atipamezole (xylazine is not a highly selective α-2 agonist)
Buprenorphine	0.01–0.02 mg/kg IM Half the dose IV	0.01–0.02 mg/kg IM Half the dose IV	Enhances sedation Slow onset of action: 20–40 min Prolonged effects 6–8 hr Good in postoperative phase to treat moderate pain Moderate analgesia (potent in cats) Unlikely to cause vomiting
Butorphanol	0.1–0.5 mg/kg IM Half the dose IV	0.2–0.5 mg/kg IM Half the dose IV	Enhances sedation Suitable analgesia (1–2 hr) for minor to moderate procedures (eg, castration) Unlikely to cause vomiting or panting
Hydromorphone	0.05–0.2 mg/kg IM	0.05–0.1 mg/kg IM	Similar to oxymorphone
Morphine	0.1–0.5 mg/kg IM	0.1–0.2 mg/kg IM	Enhances sedation Onset of action: 10–20 min Effect: 2–6 hrs Potent analgesic Salivation, vomiting, defecation Bradycardia, dose-dependent respiratory depression Unlikely to cause panting
Methadone	0.1–0.3 mg/kg IM	0.1–0.3 mg/kg IM	Enhance sedation Rapid onset of action: 5–10 min Effect: 2–6 hrs Potent analgesia Bradycardia, dose-dependent respiratory depression, panting effect Unlikely to cause vomiting
Oxymorphone	0.05–0.2 mg/kg IM	0.05–0.1 mg/kg IM	Similar to morphine Less likely to cause vomiting, panting effect

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Table 2. Injectable General Anesthetics

Drug	*Induction dose*	*Maintenance*	*Comments*
Alfaxalone	Dogs: 2–3 mg/kg Cats: 5 mg/kg Lower doses may be required after sedation	Additional boluses as required (30%–50% of the initial dose) CRI studies conducted, but need to be better evaluated for clinical use	Inject slowly (over 1 min) to avoid respiratory depression Rapid effect (1–2 min) Rapid metabolism Minimally cumulative Minimal cardiovascular depression
Propofol	Dogs & cats: 5–8 mg/kg in nonpremedicated patients Reduced doses after premedication	Additional boluses as required (30%–50% of the initial dose) CRI: 0.5–1.0 mg/kg reduced over time	Rapid effect (1–2 min) Recovery after 5–15 min Rapid metabolism Cardiovascular and respiratory depression Minimally cumulative (except in cats)
Thiopental	Dogs & cats: 5–10 mg/kg after acepromazine-opioid premedication Half the dose after α-2/opioid premedication	Not recommended	Rapid effect (30–60 sec) Recovery after 5–15 min Cardiovascular and respiratory depression Irritant if given extravascularly Cumulative effects

Table 3. Dissociative Anesthetics

Drug	*Anesthetic dose*		*Comments*
Ketamine	Dogs: 2.5–10 mg/kg IM Cats: 5–10 mg/kg IM Use lower doses after α-2/opioid premedication Suitable doses for combination with 0.1–0.3 mg/kg of diazepam (IV) or midazolam (IM or IV) for noninvasive procedures; otherwise, analgesics should be added to this combination; half the doses for IV use	Additional boluses can be given as required to prolong anesthesia (30%–40% of the initial dose)	Effect in 5–10 min Duration 20–30 min Use in combination with sedatives (α-2 agonists) and opioids Excitement during recovery
Tiletamine-zolazepam	Dogs: 7–13 mg/kg IM Cats: 9–12 mg/kg IM Use lower doses after α-2/opioid premedication Reduce dose by 50%–60% for IV use	One or two additional boluses can be given to prolong anesthesia (25%–30% of the initial dose)	Effect in 5–10 min Duration: 40–45 min Better results in combination with sedatives (α-2 agonists) and opioids Excitement during recovery

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1 Introduction to Anesthesia

OUTLINE

LEARNING OBJECTIVES

When you have completed this chapter, you will be able to:

- List two North American professional organizations that offer specialization in anesthesia and analgesia to credentialed individuals, and summarize the aims of each.
- Define anesthesia, and differentiate topical, local, regional, general, and surgical anesthesia.
- Differentiate sedation, tranquilization, hypnosis, and narcosis.
- Explain the concept of balanced anesthesia and the advantages of this approach.
- List common indications for anesthesia.
- Describe fundamental challenges and risks associated with anesthesia.
- List the qualities and abilities of a successful veterinary anesthetist.

KEY TERMS

The Academy of Veterinary Technicians in Anesthesia and Analgesia (AVTAA)
American College of Veterinary Anesthesia and Analgesia (ACVAA)
Analgesia
Anesthesia
Balanced anesthesia
Epidural anesthesia
General anesthesia
Hypnosis
Local anesthesia
Narcosis
Noxious
Regional anesthesia
Sedation
Surgical anesthesia
Therapeutic index
Topical anesthesia
Tranquilization

BOX 1-2 The Mission of the Academy of Veterinary Technicians in Anesthesia and Analgesia (AVTAA)

- The Academy of Veterinary Technicians in Anesthesia and Analgesia (AVTAA) exists to promote interest in the discipline of veterinary anesthesia.
- The Academy provides a process by which a veterinary technician may become certified as a Veterinary Technician Specialist (Anesthesia/Analgesia).
- The Academy provides the opportunity for members to enhance their knowledge and skills in the field of veterinary anesthesia.
- The Veterinary Technician who becomes certified as a VTS (Anesthesia/Analgesia) demonstrates superior knowledge in the care and management of anesthesia cases.
- Certification as a VTS (Anesthesia/Analgesia) promotes patient safety, consumer protection, professionalism and excellence in anesthesia care.
- The Veterinary Anesthesia arena is constantly evolving, thus, the attainment of competence is a continual activity.

BOX 1-3 ACVAA Mission Statement

The American College of Veterinary Anesthesia and Analgesia (ACVAA) is an American Veterinary Medical Association recognized, not-for-profit veterinary medical organization founded in 1975 to serve society by:

- defining and promoting the highest standards of clinical practice of veterinary anesthesia and analgesia
- defining criteria for designating veterinarians with advanced training as specialists in the clinical practice of veterinary anesthesiology
- issuing certificates to those meeting these criteria
- maintaining a list of such veterinarians, and
- advancing scientific research and education in veterinary anesthesiology and analgesia.

TERMINOLOGY OF ANESTHESIA

In addition to its historical importance, Dr. Morton's demonstration in 1846 is of special interest to students of anesthesia because it attracted the attention of the prominent physician Oliver Wendell Holmes Sr., who, in a letter to Dr. Morton dated November 21, 1846, suggested adoption of the word *anesthesia* to describe the state of insensibility to pain produced by diethyl ether. Then he powerfully expressed the importance of this discovery by accurately predicting that the terms *anesthesia* and *anesthetic* would "be repeated by the tongues of every civilized race of mankind."

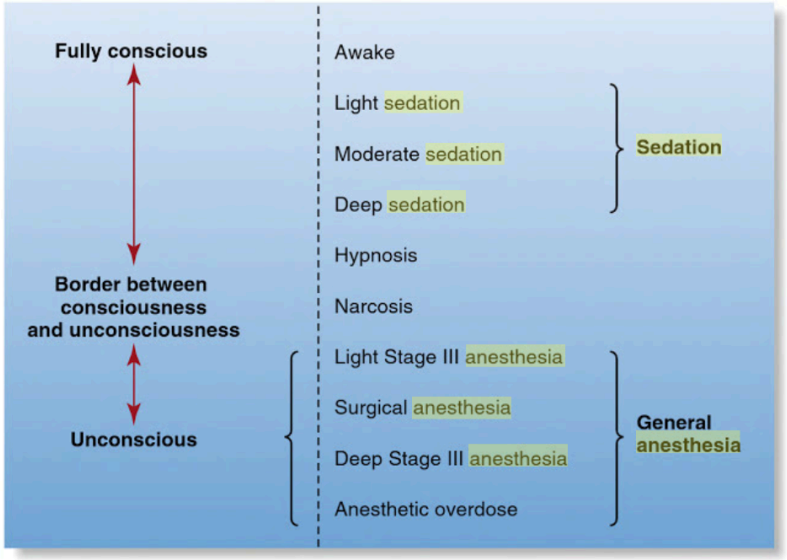
The term **anesthesia** (derived from the Greek word *anaisthesia* which means "without feeling" or "insensibility") may be defined as "a loss of sensation." By providing a loss of sensation, or more specifically the loss of sensitivity to pain, the development and use of anesthetics solved one of the primary problems associated with the practice of medicine. Now, anesthesia is used daily in most veterinary practices to provide sedation, tranquilization, immobility, muscle relaxation, unconsciousness, and pain control for a diverse range of indications including surgery, dentistry, grooming, diagnostic imaging, wound care, and capture and transport of wild animals, just to name a few. The literal definition of the term *anesthesia* accurately describes one of its fundamental effects, however, when viewed from the perspective of current practice, the word falls far short of capturing the many facets of this complex discipline.

TECHNICIAN NOTE Anesthesia is used daily in most veterinary practices to provide sedation, tranquilization, immobility, muscle relaxation, unconsciousness, and pain control for a diverse range of indications.

Most people associate the word *anesthesia* with general anesthesia, which is only one extreme in a continuum of levels of central nervous system (CNS) depression that can be induced by administration of anesthetic agents (Figure 1-1). **General anesthesia** may be defined as a reversible state of unconsciousness, immobility, muscle relaxation, and loss of sensation throughout the entire body produced by administration of one or more anesthetic agents. While under general anesthesia, a patient cannot be aroused even with painful stimulation. For this reason, general anesthesia is commonly used to prepare patients for surgery or other acutely painful procedures. **Surgical anesthesia** is a specific stage of general anesthesia in which there is a sufficient degree of **analgesia** (a loss of sensitivity to pain) and muscle relaxation to allow surgery to be performed without patient pain or movement.

Other states within the continuum of CNS depression include *sedation* and *tranquilization*. **Sedation** refers to drug-induced CNS depression and drowsiness that vary in intensity from light to deep. A sedated patient generally is minimally aware or unaware of its surroundings but can be aroused by **noxious** stimulation. Sedation is often used to prepare patients for diagnostic imaging, grooming, wound treatment, and other minor procedures. **Tranquilization** is a drug-induced state of calm in which the patient is reluctant to move and is aware of but unconcerned about its surroundings. Although the terms *tranquilization* and *sedation* are not exactly the same in meaning, they are often used interchangeably.

The terms *hypnosis* and *narcosis* are also used to describe anesthetic-induced states. **Hypnosis** is a drug-induced sleeplike state that impairs the ability of the patient to respond appropriately to stimuli. This meaning of this term is somewhat imprecise, as it is used to describe various degrees of CNS depression. In this text, hypnosis will be used to mean a sleeplike state from which the patient can be aroused with sufficient stimulation. The term **narcosis** refers to a drug-induced sleep from which the patient is not easily aroused and that is most often associated with the administration of narcotics.



Notes:
- *In addition to CNS depression, most anesthetics cause a variety of other effects such as analgesia and muscle relaxation.*
- *Although most anesthetics cause CNS depression as noted above, some agents such as dissociatives may also stimulate the CNS (see Chapter 3 for a discussion of these agents).*
- *Transient excitement may also occur during some stages of anesthesia (see Chapter 6 for a discussion of the stages and planes of general anesthesia).*

FIGURE 1-1 The continuum of levels of central nervous system depression induced by anesthetic agents.

The effect of anesthetic agents may be selectively directed to affect specific areas or regions of the body. Smaller areas can be targeted by use of local or topical anesthesia. **Local anesthesia** refers to loss of sensation in a small area of the body produced by administration of a local anesthetic agent in proximity to the area of interest. Infiltration of local anesthetic into the tissues surrounding a small tumor to facilitate removal is an example of local anesthesia. **Topical anesthesia** is the loss of sensation of a localized area produced by administration of a local anesthetic directly to a body surface or to a surgical or traumatic wound. Use of ophthalmic local anesthetic drops in the eye before an ophthalmic examination and application of local anesthetic to an open declaw incision for the purpose of pain control are examples of topical anesthesia.

Larger areas can be targeted by use of **regional anesthesia,** which refers to a loss of sensation in a limited area of the body produced by administration of a local anesthetic or other agent in proximity to sensory nerves. Regional anesthesia can be produced with a variety of techniques including nerve blocks and epidural anesthesia. For example, a brachial plexus block can be used to anesthetize the forelimb distal to and including the elbow; a maxillary nerve block can be used to anesthetize the upper dental arcade; and **epidural anesthesia** can be used to provide pain control of the hindquarters and pelvic region.

When anesthetics are administered, it is common practice to administer multiple drugs concurrently in smaller quantities than would be required if each were given alone. This technique, termed **balanced anesthesia,** maximizes the benefits of each drug, minimizes adverse effects, and gives the anesthetist the ability to produce anesthesia with the degree of CNS depression, muscle relaxation, analgesia, and immobilization appropriate for the patient and the procedure. Premedication with acepromazine, anesthetic induction with a combination of ketamine and diazepam, maintenance with isoflurane, and administration of a morphine and lidocaine infusion for analgesia is one example of balanced anesthesia.

> **TECHNICIAN NOTE** Balanced anesthesia maximizes benefits, minimizes adverse effects, and gives the anesthetist the ability to produce anesthesia with the degree of CNS depression, muscle relaxation, analgesia, and immobilization appropriate for the patient and the procedure.

THE VETERINARY TECHNICIAN'S ROLE IN THE PRACTICE OF ANESTHESIA

Preparation, operation, and maintenance of anesthetic equipment, administration of anesthetic agents, endotracheal intubation, and patient monitoring are considered part of the credentialed veterinary technician's scope of practice and are a required part of any accredited veterinary technology program's curriculum. Competency in each of these areas of responsibility requires an advanced knowledge and skill level

that can be achieved only with a substantial commitment of time and effort on the part of the student. Before embarking on a study of anesthesia, the student must be aware of the following fundamental challenges and inherent risks he or she will face when acting as anesthetist.

- Most anesthetic agents have a very narrow **therapeutic index,** so the consequences of a calculation or administration error may be serious. Therefore care and attention to detail are critical when dosages are calculated and rates of administration are adjusted.
- Most anesthetic agents cause significant changes in cardiovascular and pulmonary function (e.g., decreased cardiac output, respiratory rate, tidal volume, and blood pressure), which can be dangerous or lethal if not carefully assessed and managed. These changes often occur quickly and without much warning. Consequently, vital signs and indicators of anesthetic depth must be closely monitored.
- The anesthetist must accurately interpret a wide spectrum of visual, tactile, and auditory information from the patient, anesthetic equipment, and monitoring devices. To do this successfully, he or she must be able to assess rapidly multiple pieces of information and distinguish those that require action from those that do not.
- The anesthetist must have a comprehensive understanding of the significance of physical parameters (e.g., heart rate, respiratory rate, and reflex responses) and machine-generated data (e.g., blood pressure and oxygen saturation readings). The anesthetist must also be able to use his or her knowledge to make rapid and decisive judgments regarding patient management and to carry out corrective actions quickly and effectively.
- The potential for patient harm during administration of anesthetics is relatively high when compared with many other procedures. When serious anesthetic accidents occur, they are often devastating not only for the patient, but also for the client and the anesthetist. In addition, after an accident, clients may choose to pursue legal action or file a complaint with the state veterinary medical board if they feel negligence was involved. These factors underscore the importance of maintaining a high standard to maximize the likelihood of a favorable outcome. This high standard includes not only sound practices but also maintenance of detailed and accurate medical records, which are the cornerstone of a solid legal defense should a complaint arise. (See Chapter 6 for more information about anesthetic records.)

In view of each of these risks and challenges, the anesthetist must approach any anesthetic procedure with a genuine willingness to take personal responsibility for the well-being of the patient. Acceptance of this responsibility by the anesthetist is dependent on development of competence and confidence. Ultimately, competence and confidence are acquired only with much study, practice, persistence, an attitude of caring, and a dedication to excellence. Only then can the accomplished anesthetist use his or her skills and knowledge to protect and improve the life of each and every patient in a way that is infinitely gratifying and unique to this complex and challenging discipline.

TECHNICIAN NOTE The anesthetist must approach each and every anesthetic procedure with a genuine willingness to take personal responsibility for the well-being of the patient.

KEY POINTS

1. General anesthesia is a reversible state of unconsciousness, immobility, muscle relaxation, and generalized loss of sensation, produced by administration of anesthetic agents. It is only one extreme in a continuum of levels of CNS depression produced by anesthetic agents, which also include sedation, hypnosis, and narcosis.
2. Many techniques including sedation, tranquilization, and topical, local, regional, and general anesthesia are used to produce specific effects appropriate to each patient.
3. Balanced anesthesia (the administration of multiple drugs to the same patient during one anesthetic event) is commonplace in the practice of anesthesia and produces many benefits not possible with administration of a single anesthetic.
4. Anesthesia involves a number of unique risks and dangers, of which the anesthetist must be conscious and aware.
5. The successful practice of anesthesia requires a high level of knowledge, competency, commitment, and acceptance of responsibility on the part of the anesthetist.

REVIEW QUESTIONS

1. A drug-induced state of calm in which the patient is reluctant to move and is aware of but unconcerned about its surroundings.
   a. Sedation
   b. Hypnosis
   c. Narcosis
   d. Tranquilization
2. The term *regional anesthesia* refers to:
   a. Loss of sensation in a limited area of the body produced by administration of a local anesthetic or other agent in proximity to sensory nerves
   b. Loss of sensation in a small area of the body produced by administration of a local anesthetic agent in proximity to the area of interest
   c. Loss of sensation of a localized area produced by administration of a local anesthetic directly to a body surface or to a surgical or traumatic wound
   d. A drug-induced sleeplike state that impairs the ability of the patient to respond appropriately to stimuli
3. A sleeplike state from which the patient can be aroused with sufficient stimulation.
   a. Narcosis
   b. Sedation
   c. Hypnosis
   d. Tranquilization

2030.35. Small Animal Spay/Neuter Clinic.
Minimum Standards for Small Animal Spay & Neuter Clinics

a) Veterinarians working in a small animal spay/neuter clinic shall establish a VCPR prior to performing surgery as defined in 2032.1.
b) For purposes of these regulations, a "small animal spay/neuter clinic" shall mean a facility established to function as a veterinary premises that concentrates in providing spay and neuter surgical services to common domestic household pets and is required by section 4853 of the code to be registered with the board.
(c) A small animal spay/neuter clinic shall have:
(1) Hot and cold water.
(2) A 110-volt power source for diagnostic equipment.
(3) A collection tank for disposal of waste material.
(4) Lighting adequate for the procedures to be performed in the spay/neuter clinic.
(5) Floors, table tops, and counter tops shall be of a non-porous material suitable for regular disinfecting, and cleaning, and shall be cleaned and disinfected regularly.
(6) Compartments to transport or hold animals, if applicable.
(d) A small animal spay/neuter clinc shall also have:
(1) indoor lighting for halls, wards, reception areas, examining and surgical rooms, which shall be adequate for its intended purpose.
(2) an examination room separate from other areas of the facility, which shall be of sufficient size to accommodate the doctor, assistant, patient and client.
(3) fire precautions that meet the requirements of local and state fire prevention codes,
(4) temperature and ventilation controls adequate to assure the comfort of all patients.
(5) a small animal spay/neuter clinic which provides aseptic surgical services shall also have a room separate and distinct from other rooms, which shall be reserved for aseptic surgical procedures. Storage in the surgery room shall be limited to items and equipment normally related to surgery and surgical procedures. A veterinarian may perform emergency aseptic surgical procedures in another room when the room designated for aseptic surgery is occupied or temporarily unavailable.
(A) A small animal spay/neuter clinic shall have the ability and equipment to provide immediate emergency care at a level commensurate with the specific veterinary medical services it is providing.
(e) A small animal spay/neuter clinic shall provide either after hours emergency services to its patients or, if no after hours emergency care is available, the small animal spay/neuter clinic shall provide a legible list of the name, address, and hours of operation of all facilities that provide or advertise emergency services and, when applicable, the location of other clinics provided by the same entity on that day, that are located within a 30-minute or 30-mile radius.
(f) When the client has not given the veterinarian authorization to dispose of his or her deceased animal, the veterinarian shall be required to retain the carcass in

a freezer for at least 14 days prior to disposal.

(g) The small animal spay/neuter clinic shall maintain all medical records as set forth in 2032.3 for a minimum of three (3) years from the date of the last visit.

(h) The veterinarian shall be identifiable to the public, including, but not limited to the posting of a copy of the veterinarian’s license, as set forth in section 4850 of the Business and Professions Code.

STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY • GOVERNOR EDMUND G. BROWN JR.

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	April 2017
TO	Multidisciplinary Advisory Committee
FROM	Dr. Bill Grant, MDC
SUBJECT	Discuss Minimum Standards for Mobile Specialists

Background:

While mobile specialists, that being surgeons, cardiologists, etc., have worked together for years with few reported problems, recently there have been a few complaints filed with the VMB and insurance companies that raise some issues for consideration.

There are numerous factors to consider when looking at the relationship between the general practitioner, the mobile specialist, the client, and the patient.

Issues to consider:

- Pre-Op evaluation and examination
- Diagnosis communicated to the client
- Treatment protocol communicated to client
- Prognosis communicated to the client
- Anesthesia / Treatment protocol and monitoring
- Establishing the VCPR (2032.1)
- Transfer of the VCPR (2032.15)
- Surgical Procedure vs Diagnostic Procedure
- Anesthesia Recovery
- Post-Operative Care
- Bandage Care
- Home Care Instructions
- Physical Therapy
- Monitoring Home Care
- Recheck Examinations
- Animal temperament
- Owner compliance

In every veterinary surgical and medical case, there are numerous people responsible for each of the above factors, and both the factors and the people involved, are interdependent which, consequently, affects the outcome of the case. Because of this interdependence, creating a guideline that arbitrarily assigns specific case management responsibility to each licensed veterinarian, which would be applicable to all cases, becomes onerous. It is difficult to define when one veterinarian's responsibility starts and ends in this situation; the general veterinarian assumes responsibility for ensuring the competency of the specialist they bring into their practice; the specialist is responsible for ensuring the hospital staff is competent in applying splints or bandages; both veterinarians are responsible for communicating to each other and the client to communicate a protocol for post-operative, home-care, and follow-up appointments that promotes a positive outcome for the patient. Joint responsibility, sharing the VCPR, most accurately reflects this relationship and would also best enhance the quality of care and promote a positive outcome for the patient and the client.

As such I would recommend that the veterinarian who establishes the VCPR is responsible where applicable as well as the mobile specialist(s) when he or she has direct case management and patient care.

As a point of information, this is the manner in which shared case responsibility is determined with multiple specialists in the medical community.

Action Requested

Discuss the practice setting and relationship of mobile specialists and how to approach oversight of the veterinary care.

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MEMORANDUM

DATE	April 2017
TO	Multidisciplinary Advisory Committee
FROM	Board Staff
SUBJECT	**Review, Discussion, and Possible Recommendation on Reciprocity Issues and License Eligibility for Veterinary Applicants Who Possess Work Experience in a Foreign Territory; Consider Equivalent Credentials of Board Certification (Business and Professions Code section 4848(b)(1))**

Background:

Board staff has seen an increase in veterinary applicants whose recent clinical experience was earned in a foreign country.

Specifically, and in accordance with Business and Professions Code Section (BPC) 4848(b)(1), a veterinary applicant who "…holds a current valid license in good standing in another U.S. state, Canadian province, or United States territory and within three years immediately preceding filing an application for licensure in this state, has practiced clinical veterinary medicine for a minimum of two years and completed a minimum of 2,944 hours of clinical practice."

Staff has received applications from veterinary applicants who have gained clinical veterinary practice experience in a foreign jurisdiction. That is, foreign experience not in another state, Canadian province, or United States territory.

Veterinary applicants with foreign experience do not meet exam eligibility as a reciprocity applicant due to experience earned outside jurisdictions prescribed in BPC 4848(b)(1).

The Board discussed this issue at their January 2017 meeting and clarified it is the Board's intent that clinical experience for purposes of reciprocity eligibility must be in another U.S. state, Canadian province, or United States territory.

The discussion included ensuring clinical practice equivalency is attained, but discussed possible alternatives to a set number of hours of clinical experience in a specified location. Alternatives to the clinical experience requirement included recognizing the American Veterinary Medical Association Board certification or another r equivalent "Board certification".

The Board directed the Multidisciplinary Advisory Committee to research, discuss and consider methods to attain equivalent clinical experience for purposes of reciprocity eligibility.

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Statute Excerpt

(b) For purposes of reciprocity, the board shall waive the examination requirements of subdivision (a), and issue a license to an applicant to practice veterinary medicine if the applicant meets all of the following requirements and would not be denied issuance of a license by any other provision of this code:

(1) The applicant holds a current valid license in good standing in another state, Canadian province, or United States territory and within three years immediately preceding filing an application for licensure in this state, has practiced clinical veterinary medicine for a minimum of two years and completed a minimum of 2,944 hours of clinical practice. Experience obtained while participating in an American Veterinary Medical Association (AVMA) accredited institution's internship, residency, or specialty board training program shall be valid for meeting the minimum experience requirement.

Action Requested

Consider and provide a possible recommendation on alternatives to veterinary clinical practice for reciprocity applicants who have recently practiced outside of another U.S. state, Canadian province, or United States territory.

DATE: APRIL 4, 2017

TO: JON KLINGBORG, DVM
FROM: DIANA WOODWARD HAGLE

RE: MDAC MEETING APRIL 18

The Issue

The issue concerning the Board's interest in looking at Bus. & Prof. Code section 4848(b)(1) is, as I understand it, the following:

"May an applicant holding a current valid license to practice veterinary medicine in another state, Canadian province, or U.S. territory, who is Board certified, be exempt from some or all of the practice requirements that other non-Board certified applicants must meet?"

Art 3 of the Veterinary Medicine Act governs "Issuance of Licenses" and section 4848 deals with "examination requirements".

Section 4848(b)(1) states the following:

"(b) For purposes of reciprocity, the board shall waive the examination requirements of subdivision (a), and issue a license to an applicant to practice veterinary medicine if the applicant meets all of the following requirements and would not be denied issuance of a license by any other provision of this code:

(1) The applicant holds a current valid license in good standing in another state, Canadian province, or United States territory and within three years immediately preceding filing an application for licensure in this state, has practiced clinical veterinary medicine for a minimum of two years and completed a minimum of 2,944 hours of clinical practice. Experience obtained while participating in an American Veterinary Medical Association (AVMA) accredited institution's internship, residency, or specialty board training program shall be valid for meeting the minimum experience requirement."

Board Certification

The American Board of Veterinary Practitioners (ABVP) is an AVMA-recognized veterinary specialty organization (RVSO) which currently offers certification in eleven recognized veterinary specialties. Although not part of ABVP, other organizations offer certification or diplomate status to veterinary ophthalmologists, dermatologists, radiologists, and surgeons. All have practice, study and examination requirements pertinent to the specialization.

Application of Current Law and Issues

1. Note that this statute, by its terms, does not limit where the applicant practices veterinary medicine in order to meet the two year/2,944 hour minimum requirement. As long as the applicant is licensed in the U.S. or Canada, the qualifying clinical practice may take place anywhere in the world.

2. If, in fact, the Board wishes to clarify that qualifying clinical practice take place only in the U.S. or Canada, then the phrase, "in another state, Canadian province, or United States territory" must be inserted in section 4848(b)(1) after the words "…has practiced clinical veterinary medicine".

3. Issue: If the Board does clarify that qualifying clinical practice must take place only in the U.S. and Canada (where verification of standards, supervision, etc. could reliably be documented), then would it be good policy to allow Board-certified veterinarians to be exempted from some or all of the clinical practice requirements? Conversely, would clinical practice in some countries/jurisdictions other than the U.S. and Canada be unacceptable to waive some practice requirements for Board-certified veterinarians?

4. No specific mention is made of Board certification in the statute unless an argument could be made that "specialty board training" encompasses some of the Board certification requirements.

5. Issues: If an applicant is Board certified in a certain specialty, is it important to require that some or all of the applicant's previous clinical practice be exclusively in that specialty? Or, alternatively, since licensure in California is unlimited, would requiring practice exclusively in a specialty (and not general practice) fail to protect consumers?

6. Issues: Although incorporating "Board certification" into a licensing application statute may appear to be good policy, it also means that the Board is losing control over some aspects of its licensing requirements:

   Each certification board has different requirements, and the requirements vary to some degree and do change---by incorporating another organization's standards into its licensing process, the Veterinary Medical Board loses its own ability to control standards. What if, for example, a specialty board lowered its standards to a level unacceptable to the Veterinary Board? Or what if a specialty board were created for a practice area which the Veterinary Board was unwilling to recognize? Or what if the applicant's Board certification was years in the past, and the specialty board had no requirement (or lax enforcement) for re-certification?

Medical Board of California

The American Board of Medical Specialties (ABMS) works in collaboration with 24 specialty Member Boards to maintain the standards for physician certification; each of the 24 Member Boards offer Board Certification in medical specializations and sub-specializations. Additionally, the American Boards of Facial Plastic & Reconstructive Surgery, Pain Medicine, Sleep Medicine and Spine Surgery are also recognized organizations offering Board Certifications.

Article 7 of the Medical Practice Act (*"Reciprocity and National Board Diplomate Applications")*, Business and Professions Code sections 2135-2153, provides the following in regard to Board-certified applicants for a physician and surgeon license in California:

Section 2135(d)

An applicant who "…has satisfactorily completed at least one year of approved postgraduate training and is certified by a specialty board approved by the American Board of Medical Specialties…" will not be required to complete at least two years of approved postgraduate training or, alternatively, complete at least one year of approved postgraduate training and take and pass the clinical competency written examination.

Section 2135.5(b)

The Medical Board's Division of Licensing may determine that an applicant has satisfied certain statutory medical curriculum requirements, clinical instruction requirements, and examination requirements if the applicant meets all listed criteria, including "[the applicant] is certified by a specialty board that is a member board of the American Board of Medical Specialties". Other criteria include holding a license "in another state" continuously for a minimum of four years prior to the date of application; graduation from a medical school recognized by the Division; not subject to disciplinary action or any adverse judgment or settlement showing a pattern of negligence or incompetence; and not subject to denial under any other provision of the Medical Practice Act.

Section 2135.7(a)(3)

There is a lengthy list of required criteria for applicants "…who acquired his or her medical education or a portion thereof at a foreign medical school that is not recognized or has been previously disapproved by the board…". Such an applicant is required "…[to be] certified by a specialty board that is a member board of the American Board of Medical Specialties."

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Multidisciplinary Advisory Committee Assignments

April 2017

EXISTING PRIORITIES – Currently being addressed by MDC

1) **Evaluate Structure and Audit Enforcement Case Outcomes**
   Complaint Process/Audit Taskforce -

2) **Develop minimum standards for alternate premises (large animal, equine mobile, public and private shelter medicine, ambulatory, etc.)**
   a. **Shelter Medicine Subcommittee**

3) **Pursue "extended duty" for Registered Veterinary Technicians.**
   a. **Task Force or Work Group**

4) **Develop regulations to implement the authorization for Veterinarians and RVTs under direct supervision to compound drugs.**

5) **Sedation vs Anesthesia – Definitions/Scope of Responsibility**

6) **Drug Counseling/Risks and Side Effects**

7) **Develop Minimum Standards for Spay and Neuter Clinics**

8) **Minimum Standards for Mobile Specialists - Responsibility for Case Management**

9) **Discuss equivalency pathway for reciprocity applicants to qualify for an examination waiver based on Board certification**