

# MEMORANDUM

<b>DATE</b>	April 17, 2019
<b>TO</b>	Veterinary Medical Board
<b>FROM</b>	Jessica Siefertman, Executive Officer
<b>SUBJECT</b>	<b>Agenda Item 12. Update, Discussion, and Possible Action Regarding the Administration of the California Veterinary Technician Examination</b>

In recent meetings of the Veterinary Medical Board (Board), concern has been raised as to examination, and costs associated therewith, of applicants seeking Board registration as a veterinary technician. This memorandum provides the background of the examination requirements, discussion points regarding the California Veterinary Technician Examination (CVTE), and recommendations thereon.

## **Background**

### Licensing for Consumer Protection

Protection of the public is the highest priority of the Board in exercising its licensing, regulatory, and disciplinary functions. For this reason, individuals seeking to be licensed or registered with the Board to perform veterinary medicine on animals must satisfy requirements established by the Legislature, via statutes, and the Board implements, interprets, and makes specific those requirements via regulation. The Board is required, by means of examination, to ascertain the professional qualifications of all applicants for licensure. This includes individuals seeking registration as a veterinary technician (RVT).

Prior to 2010, RVT candidates had to pass a written and practical examination and take and pass the national licensing examination. In 2009, the Legislature amended the examination requirements for RVT candidates (see AB [107](#), Galgiani, Chapter 80, Statutes of 2009). AB 107 established, under new Business and Professions Code (BPC) Section [4841.4](#), the examination for RVT applicants would consist of both of the following:

1. A national licensing examination (VTNE); and
2. “An examination specific to the animal health care tasks *limited* to California registered veterinary technicians, as approved by the board.” [Emphasis added.]

The CVTE is intended to satisfy the examination specific to California animal health care tasks. Unlike veterinarian applicants,<sup>1</sup> RVT applicants are not required to pass a jurisprudence (statutes and regulations) exam.

<sup>1</sup> BPC § [4848](#) requires veterinarians to take three exams: national exam; California state exam (covering practice specific gaps); and jurisprudence exam (covering California specific statutes and regulations).

### Board Discussion

During prior Board meetings, Board members and the public raised concerns related to the cost of the CVTE, stating the original intent of adding the national examination was to reduce costs; however, costs were not reduced. At the January meeting, the Board discussed the possibility of the CVTE being offered online and used as an educational tool rather than a practical exam.

The Executive Officer (EO) reported that, prior to the meeting, the American Association of Veterinary State Boards (AAVSB) offered to work with the Board to address concerns and research the possibility of adding California-specific questions to the national exam for little to no cost to RVT applicants. The Board directed the EO to research this further with the AAVSB and report back to the Board.

### CVTE Research and Review

The EO conducted a thorough review of the [Occupational Analysis \(OA\), Review, and Linkage Study](#) provided by the Department of Consumer Affairs, Office of Professional Examination Services (OPES), the December 2018 [candidate bulletin](#) provided by PSI (AAVSB's examination vendor) outlining examination content, and the CVTE test questions, answers, and reference sheet.

### Findings

1. The CVTE is an examination specific to California statutes and regulations; it is not an examination specific to animal health care tasks limited to California RVTs.

Each question on the CVTE can be linked back to a specific California statute, regulation, and/or the Board's 2012 [Radiation Safety Guide](#).<sup>2</sup> According to the candidate bulletin examination outline, 100% of the CVTE content assesses the candidates' knowledge of laws and regulations.

After its OA and Linkage study, OPES concluded "the VTNE does not measure entry-level practice related to California-specific laws, rules, regulations, and practice." As a result, OPES recommended the Board continue using its supplemental examination. However, no California-specific "practice" areas were identified in the study.

2. There does not appear to be any animal health care task limited to California RVTs.

Since OPES did not identify California-specific animal health care tasks in its study, the EO contacted AAVSB. Upon request, PSI conducted a comparative analysis of roughly 500 California resident responses to its 2017 Job Analysis for the VTNE. The analysis (Attachment 1) indicated that there are no significant differences identified between veterinary technicians practicing in California versus those practicing in other jurisdictions across the United States and Canada.

3. California statutes and regulations aside, the CVTE is duplicative of the VTNE.

After receiving PSI's comparative analysis, the EO asked AAVSB to compare the Board's 2018 examination outline to its 2017 VTNE outline (Attachment 2). AAVSB's subject matter

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<sup>2</sup> Diagnostic imaging and radiation safety is not limited to California and is included on the VTNE.

experts concluded that “[a]ll California clinical practice content areas are covered in much greater depth and detail by the current VTNE blueprint.”

AAVSB noted that the “CA OPES recommended exam outline does have some areas listed that are not covered by the VTNE, but they are all California-specific law/regulation knowledge areas rather than clinical knowledge used to determine minimal competency for veterinary technicians.”

4. The CVTE is costly to applicants and the Board.

Applicants currently pay \$300 to take the CVTE. In addition, the Board spends roughly \$50,000 annually in exam development and implementation (includes OPES and SME per diem/travel costs).

### **Other Considerations**

As previously stated, license requirements are created to determine who is qualified to provide competent and safe services to the consumer. In recent years, the Legislature and the prior administration focused on easing unnecessary barriers to licensure.

In an [October 2016 Report](#), the Little Hoover Commission (LHC) stated, in part, the following:

*“The effects of occupational licensing extend well beyond people encountering hurdles to entering an occupation, the Commission learned. When government limits the supply of providers, the cost of services goes up.*

*Those with limited means have a harder time accessing those services. Consequently, occupational licensing hurts those at the bottom of the economic ladder twice: first by imposing significant costs on them should they try to enter a licensed occupation and second by pricing the services provided by licensed professionals out of reach.*

*The Commission found that over time, California has enacted a thicket of occupational regulation that desperately needs untangling in order to ease barriers to entering occupations and ensure services are available to consumers of all income levels.”*

(Jobs for Californians: Strategies to Ease Occupational Licensing Barriers, pg. 1.)

### **Recommendation**

1. If the Board concludes there are no “animal health care tasks limited to California” RVTs, the Board should consider eliminating the current administration of the CVTE, as it no longer meets the legislative requirement and appears to be a costly, unnecessary barrier to licensure.

As a result, RVT applicants would only be required to take the VTNE. If, at any point, the RVT scope expands in California alone, the Board could re-evaluate and approve an examination specific to the California-limited scope of RVT practice.

2. The Board may wish to discuss whether RVTs should be tested on California statutes and regulations. If the Board believes a jurisprudence examination is necessary for consumer protection, the Board may propose a legislative change during Sunset

Review. If a proposal is made, staff highly recommends the same administration method as the current veterinarian jurisprudence examination.

**Attachments**

1. VTNE 2017 Comparative Analysis Report
2. AAVSB Comparison of the VTNE and California RVT Examination Outline, April 2, 2019



## **AAVSB Comparison of the VTNE and the California RVT Examination Outlines**

*April 2, 2019*

The AAVSB asked two Subject Matter Experts (SMEs) to evaluate the task and knowledge statements from the AAVSB 2017 VTNE blueprint to the 2016 CA RVT and 2018 CA RVT exam outlines. The SMEs are a veterinary technician and veterinarian, former Program Directors of AVMA-CVTEA veterinary technology programs with extensive involvement in both the VTNE exam development, previous job task analysis projects, and knowledge of regulatory policy.

In completing the analysis, the SMEs indicated comparison of the VTNE and the 2016 California exam outline shows that California statute laws are the only content areas not covered quite adequately by the VTNE. All California clinical practice content areas are covered in much greater depth and detail by the current VTNE blueprint. It appears that the CA 2016 exam outline is largely repetitive of the VTNE, with the exception of questions about California statute and regulations.

The CA OPES 2018 CA RVT exam outline does have some areas listed that are not covered by the VTNE but they are all California-specific statute/regulation knowledge areas rather than clinical practice knowledge used to determine minimal competency for veterinary technicians. As with the CA RVT 2016 exam outline, the VTNE covers the clinical practice areas of the CA RVT 2018 exam outline in much greater depth and detail than the CA state examination.

In conclusion, other than the California state-specific statute/regulation items, the current VTNE blueprint adequately covers the clinical practice tasks and knowledge areas of the CA RVT 2018 exam outline in determining minimal competency for veterinary technicians.





# The Veterinary Technician National Examination (VTNE) 2017 Job Analysis Study

## COMPARATIVE ANALYSIS FOR THE CALIFORNIA VETERINARY MEDICAL BOARD

March 2019

### PSI SERVICES

Kelly Zhao, PhD – Psychometrician  
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### SUBMITTED TO



**AAVSB**  
AMERICAN ASSOCIATION OF  
VETERINARY STATE BOARDS

## EXECUTIVE SUMMARY

This report, prepared for the American Association of Veterinary State Boards (AAVSB), describes the comparative analysis results on the 2017 Veterinary Technician National Examination (VTNE) job analysis survey data. The results of this comparison on data collected from veterinary technicians practicing in California jurisdiction versus those practicing in any other jurisdiction districts across the U.S. and Canada are twofold:

1. providing statistical evidences that there were no significant differences identified between the two groups of responses on the survey questions in regard to ratings on the frequency and importance of the job tasks performed by veterinary technicians. Both groups of survey respondents considered the task list to adequately cover what a veterinary technician would do in practice.
2. providing support to the content validity of the VTNE exam that the exam content outline developed from the 2017 survey analysis results is adequate and appropriate to be used for the examination construction initiatives for the Veterinary Technician National Examination regardless of jurisdiction districts.

Specifically, data collected from the following four main sections on the survey were compared:

**Appendix A** contains the data comparison on the survey respondents' demographic background and practice.

**Appendix B and Appendix C** contain the data comparison on a comprehensive list of job tasks that may be performed by a veterinary technician. The respondents were asked to rate the frequency in which they perform these tasks, and the importance of these tasks. These sections are organized into the nine major areas of practice listed below.

1. Pharmacy and Pharmacology
2. Surgical Nursing
3. Dentistry
4. Laboratory Procedures
5. Animal Care and Nursing
6. Diagnostic Imaging
7. Anesthesia
8. Emergency Medicine/Critical Care
9. Pain Management/Analgesia

**Appendix D** contains the data comparison on a separate listing of 9 areas of practice. The respondents were asked to provide percentage of time spent and patient harm ratings to each of the nine areas.

**Appendix E** contains the data comparison on respondents' perceptions on how adequate this list of job tasks covering what a veterinary technician would do in practice.

## INTRODUCTION

The American Association of Veterinary State Boards (AAVSB) owns and administers the Veterinary Technician National Examination (VTNE). The VTNE is designed to assess the competencies required of entry-level veterinary technicians. Most states and provinces require a passing score on the VTNE as one criterion for credentialing.

The AAVSB conducts periodic job analysis studies to identify and verify the job tasks and knowledge bases that describe entry-level practice. The Veterinary Technician job analysis study facilitated by PSI Services was conducted in 2017 at the request of the American Association of Veterinary State Boards (AAVSB).

The purpose of the 2017 job analysis was to provide a detailed study of the job activities of the veterinary technician in an effort to provide a sound basis for the continuing development of the VTNE. When completed, the job analysis process yields exam specifications that accurately reflect the scope of practice, allowing for the development of fair, accurate, and realistic assessments of candidates' readiness for certification. The results of this job analysis were the 2018 VTNE exam content outline (Appendix F) that specifies the domains, tasks, and knowledge bases that comprise entry-level practice of veterinary technicians and the percentage of test questions focusing on each domain.

### *Representativeness of the Job Analysis Task Force and VTNE Committee*

Several practitioners were assembled by the AAVSB to serve as subject matter experts (SMEs). The individuals selected represent a wide variety of work-related characteristics such as years of experience, work setting, geographic location, and areas of specialty. This helps in developing a scope of practice that is reflective of the roles and responsibilities of the job role and is relatively free from bias. The practitioners on the Job Analysis Task Force and VTNE Committee were from California, Colorado, Florida, Iowa, Kansas, Minnesota, Massachusetts, Nova Scotia, Ontario, Saskatchewan, Texas, Washington, and Wisconsin.

### *Survey Assembly and Distribution*

With the assistance of PSI project staff, the job analysis committee met in March 2017 and drafted an inventory containing a comprehensive list of job task statements as well as knowledge topics. The final job analysis survey consisted of 16 demographic questions, 71 task statements, and 50 knowledge topics. The survey was sent out to 39,132 individual's emails. After removing the undeliverable emails and the opted out ones, there were a total of 38,721 email recipients.

A total of 5,776 individuals accessed the survey. Specifically, there were 489 respondents identifying their location within the state of California and the rest of the 5,287 respondents indicated they are located in other states of the U.S or the provinces of Canada.

### *Job Analysis Survey*

PSI developed, administered, and monitored the job analysis survey to validate the tasks and knowledge areas developed by the job analysis committee and to help determine content weighting. To this end,

the survey collected respondents' ratings of the importance and frequency for each task and knowledge area. Below are the prompts for each rating scale.

**Frequency** How frequently do you perform this **task** in your role as a Veterinary Technician?

- 0 - Never
- 1 - Rarely
- 2 - Quarterly
- 3 - Monthly
- 4 - Weekly
- 5 - Daily/several times a day

**Importance** How important is this **task** to your role as a Veterinary Technician?

- 1 - Minimally Important
- 2 - Below average importance
- 3 - Average importance
- 4 - Above average importance
- 5 - Extreme importance

## RESULTS

Appendix A shows the demographic information of the two respondent groups. The demographic profiles of the two groups are quite comparable in terms of the percentage of respondents identifying themselves as veterinary technicians; distribution of their primary work setting; average years of experience as a veterinary technician; credentialing status as a Veterinary Nurse (VN), a Veterinarian, or in other specialties; primary job role; type of species seen; the percentage for each type of species seen; and educational background.

Appendix B provides the percent of respondents who indicated they perform a task at work. The largest difference of 7.3% between the two jurisdiction groups occurred for the task of "Utilize devices and equipment to restrain large animals for treatment per patient safety protocols". Appendix C provides the average ratings on the importance of a task to the respondents' work as a veterinary technician. The largest difference between the two sets of task ratings was 0.17 for the task of "Calculate fluid therapy rate".

Appendix D indicates that the two groups have a high degree of agreement in terms of the distribution of the exam items on the nine content areas of the VTNE examination. The percentage distribution of the time spent at the different practice areas are quite similar between the two groups as well.

Appendix E indicated that the majority of the California respondents (99.2%), as well as the majority of all other respondents (98.8%), considered this job task list to at least adequately cover what they would do in practice as a veterinary technician. This is direct evidence that the majority of the respondents considered this task list as highly inclusive of what a veterinary technician would do in practice, therefore should be included on the VTNE exam content outline for the purpose of exam development.

## APPENDIX A

### DEMOGRAPHICS

Comparison results of the demographic questions about respondents' background and practice.

Are you currently working as a certified, licensed, or registered veterinary technician or have you worked as a certified, licensed, or registered veterinary technician in the last 24 months?	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Yes	475	97.1	4940	95.3
No	14	2.9	246	4.7
<b>Total</b>	<b>489</b>	<b>100.0</b>	<b>5186</b>	<b>100.0</b>

What is your primary work setting?	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Animal Shelter or Humane Society	19	3.9	128	2.5
General Veterinary Hospital/Clinic	259	53.5	3180	61.8
Industry/Sales	1	0.2	48	0.9
Referral/Emergency/ Specialty Veterinary Hospital/Clinic	145	30.0	982	19.1
Research	18	3.7	171	3.3
State/Provincial/Federal Government	0	0	26	0.5
Veterinary Technology University/College	6	1.2	129	2.5
Veterinary University/College	10	2.1	199	3.9
Zoo/Wildlife	4	0.8	77	1.5
Other (please specify)	22	4.5	202	3.9
<b>Total</b>	<b>484</b>	<b>100.0</b>	<b>5142</b>	<b>100.0</b>

How many years of experience do you have as a Veterinary Technician?	California		All Others	
	<i>n</i>	Mean	<i>n</i>	Mean
	481	9.52	5121	8.95

Have you taken the VTNE?	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Yes	331	68.4	5005	97.3
No	153	31.6	138	2.7
<b>Total</b>	<b>484</b>	<b>100.0</b>	<b>5143</b>	<b>100.0</b>

Which of the following credentials do you currently hold? (Select all that apply.)	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Animal Health Technician (AHT)	8	1.6	247	4.7
Certified Animal Health Technician (CAHT)	--	--	61	1.2
Certified Veterinary Technician (CVT)	29	5.9	2217	41.9
Licensed Veterinary Medical Technician (LVMT)	1	0.2	69	1.3
Licensed Veterinary Technician (LVT)	19	3.9	1255	23.7
Registered Veterinary Technician (RVT)	474	96.9	1853	35.0
Animal Health Technician (AHT)	8	1.6	247	4.7

Do you currently hold an International Credential as a Veterinary Nurse (VN)?	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Yes	4	0.8	31	0.6
No	479	99.2	5113	99.4
Total	483	100.0	5144	100.0

Do you currently hold an International Credential as a Veterinarian?	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Yes	2	0.4	12	0.2
No	481	99.6	5122	99.8
Total	483	100.0	5134	100.0

Do you have a Veterinary Technician Specialty (VTS) credential? (Select all that apply.)	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Anesthesia and Analgesia	5	1	19	0.4
Behavior	--	--	5	0.1
Clinical Pathology	--	--	3	0.1
Clinical Practice	1	0.2	5	0.1
Dentistry	3	0.6	27	0.5
Dermatology	--	--	3	0.1
Emergency and Critical Care	5	1	40	0.8
Equine Veterinary Nursing	1	0.2	15	0.3
Internal Medicine	1	0.2	17	0.3
Laboratory Animal	4	0.8	25	0.5
Nutrition	1	0.2	5	0.1
Ophthalmology	--	--	3	0.1
Physical Rehabilitation	2	0.4	14	0.3
Surgery	2	0.4	6	0.1
Zoological Medicine	1	0.2	3	0.1

What is your primary role in your current job?	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Direct patient care	352	75.7	3786	76.4
Education	8	1.7	169	3.4
Employee supervision	26	5.6	153	3.1
Hospital administration	17	3.7	181	3.7
Laboratory/Research	19	4.1	178	3.6
Sales/marketing	1	0.2	36	0.7
Training	9	1.9	62	1.3
Other (please specify)	33	7.1	389	7.9
<b>Total</b>	<b>465</b>	<b>100.0</b>	<b>4954</b>	<b>100.0</b>

Please indicate the percentage for each type of species seen.	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Exotic animal (e.g., pocket pets, birds, reptiles)	388	5.72	3964	5.05
Interactions other than animal patients	297	9.43	2955	10.78
Lab animal	309	5.6	3005	5.35
Large animal	312	4.11	3229	9.69
Small animal	438	86.06	4619	82.29
Zoo and wildlife	299	2.24	2990	3.37

Please indicate the percentage for each type of species seen.	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Amphibians	291	0.5	2843	0.64
Birds	326	2.82	3311	2.53
Camelids	264	0.17	2645	0.37
Cats	425	38.46	4554	36.29
Cattle	266	0.88	2774	3.92
Dogs	432	53.06	4582	51.13
Ferrets	276	0.38	3049	1.15
Goats	267	0.45	2785	0.92
Horses	269	3.37	2877	5.75
Pigs	273	0.88	2796	1.57
Non-Human Primates	268	1.6	2587	1.35
Rabbits	340	2.58	3513	2.28
Reptiles	310	1.38	2961	1.21
Rodents	341	5.02	3372	3.96
Sheep	261	0.27	2678	0.8

How many hours do you work per week as a Veterinary Technician?	California		All Others	
	<i>n</i>	Mean	<i>n</i>	Mean
	448	39.08	4730	37.86

What is your highest level of education?	California		All Others	
	<i>n</i>	%	<i>n</i>	%
High school diploma/equivalency	45	9.7	152	3.1
College diploma (Canada)	3	0.6	587	12.0
Associate degree (US)	239	51.7	2724	55.6
Baccalaureate degree	133	28.8	1203	24.5
Master's degree	9	1.9	112	2.3
Doctoral degree	2	0.4	11	0.2
Other (please specify)	31	6.7	113	2.3
<b>Total</b>	<b>462</b>	<b>100.0</b>	<b>4902</b>	<b>100.0</b>

Gender	California		All Others	
	<i>n</i>	%	<i>n</i>	%
Female	425	92.0	4674	95.3
Male	34	7.4	194	4.0
Prefer not to Answer	3	0.6	37	0.8
<b>Total</b>	<b>462</b>	<b>100.0</b>	<b>4905</b>	<b>100.0</b>

## APPENDIX B

### PERCENT OF RESPONDENTS WHO PERFORM THE TASK AT JOB

Comparison results of tasks that may be performed by a veterinary technician.

	California		All Others	
	N	% Performing	N	% Performing
<b>1. Pharmacy and Pharmacology</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to the use of pharmacological and biological agents.	397	97.73	4309	96.40
Prepare medications in compliance with veterinarian's orders.	396	98.23	4326	96.76
Educate the client regarding pharmacological and biological agents administered or dispensed to ensure the safety of the patient/client and efficacy of the products.	397	93.70	4314	93.02
Calculate fluid therapy rate.	397	89.42	4314	84.14
Calculate medications based on the appropriate dosage in compliance with veterinarian's orders.	394	95.43	4310	93.13
Dispense medications in compliance with veterinary orders.	395	95.44	4303	94.89
Maintain controlled drug inventory and related log books.	395	84.30	4296	83.80
Recognize classifications of drugs, their mechanisms, and clinically relevant side effects.	396	96.72	4300	94.93
Store, handle, and safely dispose of pharmacological and biological agents.	395	96.20	4307	95.22
<b>2. Surgical Nursing</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to surgical nursing.	357	95.52	3894	93.14
Prepare the surgical environment, equipment, instruments, and supplies to meet the needs of the surgical team and patient.	358	94.69	3893	91.50
Prepare patient for surgical procedure.	359	95.26	3892	92.45
Function as a sterile surgical technician to ensure patient safety and procedural efficiency.	359	78.83	3880	77.50
Function as a circulating (non-sterile) surgical technician to ensure patient safety and procedural efficiency.	358	93.58	3886	89.60
Clean instruments by the appropriate method (e.g., manual, soak, or ultrasonic).	357	90.20	3896	88.81
Maintain aseptic conditions in surgical suite and during surgical procedures.	356	94.94	3880	90.41
Maintain the surgical environment, equipment, instruments, and supplies to meet the needs of the surgical team and patient.	355	91.83	3886	88.91
Sterilize equipment and supplies by the appropriate method (e.g., steam, gas).	357	86.83	3887	85.62

	California		All Others	
	N	% Performing	N	% Performing
<b>3. Dentistry</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to dentistry.	342	78.95	3728	77.90
Prepare the environment, equipment, instruments, and supplies for dental procedures.	339	73.45	3719	73.68
Maintain the environment, equipment, instruments, and supplies for dental procedures.	339	73.45	3712	73.22
Perform routine dental prophylaxis (e.g., manual and machine cleaning, polishing).	339	69.03	3707	69.27
Educate the client regarding dental health, including prophylactic and post-treatment care.	341	76.25	3709	73.82
Perform oral examination and documentation.	341	68.33	3706	69.05
Produce diagnostic dental images and/or radiographs.	340	57.94	3705	53.71
<b>4. Laboratory Procedures</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to laboratory procedures.	325	92.00	3608	92.85
Prepare specimens and documentation for in-house or outside laboratory evaluation.	324	96.60	3614	95.43
Maintain specimens for in-house or outside laboratory evaluation.	324	92.59	3607	92.99
Perform laboratory tests and procedures (including but not limited to microbiology, serology, cytology, hematology, urinalysis, and parasitology).	326	90.49	3606	92.07
Maintain laboratory equipment and related supplies to ensure quality of test results and safety of operation.	325	82.77	3607	85.89
<b>5. Animal Care and Nursing</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to patient care and nursing.	300	99.67	3381	98.11
Document initial and ongoing evaluations of physical, behavioral, nutritional, clinical procedures, and mentation status of patients to provide optimal patient/client safety and health.	300	98.00	3380	96.27
Perform patient nursing procedures (including but not limited to restraint, catheterization, wound management and bandaging) in the implementation of prescribed treatments.	296	98.65	3383	97.31
Perform clinical diagnostic procedures (including but not limited to blood pressure measurement, electrocardiography, and oximetry) to aid in diagnosis and prognosis.	297	95.62	3376	92.27
Educate clients and the public about animal care (including but not limited to behavior, nutrition, pre- and post-operative care, preventative care, zoonosis) to promote and maintain the health of animals and the safety of clients/public.	298	92.28	3379	91.77

	California		All Others	
	N	% Performing	N	% Performing
Provide a safe, sanitary, and comfortable environment for patients to ensure optimal healthcare and client/personnel safety.	297	98.99	3376	96.62
Maintain diagnostic equipment and related supplies to ensure quality of test results and safety of operation.	296	90.20	3376	89.87
Administer medications via the appropriate routes (e.g., aural, intravenous, subcutaneous).	296	98.65	3385	97.46
Collect specimens for in-house or outside laboratory evaluation.	296	97.64	3372	96.32
Collect patient information (e.g., signalment, medical history, primary complaint).	297	94.61	3353	93.41
Adherence to appropriate disposal protocols of hazardous materials.	295	97.97	3369	96.05
Maintain therapeutic treatments (including but not limited to catheters, wound management and bandages).	296	96.96	3375	94.76
Manage hospitalized patients (e.g., appetite, TPR, nutritional needs, medication, mentation).	296	93.58	3378	92.69
Perform physical rehabilitation as directed.	295	59.66	3337	58.53
Provide assistance with the euthanasia process (e.g., disposal, consent, counseling).	292	94.86	3362	94.02
Recognize behavioral characteristics of patients.	294	96.94	3355	97.11
Utilize devices and equipment to restrain large animals (e.g., horses, cattle, goats, swine) for treatment per patient safety protocols.	292	17.12	3336	24.46
Utilize devices and equipment to restrain small animals (e.g., dogs, cats, birds) for treatment per patient safety protocols.	295	96.61	3381	93.14
<b>6. Diagnostic Imaging</b>				
Utilize knowledge of anatomy, physiology, and pathophysiology as it applies to diagnostic images.	277	94.58	3303	92.43
Produce diagnostic images and/or radiographs (excluding dental) following protocols for quality and operator/patient safety.	276	91.67	3307	90.29
Maintain imaging/radiograph equipment and related materials to ensure quality of results and equipment, operator, and patient safety.	274	73.72	3294	77.63
<b>7. Anesthesia</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to anesthesia.	268	95.90	3202	93.60
Assist in the development of the anesthetic plan to ensure patient safety and procedural efficacy.	268	83.58	3198	82.77
Implement the anesthetic plan (including but not limited to administration of medication and monitoring) to facilitate diagnostic, therapeutic, or surgical procedures.	269	92.94	3197	91.05
Prepare anesthetic equipment and related materials to ensure operator and patient safety.	267	94.76	3200	91.78

	California		All Others	
	N	% Performing	N	% Performing
Maintain anesthetic equipment and related materials to ensure reliable operation.	267	92.13	3200	87.91
Educate the client about anesthetics and anesthesia to ensure the safety of the patient/client and efficacy of the product(s) or procedure(s).	269	83.64	3192	82.52
Maintain a patent airway using endotracheal intubation.	267	94.76	3200	90.66
Monitor patients during all stages of anesthesia (pre-, peri-, and post-).	264	95.83	3199	92.84
Obtain patient related information in the development of an appropriate anesthetic plan.	267	89.14	3195	87.64
Respond appropriately to changes in patient status during all stages of anesthesia.	267	95.13	3198	92.78
<b>8. Emergency Medicine/Critical Care</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to emergency medicine and critical care.	261	89.66	3118	90.03
Perform triage of a patient presenting with emergency/critical conditions (including but not limited to shock, acute illness, acute trauma, and toxicity).	263	88.59	3121	87.18
Perform emergency nursing procedures (including but not limited to cardiopulmonary resuscitation (CPR), control acute blood loss, and fracture stabilization) in the implementation of prescribed treatments.	262	80.53	3122	80.11
Perform critical care nursing procedures (including but not limited to blood component therapy, fluid resuscitation, and ongoing oxygen therapy) in the implementation of prescribed treatments.	262	80.15	3118	82.07
Perform ongoing evaluations of physical, behavioral, nutritional, and mentation status of patients in emergency and critical conditions.	262	84.35	3114	85.52
<b>9. Pain Management/Analgesia</b>				
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to pain management and analgesia.	260	95.38	3082	95.39
Assess need for analgesia in patient.	259	95.37	3079	94.06
Educate client regarding patient pain assessment and management to ensure the safety of the patient/client, and efficacy of the product(s) or procedure(s).	261	88.51	3080	88.41
Assist in the development and implementation of the pain management plan to optimize patient comfort and/or healing.	260	86.92	3069	86.77

## APPENDIX C

### AVERAGE RATINGS ON THE IMPORTANCE OF THE TASKS

Comparison results of the importance of these tasks to a veterinary technician.

	California			All Others		
	N	Mean	Standard of Error	N	Mean	Standard of Error
<b>1. Pharmacy and Pharmacology</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to the use of pharmacological and biological agents.	231	4.18	0.06	2082	4.10	0.02
Prepare medications in compliance with veterinarian's orders.	235	4.55	0.05	2093	4.56	0.02
Educate the client regarding pharmacological and biological agents administered or dispensed to ensure the safety of the patient/client and efficacy of the products.	220	4.51	0.05	1975	4.42	0.02
Calculate fluid therapy rate.	212	4.31	0.05	1779	4.14	0.02
Calculate medications based on the appropriate dosage in compliance with veterinarian's orders.	226	4.65	0.04	1992	4.60	0.02
Dispense medications in compliance with veterinary orders.	227	4.42	0.05	2021	4.40	0.02
Maintain controlled drug inventory and related log books.	194	4.41	0.06	1770	4.41	0.02
Recognize classifications of drugs, their mechanisms, and clinically relevant side effects.	231	4.35	0.05	2033	4.23	0.02
Store, handle, and safely dispose of pharmacological and biological agents.	229	4.03	0.06	2034	3.98	0.02
<b>2. Surgical Nursing</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to surgical nursing.	196	4.32	0.06	1733	4.29	0.02
Prepare the surgical environment, equipment, instruments, and supplies to meet the needs of the surgical team and patient.	196	4.33	0.05	1700	4.28	0.02
Prepare patient for surgical procedure.	199	4.49	0.05	1723	4.41	0.02
Function as a sterile surgical technician to ensure patient safety and procedural efficiency.	162	4.45	0.06	1389	4.41	0.02
Function as a circulating (non-sterile) surgical technician to ensure patient safety and procedural efficiency.	194	4.42	0.05	1651	4.31	0.02
Clean instruments by the appropriate method (e.g., manual, soak, or ultrasonic).	184	4.03	0.06	1650	4.03	0.02
Maintain aseptic conditions in surgical suite and during surgical procedures.	196	4.58	0.05	1676	4.49	0.02
Maintain the surgical environment, equipment, instruments, and supplies to meet the needs of the surgical team and patient.	189	4.25	0.06	1640	4.21	0.02

	California			All Others		
	N	Mean	Standard of Error	N	Mean	Standard of Error
Sterilize equipment and supplies by the appropriate method (e.g., steam, gas).	177	4.20	0.06	1574	4.24	0.02
<b>3. Dentistry</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to dentistry.	148	4.09	0.07	1301	3.96	0.03
Prepare the environment, equipment, instruments, and supplies for dental procedures.	138	3.86	0.07	1221	3.84	0.03
Maintain the environment, equipment, instruments, and supplies for dental procedures.	138	3.78	0.07	1207	3.80	0.03
Perform routine dental prophylaxis (e.g., manual and machine cleaning, polishing).	131	4.36	0.06	1133	4.31	0.02
Educate the client regarding dental health, including prophylactic and post-treatment care.	143	3.97	0.08	1212	4.05	0.02
Perform oral examination and documentation.	127	4.11	0.08	1121	3.98	0.03
Produce diagnostic dental images and/or radiographs.	110	4.11	0.08	869	4.15	0.03
<b>4. Laboratory Procedures</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to laboratory procedures.	167	3.87	0.06	1595	3.93	0.02
Prepare specimens and documentation for in-house or outside laboratory evaluation.	179	3.97	0.06	1651	4.09	0.02
Maintain specimens for in-house or outside laboratory evaluation.	169	3.95	0.06	1587	4.02	0.02
Perform laboratory tests and procedures (including but not limited to microbiology, serology, cytology, hematology, urinalysis, and parasitology).	163	4.11	0.07	1562	4.25	0.02
Maintain laboratory equipment and related supplies to ensure quality of test results and safety of operation.	142	3.77	0.08	1426	3.91	0.02
<b>5. Animal Care and Nursing</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to patient care and nursing.	173	4.43	0.06	1628	4.38	0.02
Document initial and ongoing evaluations of physical, behavioral, nutritional, clinical procedures, and mentation status of patients to provide optimal patient/client safety and health.	166	4.46	0.05	1579	4.44	0.02
Perform patient nursing procedures (including but not limited to restraint, catheterization, wound management and bandaging) in the implementation of prescribed treatments.	169	4.54	0.05	1607	4.50	0.02
Perform clinical diagnostic procedures (including but not limited to blood pressure measurement, electrocardiography, and oximetry) to aid in diagnosis and prognosis.	164	4.41	0.05	1499	4.35	0.02

	California			All Others		
	N	Mean	Standard of Error	N	Mean	Standard of Error
Educate clients and the public about animal care (including but not limited to behavior, nutrition, pre- and post-operative care, preventative care, zoonosis) to promote and maintain the health of animals and the safety of clients/public.	155	4.18	0.07	1494	4.25	0.02
Provide a safe, sanitary, and comfortable environment for patients to ensure optimal healthcare and client/personnel safety.	170	4.29	0.06	1596	4.28	0.02
Maintain diagnostic equipment and related supplies to ensure quality of test results and safety of operation.	149	3.91	0.07	1427	3.94	0.02
Administer medications via the appropriate routes (e.g., aural, intravenous, subcutaneous).	170	4.62	0.05	1617	4.56	0.02
Collect specimens for in-house or outside laboratory evaluation.	169	4.18	0.06	1579	4.10	0.02
Collect patient information (e.g., signalment, medical history, primary complaint).	161	4.12	0.07	1517	4.19	0.02
Adherence to appropriate disposal protocols of hazardous materials.	167	4.04	0.07	1568	4.03	0.02
Maintain therapeutic treatments (including but not limited to catheters, wound management and bandages).	164	4.27	0.06	1540	4.25	0.02
Manage hospitalized patients (e.g., appetite, TPR, nutritional needs, medication, mentation).	157	4.40	0.06	1490	4.46	0.02
Perform physical rehabilitation as directed.	91	3.78	0.10	829	3.79	0.03
Provide assistance with the euthanasia process (e.g., disposal, consent, counseling).	159	4.03	0.07	1528	4.14	0.02
Recognize behavioral characteristics of patients.	163	4.31	0.06	1596	4.23	0.02
Utilize devices and equipment to restrain large animals (e.g., horses, cattle, goats, swine) for treatment per patient safety protocols.	28	4.07	0.18	353	4.07	0.05
Utilize devices and equipment to restrain small animals (e.g., dogs, cats, birds) for treatment per patient safety protocols.	163	4.18	0.06	1526	4.12	0.02
<b>6. Diagnostic Imaging</b>						
Utilize knowledge of anatomy, physiology, and pathophysiology as it applies to diagnostic images.	154	4.06	0.07	1472	4.16	0.02
Produce diagnostic images and/or radiographs (excluding dental) following protocols for quality and operator/patient safety.	149	4.27	0.07	1421	4.23	0.02
Maintain imaging/radiograph equipment and related materials to ensure quality of results and equipment, operator, and patient safety.	108	4.03	0.10	1143	3.87	0.03
<b>7. Anesthesia</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to anesthesia.	149	4.67	0.05	1442	4.59	0.02
Assist in the development of the anesthetic plan to ensure patient safety and procedural efficacy.	121	4.64	0.06	1213	4.55	0.02

	California			All Others		
	N	Mean	Standard of Error	N	Mean	Standard of Error
Implement the anesthetic plan (including but not limited to administration of medication and monitoring) to facilitate diagnostic, therapeutic, or surgical procedures.	145	4.72	0.05	1388	4.67	0.02
Prepare anesthetic equipment and related materials to ensure operator and patient safety.	146	4.58	0.05	1409	4.51	0.02
Maintain anesthetic equipment and related materials to ensure reliable operation.	140	4.49	0.06	1326	4.40	0.02
Educate the client about anesthetics and anesthesia to ensure the safety of the patient/client and efficacy of the product(s) or procedure(s).	125	4.23	0.07	1214	4.22	0.02
Maintain a patent airway using endotracheal intubation.	146	4.82	0.03	1388	4.77	0.01
Monitor patients during all stages of anesthesia (pre-, peri-, and post-).	149	4.85	0.03	1426	4.80	0.01
Obtain patient related information in the development of an appropriate anesthetic plan.	130	4.56	0.06	1320	4.47	0.02
Respond appropriately to changes in patient status during all stages of anesthesia.	145	4.88	0.03	1424	4.83	0.01
<b>8. Emergency Medicine/Critical Care</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to emergency medicine and critical care.	132	4.53	0.06	1317	4.48	0.02
Perform triage of a patient presenting with emergency/critical conditions (including but not limited to shock, acute illness, acute trauma, and toxicity).	130	4.65	0.06	1269	4.63	0.02
Perform emergency nursing procedures (including but not limited to cardiopulmonary resuscitation (CPR), control acute blood loss, and fracture stabilization) in the implementation of prescribed treatments.	113	4.71	0.06	1160	4.65	0.02
Perform critical care nursing procedures (including but not limited to blood component therapy, fluid resuscitation, and ongoing oxygen therapy) in the implementation of prescribed treatments.	116	4.66	0.06	1178	4.57	0.02
Perform ongoing evaluations of physical, behavioral, nutritional, and mentation status of patients in emergency and critical conditions.	124	4.58	0.06	1222	4.51	0.02
<b>9. Pain Management/Analgesia</b>						
Utilize knowledge of anatomy, physiology and pathophysiology as it applies to pain management and analgesia.	140	4.43	0.07	1427	4.30	0.02
Assess need for analgesia in patient.	139	4.50	0.05	1403	4.42	0.02
Educate client regarding patient pain assessment and management to ensure the safety of the	126	4.17	0.08	1290	4.25	0.02

	California			All Others		
	N	Mean	Standard of Error	N	Mean	Standard of Error
patient/client, and efficacy of the product(s) or procedure(s).						
Assist in the development and implementation of the pain management plan to optimize patient comfort and/or healing.	123	4.37	0.07	1247	4.26	0.02

## APPENDIX D

### THE PERCENTAGE OF TIME SPENT AND PATIENT HARM RATINGS

Comparison results of the percentage of time spent and patient harm ratings to each of the nine areas.

What percentage of the Veterinary Technician examination would you allocate to each of the following content areas?	California		All Others	
	<i>n</i>	average %	<i>n</i>	average%
1. Pharmacy and Pharmacology	251	11.7	2991	11.8
2. Surgical Nursing	251	12.0	2973	11.0
3. Dentistry	250	8.9	2931	8.6
4. Laboratory Procedures	249	8.4	2991	11.3
5. Animal Care and Nursing	252	18.9	3000	17.6
6. Diagnostic Imaging	246	8.0	2967	8.33
7. Anesthesia	251	14.7	2996	14.1
8. Emergency Medicine/Critical Care	245	10.2	2952	9.5
9. Pain Management/Analgesia	249	8.5	2970	9.1

Within the last month, what percentage of your time did you spend in each of the following areas of practice?	California		All Others	
	<i>n</i>	average %	<i>n</i>	average%
1. Pharmacy and Pharmacology	232	9.2	2741	10.5
2. Surgical Nursing	231	10.6	2701	10.5
3. Dentistry	230	10.1	2616	7.6
4. Laboratory Procedures	229	8.2	2735	11.9
5. Animal Care and Nursing	237	19.7	2762	19.6
6. Diagnostic Imaging	227	8.0	2680	7.9
7. Anesthesia	234	15.2	2732	13.5
8. Emergency Medicine/Critical Care	224	8.7	2607	7.8
9. Pain Management/Analgesia	232	6.9	2673	7.2
10. Administrative/Managerial	214	8.3	2542	8.2
11. Other Areas	145	4.7	1547	6.2

Please indicate the potential for harm to the patient, client, and/or staff if the veterinary technician did not have sufficient knowledge in the following nine job content areas.

Pharmacy and Pharmacology	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	6	2.4	70	2.3
Minimal harm	6	2.4	137	4.6
Moderate harm	66	26.4	594	19.8
Extreme harm	172	68.8	2196	73.3
Total	250	100.0	2997	100.0

Surgical Nursing	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	5	2.0	63	2.1
Minimal harm	12	4.8	157	5.2
Moderate harm	60	24.1	853	28.5
Extreme harm	172	69.1	1920	64.1
<b>Total</b>	<b>249</b>	<b>100.0</b>	<b>2993</b>	<b>100.0</b>

Dentistry	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	7	2.8	105	3.5
Minimal harm	39	15.8	656	22.0
Moderate harm	116	47.0	1509	50.7
Extreme harm	85	34.4	709	23.8
<b>Total</b>	<b>247</b>	<b>100.0</b>	<b>2979</b>	<b>100.0</b>

Laboratory Procedures	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	19	7.6	182	6.1
Minimal harm	99	39.4	1077	36.0
Moderate harm	99	39.4	1274	42.6
Extreme harm	34	13.5	456	15.3
<b>Total</b>	<b>251</b>	<b>100.0</b>	<b>2989</b>	<b>100.0</b>

Animal Care and Nursing	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	2	0.8	52	1.7
Minimal harm	15	6.0	154	5.2
Moderate harm	73	29.4	922	30.9
Extreme harm	158	63.7	1856	62.2
<b>Total</b>	<b>248</b>	<b>100.0</b>	<b>2984</b>	<b>100.0</b>

Diagnostic Imaging	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	14	5.6	203	6.8
Minimal harm	121	48.8	1347	45.1
Moderate harm	88	35.5	1103	36.9
Extreme harm	25	10.1	334	11.2
<b>Total</b>	<b>248</b>	<b>100.0</b>	<b>2987</b>	<b>100.0</b>

Anesthesia	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	3	1.2	54	1.8
Minimal harm	4	1.6	63	2.1
Moderate harm	11	4.4	98	3.3
Extreme harm	232	92.8	2778	92.8
<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>2993</b>	<b>100.0</b>

Emergency Medicine / Critical Care	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	4	1.6	56	1.9
Minimal harm	3	1.2	65	2.2
Moderate harm	37	14.9	328	11.0
Extreme harm	205	82.3	2544	85.0
<b>Total</b>	<b>249</b>	<b>100.0</b>	<b>2993</b>	<b>100.0</b>

Pain Management /Analgesia	California		All Others	
	<i>n</i>	%	<i>n</i>	%
No harm	5	2.0	67	2.2
Minimal harm	22	8.8	260	8.7
Moderate harm	118	47.2	1389	46.4
Extreme harm	105	42.0	1277	42.7
<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>2993</b>	<b>100.0</b>

## APPENDIX E

### PERCEPTION OF SURVEY ADEQUACY

Comparison results of the survey adequacy.

How well did this survey cover the job of a Veterinary Technician?	California			All Others		
	<i>n</i>	%	<i>Cumulative %</i>	<i>n</i>	%	<i>Cumulative %</i>
<b>Completely</b>	104	41.8	41.8	1292	43.5	43.5
<b>Adequately</b>	143	57.4	99.2	1644	55.3	98.8
<b>Inadequately</b>	2	0.8	100.0	36	1.2	100.0
<b>Total</b>	249	100.0		2972	100.0	

## APPENDIX F

### EXAMINATION CONTENT OUTLINE

<i>Practice Domains</i>	<i>No. of Items</i>	<i>% of Items</i>
Domain 1. Pharmacy and Pharmacology	18	12%
Domain 2. Surgical Nursing	17	11%
Domain 3. Dentistry	12	8%
Domain 4. Laboratory Procedures	17	12%
Domain 5. Animal Care and Nursing	30	20%
Domain 6. Diagnostic Imaging	11	7%
Domain 7. Anesthesia	22	15%
Domain 8. Emergency Medicine/Critical Care	12	8%
Domain 9. Pain Management/Analgesia	11	7%
<b>Total</b>	<b>150</b>	<b>100%</b>

#### AAVSB VETERINARY TECHNICIAN NATIONAL EXAMINATION (VTNE®)

*To be implemented with VTNE administration beginning July  
2018*

# DOMAIN CONTENT OUTLINE, TASK STATEMENTS, EXAMINATION SPECIFICATIONS

## Domain 1 Pharmacy and Pharmacology (18 items, 12%)

- TASK 1A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to the use of pharmacological and biological agents.
- TASK 1B Prepare medications in compliance with veterinarian's orders.
- TASK 1C Educate the client regarding pharmacological and biological agents administered or dispensed to ensure the safety of the patient/client and efficacy of the products.
- TASK 1D Calculate fluid therapy rate.
- TASK 1E Calculate medications based on the appropriate dosage in compliance with veterinarian's orders.
- TASK 1F Dispense medications in compliance with veterinary orders.
- TASK 1G Maintain controlled drug inventory and related log books.
- TASK 1H Recognize classifications of drugs, their mechanisms, and clinically relevant side effects.
- TASK 1I Store, handle, and safely dispose of pharmacological and biological agents.

## Domain 2 Surgical Nursing (17 items, 11%)

- TASK 2A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to surgical nursing.
- TASK 2B Prepare the surgical environment, equipment, instruments, and supplies to meet the needs of the surgical team and patient.
- TASK 2C Prepare patient for surgical procedure.
- TASK 2D Function as a sterile surgical technician to ensure patient safety and procedural efficiency.
- TASK 2E Function as a circulating (non-sterile) surgical technician to ensure patient safety and procedural efficiency.
- TASK 2F Clean instruments by the appropriate method (e.g., manual, soak, or ultrasonic).
- TASK 2G Maintain aseptic conditions in surgical suite and during surgical procedures.
- TASK 2H Maintain the surgical environment, equipment, instruments, and supplies to meet the needs of the surgical team and patient.
- TASK 2I Sterilize equipment and supplies by the appropriate method (e.g., steam, gas).

## Domain 3 Dentistry (12 items, 8%)

- TASK 3A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to dentistry.
- TASK 3B Prepare the environment, equipment, instruments, and supplies for dental procedures.
- TASK 3C Perform routine dental prophylaxis (e.g., manual and machine cleaning, polishing).
- TASK 3D Educate the client regarding dental health, including prophylactic and post-treatment care.

**Domain 3 Dentistry (12 items, 8%) continued...**

- TASK 3E Maintain the environment, equipment, instruments, and supplies for dental procedures.
- TASK 3F Perform oral examination and documentation.
- TASK 3G Produce diagnostic dental images and/or radiographs.

**Domain 4 Laboratory Procedures (17 items, 12%)**

- TASK 4A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to laboratory procedures.
- TASK 4B Prepare specimens and documentation for in-house or outside laboratory evaluation.
- TASK 4C Perform laboratory tests and procedures (including but not limited to microbiology, serology, cytology, hematology, urinalysis, and parasitology).
- TASK 4D Maintain laboratory equipment and related supplies to ensure quality of test results and safety of operation.
- TASK 4E Maintain specimens for in-house or outside laboratory evaluation.

**Domain 5 Animal Care and Nursing (30 items, 20%)**

- TASK 5A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to patient care and nursing.
- TASK 5B Document initial and ongoing evaluations of physical, behavioral, nutritional, clinical procedures, and mentation status of patients to provide optimal patient/client safety and health.
- TASK 5C Perform patient nursing procedures (including but not limited to restraint, catheterization, wound management and bandaging) in the implementation of prescribed treatments.
- TASK 5D Perform clinical diagnostic procedures (including but not limited to blood pressure measurement, electrocardiography, and oximetry) to aid in diagnosis and prognosis.
- TASK 5E Educate clients and the public about animal care (including but not limited to behavior, nutrition, pre- and post-operative care, preventative care, zoonosis) to promote and maintain the health of animals and the safety of clients/public.
- TASK 5F Provide a safe, sanitary, and comfortable environment for patients to ensure optimal healthcare and client/personnel safety.
- TASK 5G Maintain diagnostic equipment and related supplies to ensure quality of test results and safety of operation.
- TASK 5H Administer medications via the appropriate routes (e.g., aural, intravenous, subcutaneous).
- TASK 5I Collect specimens for in-house or outside laboratory evaluation.
- TASK 5J Collect patient information (e.g., signalment, medical history, primary complaint).
- TASK 5K Adherence to appropriate disposal protocols of hazardous materials.
- TASK 5L Maintain therapeutic treatments (including but not limited to catheters, wound management and bandages).
- TASK 5M Manage hospitalized patients (e.g., appetite, TPR, nutritional needs, medication, mentation).
- TASK 5N Perform physical rehabilitation as directed.
- TASK 5O Provide assistance with the euthanasia process (e.g., disposal, consent, counseling).

**Domain 5 Animal Care and Nursing (30 items, 20%) continued...**

- TASK 5P Recognize behavioral characteristics of patients.
- TASK 5Q Utilize devices and equipment to restrain large animals (e.g., horses, cattle, goats, swine) for treatment per patient safety protocols.
- TASK 5R Utilize devices and equipment to restrain small animals (e.g., dogs, cats, birds) for treatment per patient safety protocols.

**Domain 6 Diagnostic Imaging (11 items, 7%)**

- TASK 6A Utilize knowledge of anatomy, physiology, and pathophysiology as it applies to diagnostic images.
- TASK 6B Produce diagnostic images and/or radiographs (excluding dental) following protocols for quality and operator/patient safety.
- TASK 6C Maintain imaging/radiograph equipment and related materials to ensure quality of results and equipment, operator, and patient safety.

**Domain 7 Anesthesia (22 items, 15%)**

- TASK 7A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to anesthesia.
- TASK 7B Assist in the development of the anesthetic plan to ensure patient safety and procedural efficacy.
- TASK 7C Implement the anesthetic plan (including but not limited to administration of medication and monitoring) to facilitate diagnostic, therapeutic, or surgical procedures.
- TASK 7D Prepare anesthetic equipment and related materials to ensure operator and patient safety.
- TASK 7E Educate the client about anesthetics and anesthesia to ensure the safety of the patient/client and efficacy of the product(s) or procedure(s).
- TASK 7F Maintain anesthetic equipment and related materials to ensure reliable operation.
- TASK 7G Maintain a patent airway using endotracheal intubation.
- TASK 7H Monitor patients during all stages of anesthesia (pre-, peri-, and post-).
- TASK 7I Obtain patient related information in the development of an appropriate anesthetic plan.
- TASK 7J Respond appropriately to changes in patient status during all stages of anesthesia.

**Domain 8 Emergency Medicine/Critical Care (12 items, 8%)**

- TASK 8A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to emergency medicine and critical care.
- TASK 8B Perform triage of a patient presenting with emergency/critical conditions (including but not limited to shock, acute illness, acute trauma, and toxicity).
- TASK 8C Perform emergency nursing procedures (including but not limited to cardiopulmonary resuscitation (CPR), control acute blood loss, and fracture stabilization) in the implementation of prescribed treatments.
- TASK 8D Perform critical care nursing procedures (including but not limited to blood component therapy, fluid resuscitation, and ongoing oxygen therapy) in the implementation of prescribed treatments.
- TASK 8E Perform ongoing evaluations of physical, behavioral, nutritional, and mentation

status of patients in emergency and critical conditions.

### **Domain 9 Pain Management/Analgesia (11 items, 7%)**

- TASK 9A Utilize knowledge of anatomy, physiology and pathophysiology as it applies to pain management and analgesia.
- TASK 9B Assess need for analgesia in patient.
- TASK 9C Educate client regarding patient pain assessment and management to ensure the safety of the patient/client, and efficacy of the product(s) or procedure(s).
- TASK 9D Assist in the development and implementation of the pain management plan to optimize patient comfort and/or healing.

## KNOWLEDGE STATEMENTS

1. Anatomy
2. Normal physiology
3. Pathophysiology
4. Common animal diseases
5. Medical terminology
6. Toxicology
7. Applied mathematics (including but not limited to metric system/weights, measures/percentage solutions, dosage calculations)
8. Drug classification
9. Routes of administration of pharmacological and biological agents
10. Legal requirements and procedures for acquiring, preparing, storing, dispensing, documenting and disposing of pharmacological and biological agents
11. Safe handling practices for pharmacological and biological agents
12. Pharmacokinetics (drug absorption, metabolism, excretion), normal and abnormal drug reactions, indications, contraindications, side effects, and interactions
13. Fluid balance and therapy, including calculation
14. Aseptic techniques
15. Patient preparation and positioning techniques (including but not limited to diagnostic imaging, surgery, medical procedures)
16. Surgical procedures
17. Surgical equipment, instruments, and supplies
18. Sterilization techniques and quality assurance for equipment, instruments, and supplies
19. Safety considerations related to surgical equipment, instruments, and supplies
20. Wound closure (including suture materials and patterns, staples, and tissue adhesives)
21. Dental procedures (including but not limited to cleaning, floating, charting, preventive procedures, dental imaging)
22. Dental equipment, instruments, and supplies
23. Safety considerations related to dental procedures
24. Sample collection, preparation, analysis, storing, and shipping techniques
25. Laboratory diagnostic principles, procedures, and methodologies (including but not limited to microbiology, serology, cytology, hematology, urinalysis, and parasitology)
26. Quality assurance in the laboratory (including but not limited to maintenance of equipment, verification of test results, calibration, and controls)
27. Normal and abnormal laboratory and diagnostic test results
28. Animal assessment and monitoring techniques, excluding anesthetic monitoring
29. Principles of animal behavior
30. Clinical diagnostic procedures
31. Nutrition
32. Safe animal handling and restraint techniques
33. Animal husbandry
34. Animal nursing procedures and rehabilitation therapies
35. Animal first aid, triage, and emergency/critical care techniques
36. Public health (including but not limited to infection control, zoonosis and epidemiology)
37. Environmental health and safety procedures (including but not limited to handling and disposing of hazardous material, personal safety, evacuation procedures, safety plans, equipment, and instrumentation)

38. Disease control and prevention techniques (including but not limited to quarantine, isolation, vaccination, wellness care, and herd health)
39. Facility cleaning and disinfection techniques
40. Diagnostic imaging equipment and procedures (including but not limited to radiography, ultrasonography, and contrast studies)
41. Quality assurance and safety for diagnostic imaging
42. Pre- and post-anesthetic assessment and care
43. Anesthetic induction, maintenance, monitoring, and recovery including stages of anesthesia and troubleshooting
44. Pre-anesthetic and anesthetic medications reactions, indications, contraindications, side effects, and interactions
45. Pain assessment and analgesic administration techniques
46. Procedures for care, maintenance, and use of diagnostic, therapeutic, surgical, dental, monitoring, and anesthetic equipment and supplies
47. Professional ethics (including but not limited to the Veterinary Technician Code of Ethics)
48. Techniques for communicating with the veterinary medical team and client
49. Record keeping



and administration of controlled substances under the indirect supervision of a licensed veterinarian.

Due to the combination of law and practice areas that are California-specific for RVTs, OPES conducted an additional workshop with seven SMEs in July 2018 to review and finalize the new examination outline. To distinguish California-specific content from VTNE content, some task and knowledge statements had to be added, revised, or deleted. These changes were necessary to ensure that all California-specific tasks and associated knowledge would be assessed on the California RVT examination; and that task and knowledge areas assessed by the VTNE would be excluded.

The 2019 California RVT Examination Outline consists of 16 tasks and 24 knowledge statements. OPES believes that the RVT examination is not a jurisprudence examination, but a California practice-specific examination based on laws on regulations. Of the 6 content areas, 4 assess "the candidate's knowledge of the laws, regulations, *and practices*" related to a set of tasks and knowledge statements (*italics added*). For this reason, a textbook was added to the List of References for the RVT examination after updating the examination outline. The other 2 content areas assess laws and regulations related to California-specific vaccine protocols, storage of controlled substances, and reporting illegal activities and diseases.

#### American Association of Veterinary State Boards (AAVSB) Analysis of California-Specific Tasks

The Board asked the AAVSB to conduct an analysis of the 2019 California RVT examination outline. The AAVSB consulted with PSI to perform this analysis. The results indicated that 4 of the 16 California RVT tasks were believed to be assessed on the VTNE.

OPES would like to provide a more detailed analysis of these 4 tasks for the Board's review. Although the tasks are similar, they are not identical, and they were not perceived to be the same by the SMEs in 2 workshops who participated in the OPES evaluation. OPES would also like to seek the evaluation of veterinarians on this issue.

OPES would also like more time to respond to AAVSB's conclusion that the other areas of the California RVT examination outline are "all California-specific statute/regulation knowledge areas rather than clinical practice knowledge used to determine minimal competency for veterinary technicians" ("AAVSB Comparison of the VTNE and California RVT Examination Outline" dated April 2, 2019, Attachment 2 to your memorandum dated April 17, 2019).

In addition, PSI assessed California RVT responses to the 2017 VTNE job analysis and found no differences in California RVT ratings compared to ratings by RVTs in other states. These results make sense because the VTNE assesses content common to all RVTs. This does not mean that the VTNE assesses all content critical for California RVTs.

#### Interpretation of B&P Code 4841.4

The Board is interpreting the phrase "*limited to California registered veterinary technicians*" (see reference above to CCR section 2036(b)) to mean that the California RVT Examination should only include any tasks performed in California and not any other states. OPES believes that this language was written with the assumption that practice in other states is homogeneous and therefore will be tested on the national examination. Unfortunately, this is not the case. OPES has conducted a preliminary analysis which indicates the scope of practice for veterinary technicians varies across states.

National examinations, such as the VTNE are designed to assess what is common across all states. It is neither legally defensible nor fair to assess candidates on areas of practice that they do not perform. Therefore, any tasks not performed by veterinary technicians in all states will not be tested on a national examination. As stated by the AAVSB, "The VTNE covers regulatory laws common to all of North America" ("AAVSB Analysis of California-specific Tasks" dated April 4, 2019).

#### Summary

OPES is committed to removing artificial barriers to licensure. We are sensitive to the need for additional licensed practitioners as well as to candidate concerns of cost and redundancy of examinations. However, we do not recommend the elimination of the California RVT examination without further evaluation. In addition, we do not recommend administering the current examination using a nonproctored format.

OPES would appreciate the opportunity to participate in the discussion of the California-specific practice areas for veterinary technicians. Based on meetings with SMEs, OPES has concerns about RVTs performing critical animal health care tasks without demonstrating they have the required knowledge and without adequate supervision. OPES would like to assist the Board in its efforts to find an alternative that will address the Board's concerns while still ensuring public protection regarding veterinary technician practice.