

# VETERINARY MEDICAL BOARD

## OCCUPATIONAL ANALYSIS OF THE CALIFORNIA REGISTERED VETERINARY TECHNICIAN PROFESSION



OFFICE OF PROFESSIONAL EXAMINATION SERVICES



# VETERINARY MEDICAL BOARD

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This report was prepared and written by the  
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## EXECUTIVE SUMMARY

The California Veterinary Medical Board (Board) requested that the Department of Consumer Affairs' Office of Professional Examination Services (OPES) conduct an occupational analysis (OA) of Registered Veterinary Technician practice in California. The purpose of the OA is to define practice for California Registered Veterinary Technicians (CRVTs) in terms of actual job tasks that new licensees must be able to perform safely and competently at the time of licensure. The results of this OA serve as the basis for developing a thorough description of practice for the CRVT profession that can then be used as the basis for the CRVT licensing examination.

OPES test specialists began by conducting a literature review for the profession and researching profession-related sources (e.g., previous OA reports, articles, publications). They also conducted telephone interviews with 7 CRVTs working in various locations throughout California. The purpose of these interviews was to identify the tasks performed in CRVT practice and to specify the knowledge required to perform those tasks in a safe and competent manner. Using the information gathered from the literature review and the interviews, OPES test specialists developed a preliminary list of tasks performed in CRVT practice along with statements representing the knowledge needed to perform those tasks.

Subsequently in May 2016, a workshop was convened to review and refine the preliminary lists of task and knowledge statements. The workshop was comprised of 7 to 10 CRVT subject matter experts (SMEs) with diverse backgrounds in the profession (e.g., location of practice, years licensed, specialty area). These SMEs were also responsible for identifying changes and trends in Registered Veterinary Technician practice specific to California. A second workshop made up of 7 to 10 different SMEs was held in June 2016 to finalize the lists of task and knowledge statements and the demographic variables and rating scales that were to be used in the next phase of the OA. The SMEs in these two workshops also performed a preliminary linkage of the task and knowledge statements to ensure that all tasks had a related knowledge and all knowledge statements had a related task. New task and knowledge statements were created as a result of this process, and some statements were eliminated from the final list due to overlap and reconciliation.

Upon completion of the two workshops, OPES developed a three-part questionnaire to be completed by CRVTs statewide. Development of the questionnaire included a pilot study which was conducted using a group of 11 licensees who had participated in the task and knowledge statement development workshops. The participants' feedback was used to refine the questionnaire. The final questionnaire was prepared by OPES for administration in August 2016.

In the first part of the questionnaire, licensees were asked to provide demographic information related to their work settings and practice. Licensees were also asked to identify the primary setting of treatment for the majority of their patients (e.g., Emergency Veterinary Hospital, Animal Shelter/Control, Laboratory, Small Animal Vaccination Clinic); the primary category of animals treated (e.g., Large, Small, Exotic, Lab); and the category of practice (e.g., Emergency, Dentistry, Animal Nursing, Surgical

Assistance) under which they treat patients' conditions. In the second part of the questionnaire, the licensees were asked to rate specific job tasks in terms of importance (e.g., how important the task is to performance of the licensee's current practice) and frequency (e.g., how often the licensee performs the task in the licensee's current practice). In the third part of the questionnaire, licensees were asked to rate specific knowledge statements in terms of how important that knowledge is to performance of their current practice.

In August 2016, the Board reached out to a variety of Registered Veterinary Technician Associations throughout California asking them to request that their members, who are CRVTs, complete the OA questionnaire online. The Board also posted the availability of the OA questionnaire on Board media such as the Board's Twitter and Facebook accounts and the Board Web site. Participants were awarded 4 continuing education credits as compensation for completing the questionnaires.

Approximately 10% of the population of CRVTs (598 respondents) accessed the Web-based questionnaire. The final sample size included in the data analysis was 349 respondents. This final response rate reflects two adjustments. First, data from respondents who indicated that they were not licensed CRVTs were removed from the sample. Second, incomplete, erroneous, and partially completed questionnaires were removed from the sample. The demographic composition of the final respondent sample is representative of the CRVT population.

OPES test specialists then performed data analyses on the task and knowledge ratings obtained from the questionnaire respondents. The task importance and frequency ratings were combined to derive an overall criticality index for each task statement. The mean importance rating was used as the criticality index for each knowledge statement. Once the data was analyzed, 2 additional workshops were conducted with a diverse sample of 6 to 7 SMEs to evaluate the criticality indices and determine whether any task or knowledge statements should be eliminated. The SMEs in these groups also established the linkage between job tasks and knowledge statements, organized the task and knowledge statements into content areas, and defined those areas. The SMEs then evaluated and confirmed the content area weights for the new examination outline that was developed for the Registered Veterinary Technician licensing examination.

The new examination content outline is structured into 9 content areas weighted by criticality relative to the other content areas. This outline provides a description of the scope of practice for CRVTs, and it also identifies the job tasks and knowledge critical to safe and effective Registered Veterinary Technician practice in California at the time of licensure.

The content outline developed as a result of this OA serves as a basis for developing a written examination for inclusion in the process of granting CRVT licensure. At this time, California licensure for Registered Veterinary Technicians is granted by meeting the requisite education and training requirements and passing the Veterinary Technician National Examination and the California-specific health care tasks/jurisprudence examination for Registered Veterinary Technicians developed by OPES.

OVERVIEW OF THE CALIFORNIA REGISTERED VETERINARY TECHNICIAN  
EXAMINATION CONTENT OUTLINE

Content Area	Content Area Description	Percent Weight
I. Patient Examination	This content area addresses the candidate's ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.	14
II. Emergency and Critical Care	This content area addresses the candidate's ability to triage patients; initiate emergency treatment (e.g., oxygen therapy, hemorrhage control, intravenous fluids, monitor vitals, CPR) in order to stabilize patient; perform applicable diagnostics; calculate and administer medications as directed.	10
III. Diagnostic Imaging	This content area addresses the candidate's ability to prepare and position patient for diagnostic imaging (e.g., radiography, ultrasonography) in a safe manner to maximize the quality of results; maintain images, imaging equipment, and personal protective equipment (PPE).	6
IV. Laboratory and Diagnostic Procedures	This content area addresses the candidate's ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.	8
V. Anesthesia and Surgical Assistance	This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.	19
VI. Animal Dentistry	This content area addresses the candidate's ability to perform dental care (e.g., charting, radiography, prophylaxis, extractions, dosage calculations/administration); maintain dental instruments and equipment	6

<b>Content Area</b>	<b>Content Area Description</b>	<b>Percent Weight</b>
VII. Animal Nursing	This content area addresses the candidate's ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.	22
VIII. Pharmacology	This content area addresses the candidate's ability to calculate dosages; administer medications, fluids, and vaccines by various routes; store and maintain medication and controlled substances; prepare medication for dispensing; assess patient for adverse reaction to medication.	8
IX. Owner/Agent Communication	This content area addresses the candidate's ability to educate owner/agents regarding patient care (e.g., dental, grooming, vaccines, preventive care, medications) and husbandry (e.g., nutrition, reproduction, environmental condition, behavior and training) for various species and breeds; conditions and abnormalities that require management or urgent care; common contagious and zoonotic diseases	7
<b>Total</b>		<b>100</b>

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# CHAPTER 1. INTRODUCTION

## PURPOSE OF THE OCCUPATIONAL ANALYSIS

The California Veterinary Medical Board (Board) requested that the Department of Consumer Affairs' Office of Professional Examination Services (OPES) conduct an occupational analysis (OA) to identify critical job activities performed by California-licensed Registered Veterinary Technicians (CRVTs). This OA was part of the Board's comprehensive review of CRVT practice. The purpose of the OA is to define practice for CRVTs in terms of actual job tasks that new licensees must be able to perform safely and competently at the time of licensure. The results of this OA serve as the basis for developing a thorough description of practice for the CRVT profession that can then be used as the basis for the CRVT licensing examination.

## CONTENT VALIDATION STRATEGY

OPES used a content validation strategy to ensure that the OA reflected the actual tasks performed by CRVTs in independent practice. The technical expertise of CRVTs was used throughout the OA process to ensure the identified task and knowledge statements directly reflect requirements for performance in current practice.

## UTILIZATION OF SUBJECT MATTER EXPERTS

The Board selected CRVTs to participate as subject matter experts (SMEs) during various phases of the OA. These SMEs were selected from a broad range of practice settings, geographic locations, and experience backgrounds. The SMEs provided information regarding the different aspects of current CRVT practice during the development phase of the OA. The SMEs also provided technical expertise during several workshops that were convened to evaluate and refine the content of task and knowledge statements prior to administration of the OA questionnaire. Following administration of the OA questionnaire, groups of SMEs were convened at OPES to review the results and finalize the description of practice which ultimately provides the basis of the examination content outline.

## ADHERENCE TO LEGAL STANDARDS AND GUIDELINES

Licensing, certification, and registration programs in the State of California adhere strictly to federal and State laws and regulations and professional guidelines and technical standards. For the purpose of occupational analyses, the following laws and guidelines are authoritative:

- California Business and Professions Code section 139.
- Uniform Guidelines on Employee Selection Procedures (1978), Code of Federal Regulations, Title 29, Section 1607.
- California Fair Employment and Housing Act, Government Code section 12944.
- *Principles for the Validation and Use of Personnel Selection Procedures* (2003), Society for Industrial and Organizational Psychology (SIOP).
- *Standards for Educational and Psychological Testing* (2014), American Educational Research Association, American Psychological Association, and National Council on Measurement in Education.

For a licensure program to meet these standards, it must be solidly based upon the job activities required for practice.

## DESCRIPTION OF OCCUPATION

The CRVT occupation is described as follows in sections 4839 and 4840 of the California Business and Professions Code and in Title 16, Section 2036 of the California Code of Regulations:

- Business and Professions Code section 4839
  - (a) For purposes of this article, a registered veterinary technician means a person who has met the requirements set forth in Sections 4841.4 and 4841.5, has passed the examination described in Section 4841.4, and is registered by the board.
  - (b) This section shall become operative on January 1, 2011.
- Business and Professions Code section 4840 – Authorized services by technicians and assistants
  - (a) Registered veterinary technicians and veterinary assistants are approved to perform those animal health care services prescribed by law under the supervision of a veterinarian licensed or authorized to practice in this state.
  - (b) Registered veterinary technicians may perform animal health care services on those animals impounded by a state, county, city, or city and county agency pursuant to the direct order, written order, or telephonic order of a veterinarian licensed or authorized to practice in this state.
  - (c) Registered veterinary technicians may apply for registration from the federal Drug Enforcement Administration that authorizes the direct purchase of sodium pentobarbital for the performance of euthanasia as provided for in subdivision (d) of Section 4827 without the supervision or authorization of a licensed veterinarian.
- California Code of Regulations section 2036 – Animal Health Care Tasks for R.V.T.
  - (a) Unless specifically so provided by regulation, a R.V.T. shall not perform the following functions or any other activity which represents the practice of veterinary medicine or requires the knowledge, skill and training of a licensed veterinarian:
    - (1) Surgery;
    - (2) Diagnosis and prognosis of animal diseases;
    - (3) Prescription of drugs, medicines or appliances.
  - (b) An R.V.T. may perform the following procedures only under the direct supervision of a licensed veterinarian:
    - (1) Induce anesthesia;
    - (2) Apply casts and splints;
    - (3) Perform dental extractions;
    - (4) Suture cutaneous and subcutaneous tissues, gingiva, and oral mucous membranes;
    - (5) Create a relief hole in the skin to facilitate placement of an intravascular catheter.

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

## CHAPTER 2. OCCUPATIONAL ANALYSIS QUESTIONNAIRE

### SUBJECT MATTER EXPERT INTERVIEWS

The Board provided OPES with a list of 7 CRVTs to contact for telephone interviews. During the semi-structured interviews, the CRVTs were asked to identify all of the activities performed that are specific to the CRVT profession. The interviews outlined major content areas of their practice and the job tasks performed in each content area. The CRVTs were also asked to identify the knowledge necessary to perform each job task safely and competently.

### TASK AND KNOWLEDGE STATEMENTS

OPES staff integrated information gathered from literature reviews of the profession-related sources (e.g., previous OA reports, articles, publications) and from interviews with CRVTs to develop a preliminary list of task and knowledge statements. The statements were then organized into the major content areas of practice.

In May and June 2016, OPES facilitated 2 workshops with 7 to 10 CRVTs serving as SMEs from diverse backgrounds (e.g., years licensed, specialty, location of practice) to evaluate the task and knowledge statements for technical accuracy and comprehensiveness. They also assigned each statement to the appropriate content area and verified that the content areas were independent and non-overlapping. In addition, these SMEs performed a preliminary linkage of the task and knowledge statements to ensure that every task had a related knowledge and every knowledge statement had a related task. Additional task and knowledge statements were created as needed to complete the scope of the content areas.

The SMEs in the May and June workshops were asked to verify proposed demographic variables for the OA questionnaire, which could be used to ascertain the diversity of practice settings (e.g., Emergency Veterinary Hospital, Animal Shelter/Control, Laboratory, Small Animal Vaccination Clinic), primary categories of animals treated (e.g., Large, Small, Exotic, Lab), and the primary categories of practice (e.g., Emergency, Dentistry, Animal Nursing, Surgical Assistance) under which patients' conditions are treated.

Once the lists of task and knowledge statements and the demographic-based variables were verified, the information was used to develop an online questionnaire that was sent to a sample of CRVTs for completion.

## QUESTIONNAIRE DEVELOPMENT

OPES developed an online OA questionnaire soliciting CRVT ratings of the job task and knowledge statements for analysis. The surveyed sample of CRVTs were instructed to rate each job task in terms of how important the task was to the performance of their current practice (IMPORTANCE) and how often they performed the task (FREQUENCY). In addition, they were instructed to rate each knowledge statement in terms of how important the specific knowledge was to the performance of their current practice (IMPORTANCE). The questionnaire also included a demographic section for purposes of developing an accurate profile of the respondents and to allow for further analyses of the respondents' ratings. The questionnaire can be found in Appendix E.

## PILOT STUDY

Prior to developing the final questionnaire, OPES prepared and administered an online pilot questionnaire. The pilot questionnaire was reviewed by a group of 11 SMEs who had participated in the task and knowledge statement development workshops. Their feedback from the pilot study offered information regarding the technical accuracy of the task and knowledge statements and the estimated time for completion, online navigation, and ease of use of the questionnaire. OPES used this feedback to develop the final questionnaire.



## CHAPTER 3. RESPONSE RATE AND DEMOGRAPHICS

### SAMPLING STRATEGY AND RESPONSE RATE

In August 2016, the Board reached out to a variety of Registered Veterinary Technician Associations throughout California asking them to request that their members who are California-licensed registered veterinary technicians (CRVTs) complete the occupational analysis (OA) questionnaire online. The Board also posted the availability of the OA questionnaire on Board media such as the Board's Twitter and Facebook profiles and the Board Web site. Participants were awarded 4 continuing education credits as compensation for fully completed questionnaires. The OA questionnaire invitation letter can be found in Appendix D.

A total of 598 CRVTs, or 10% of the California-licensed population of registered veterinary technicians, responded by accessing the Web-based questionnaire. The final sample size included in the data analysis was 349 respondents, or 5.8% of the total CRVT population. This response rate reflects two adjustments. First, data from respondents who indicated they were not currently licensed and practicing as CRVTs in California were excluded from analysis. Second, incomplete, erroneous, and partially completed questionnaires were removed from the sample. Based on a review of the demographic composition, the respondent sample is representative of the population of CRVTs.

The OA questionnaire online format allowed for several enhancements to the questionnaire and the data collection process. As part of the development, configuration, and analysis of the questionnaire, various criteria were established to ensure the integrity of the data.

### DEMOGRAPHIC SUMMARY

As shown in Table 1, 59.9% of the respondents included in the analysis had been practicing as a CRVT for 5 years or less, 33% had been practicing between 6 and 20 years, and 6.9% had been practicing for more than 20 years.

When asked to indicate the types of settings where they provide services as a CRVT, the majority of respondents, 64.8%, reported working in a fixed veterinary premise as the primary practice setting. Of the remaining respondents, 16.9% reported working in an emergency veterinary hospital, 5.7% reported the animal shelter/animal control as their primary practice setting, and 4.3% indicated working in the laboratory setting (see Table 4). In addition, 59.6% of respondents reported working in an urban area (see Table 3).

The candidates were also asked to indicate the primary category of animals treated and the type of services primarily rendered for those patients in order to facilitate a multi-faceted analytical approach to the description of CRVT practice. As shown in Table 5, small (92.6%), laboratory (3.2%), and zoo/wildlife (2%) were the primary categories of animals that respondents reported treating. Table 6 shows that the primary types of

services rendered to patients were animal nursing (26.6%), anesthesia (17.8%), dental procedures (9.7%), owner education (8.6%), and emergency treatment (7.7%).

When asked to report the approximate gross annual income generated from CRVT practice, 62.7% of respondents specified an income below \$40,000 a year, 28.9% specified an income between \$40,000 and \$59,999 a year, 6.9% specified an income between \$60,000 and \$79,999 a year, and 1.2% specified an income above \$80,000 a year (see Table 9).

More detailed demographic information from respondents can be found in Tables 1 through 12.

TABLE 1 – NUMBER OF YEARS PRACTICING IN CALIFORNIA AS A REGISTERED VETERINARY TECHNICIAN

YEARS	N	PERCENT
0 to 5 years	209	59.9
6 to 10 years	83	23.8
11 to 20 years	32	9.2
More than 20 years	24	6.9
Missing	1	0.3
Total	349	100*

\*NOTE: Percentages do not add to 100 due to rounding.

FIGURE 1 – NUMBER OF YEARS PRACTICING IN CALIFORNIA AS A REGISTERED VETERINARY TECHNICIAN

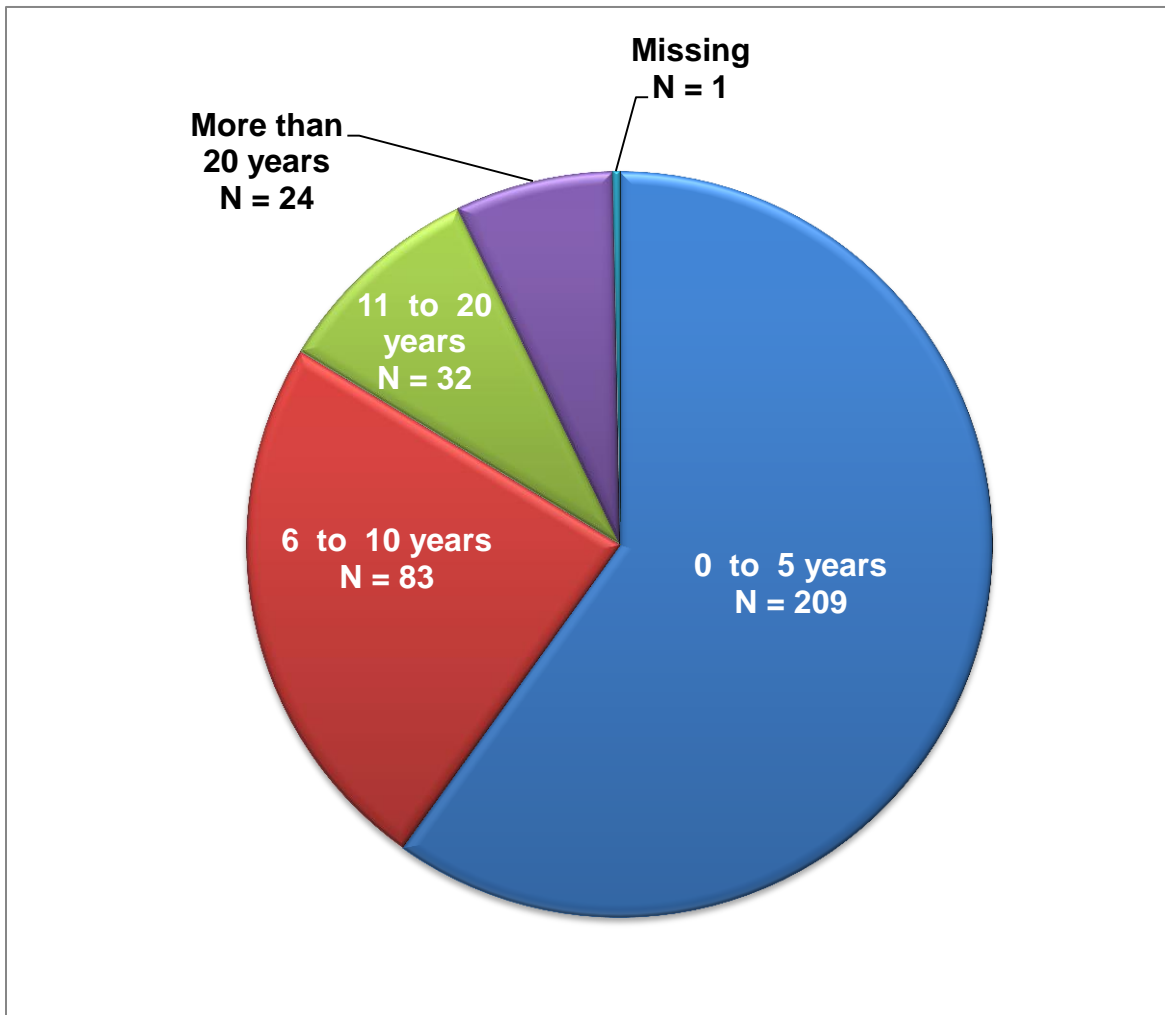


TABLE 2 – NUMBER OF HOURS WORKED PER WEEK AS A LICENSED CALIFORNIA REGISTERED VETERINARY TECHNICIAN

HOURS	N	PERCENT
0 to 10 hours	17	4.9
11 to 20 hours	20	5.7
21 to 39 hours	108	30.9
40 or more hours	202	57.9
Missing	2	0.6
Total	349	100

FIGURE 2 – NUMBER OF HOURS WORKED PER WEEK AS A LICENSED CALIFORNIA REGISTERED VETERINARY TECHNICIAN

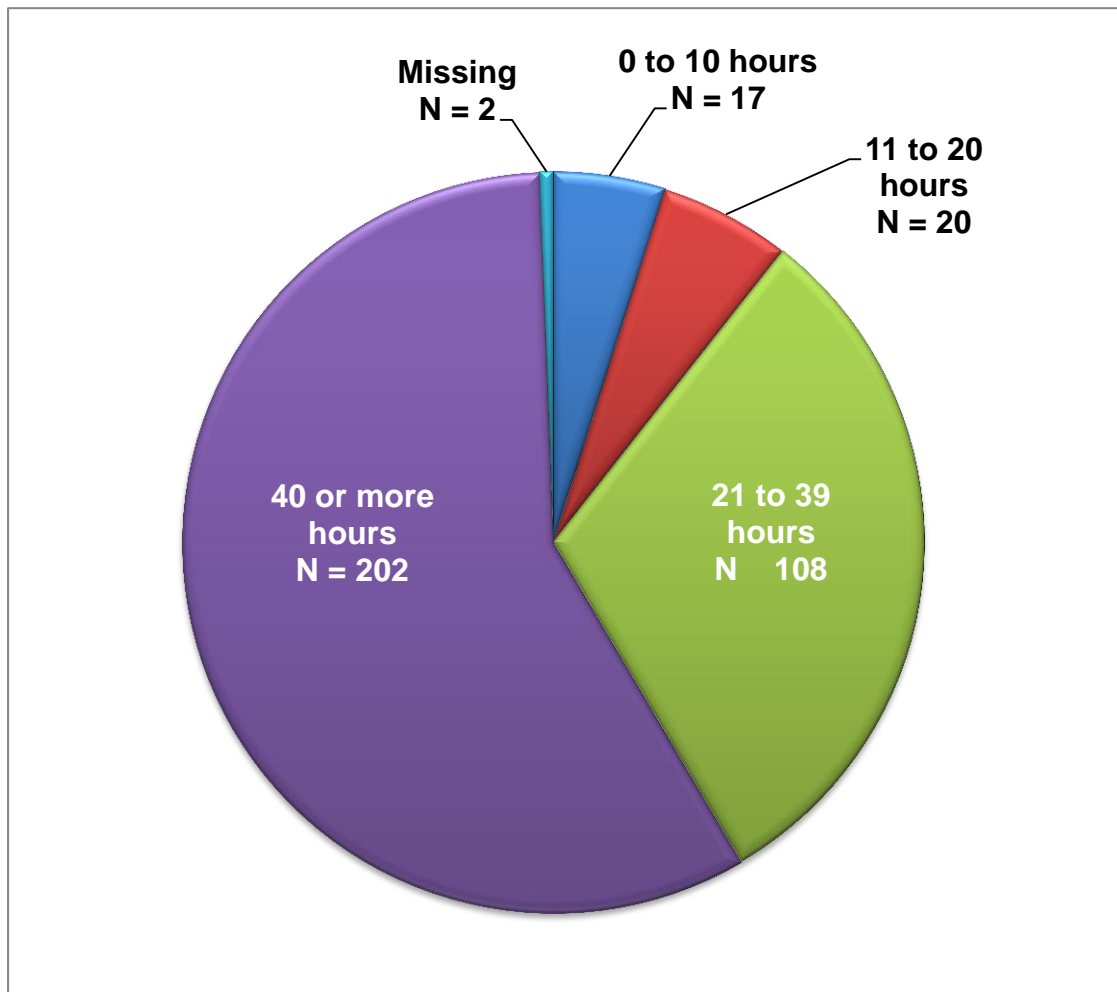


TABLE 3 – LOCATION OF PRIMARY WORK SETTING

LOCATION	N	PERCENT
Urban	208	59.6
Suburban	124	35.5
Rural	17	4.9
Total	349	100

FIGURE 3 – LOCATION OF PRIMARY WORK SETTING

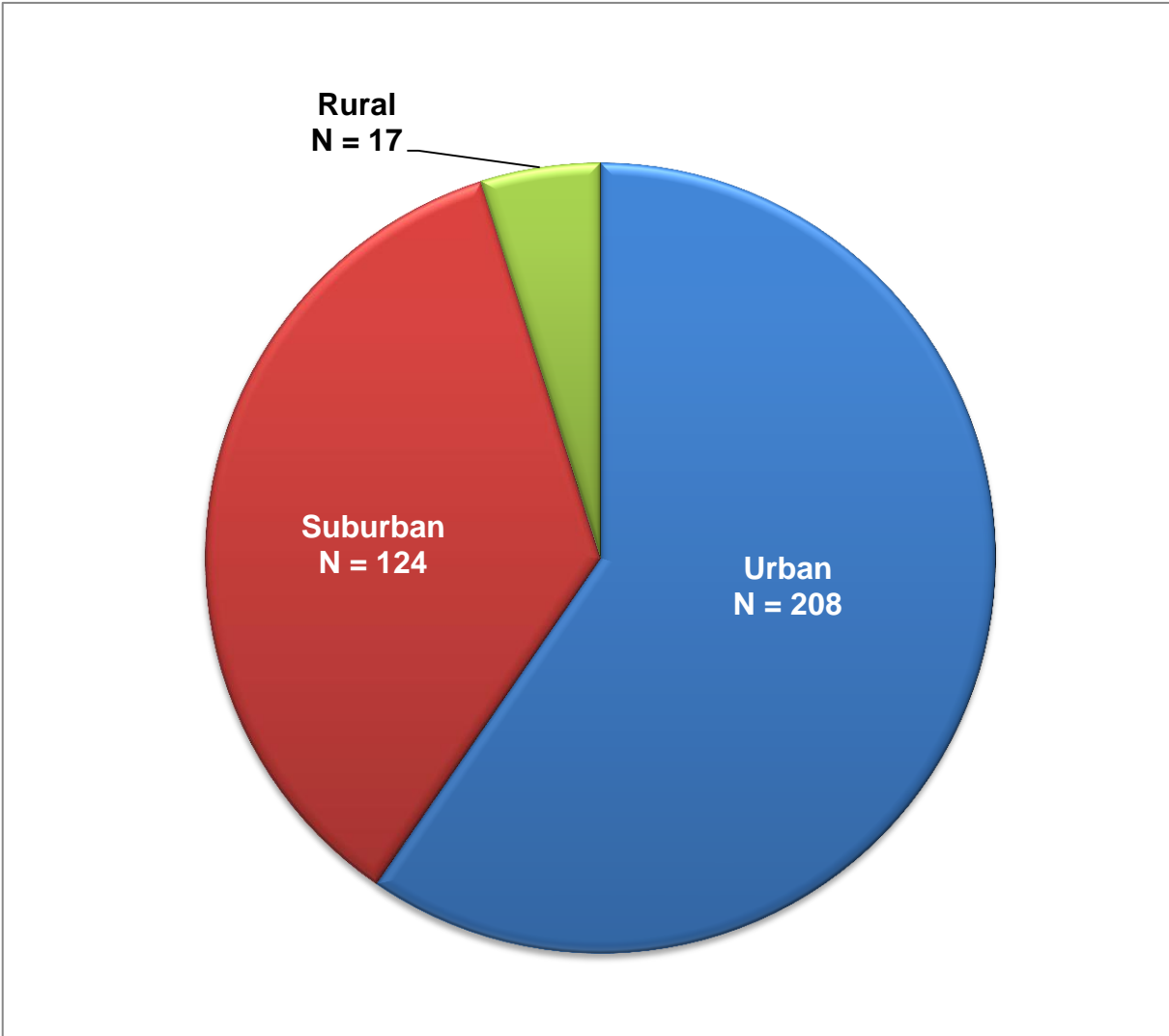


TABLE 4 – PRIMARY PRACTICE SETTING

PRACTICE SETTING	N	PERCENT
Fixed veterinary premise (e.g., Small, Large)	226	64.8
Small animal mobile clinic	2	0.6
Small animal vaccination clinic	2	0.6
Animal shelter/Animal control	20	5.7
Pet store veterinary clinic	11	3.2
Emergency veterinary hospital	59	16.9
Laboratory	15	4.3
Educator/Trainer/School premises	11	3.2
House calls/Home visits	1	0.3
Missing	2	0.6
Total	349	100*

\*NOTE: Percentages do not add to 100 due to rounding.

FIGURE 4 – PRIMARY PRACTICE SETTING

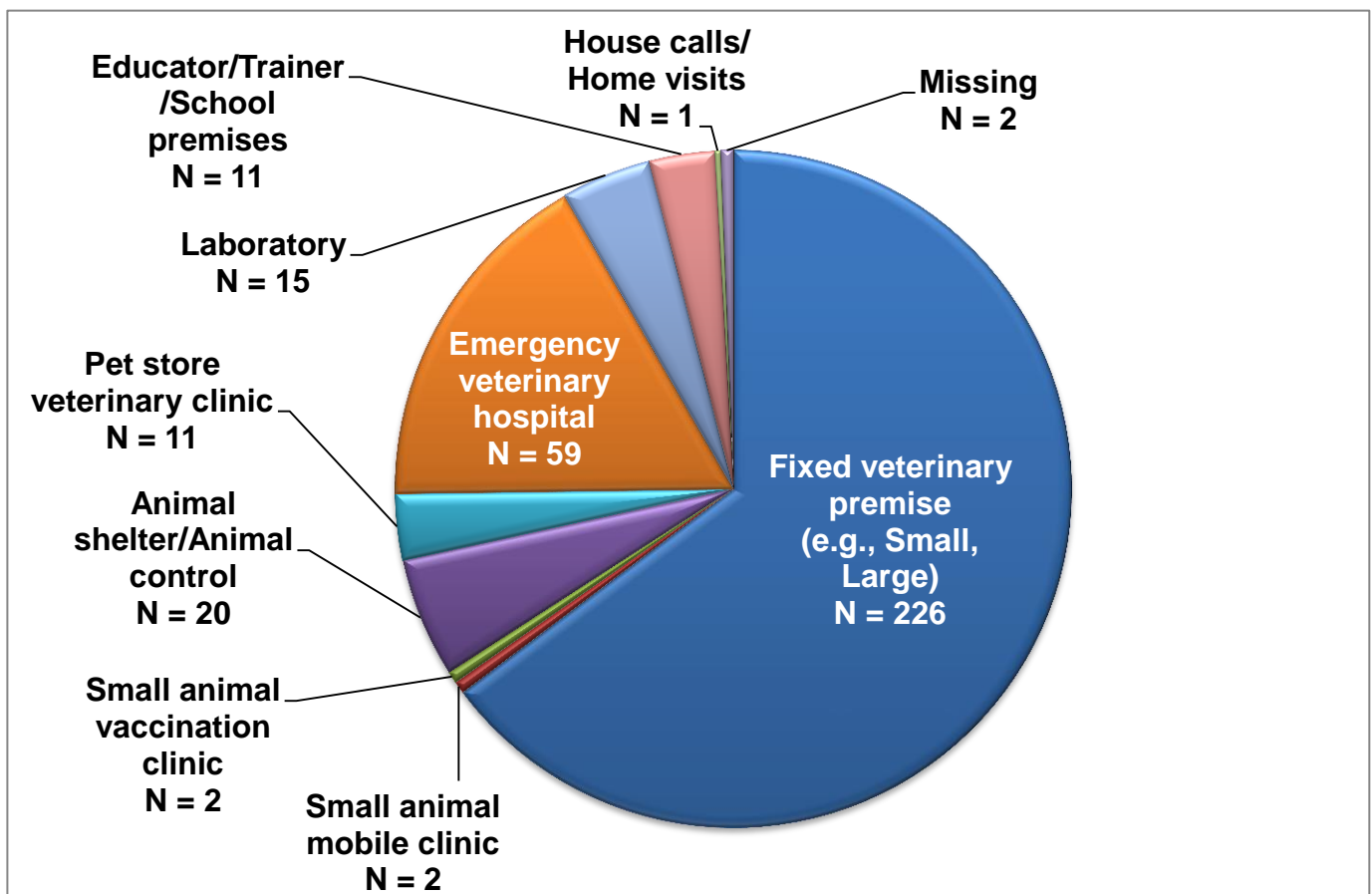


TABLE 5 – PRIMARY CATEGORY OF ANIMALS TREATED

CATEGORY OF ANIMALS TREATED	N	PERCENT
Small (e.g., dog, cat)	323	92.6
Large (e.g., horse, cow)	5	1.4
Laboratory	11	3.2
Exotic (e.g., snake, turtle, fish, chinchilla)	3	0.9
Zoo/Wildlife	7	2.0
Total	349	100*

\*NOTE: Percentages do not add to 100 due to rounding.

FIGURE 5 – PRIMARY CATEGORY OF ANIMALS TREATED

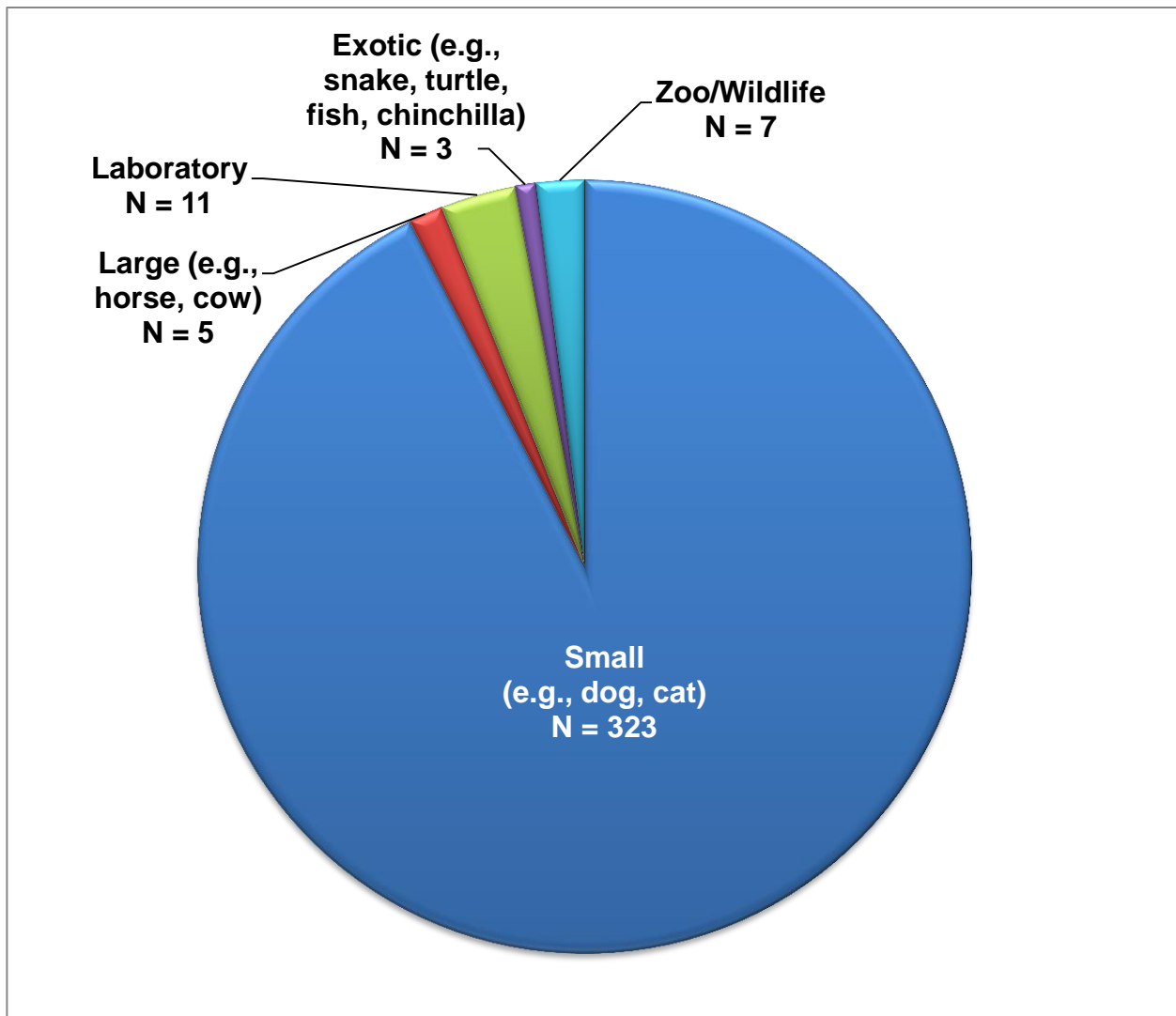


TABLE 6 – PRIMARY TREATMENT FOCUS CATEGORY

Spay/Neuter	16	4.6
Emergency Treatment (e.g., splints, bandages, suture)	27	7.7
Laboratory	14	4.0
Owner Education (e.g., husbandry, preventatives, medication)	30	8.6
Anesthesia	62	17.8
Dental Procedures	34	9.7
Diagnostic Procedures (e.g., imaging, samples)	27	7.7
Surgical Assistance	20	5.7
Animal Nursing	93	26.6
Patient Intake	15	4.3
Missing	11	3.2
Total	349	100*

\*NOTE: Percentages do not add to 100 due to rounding.

FIGURE 6 – PRIMARY TREATMENT FOCUS CATEGORY

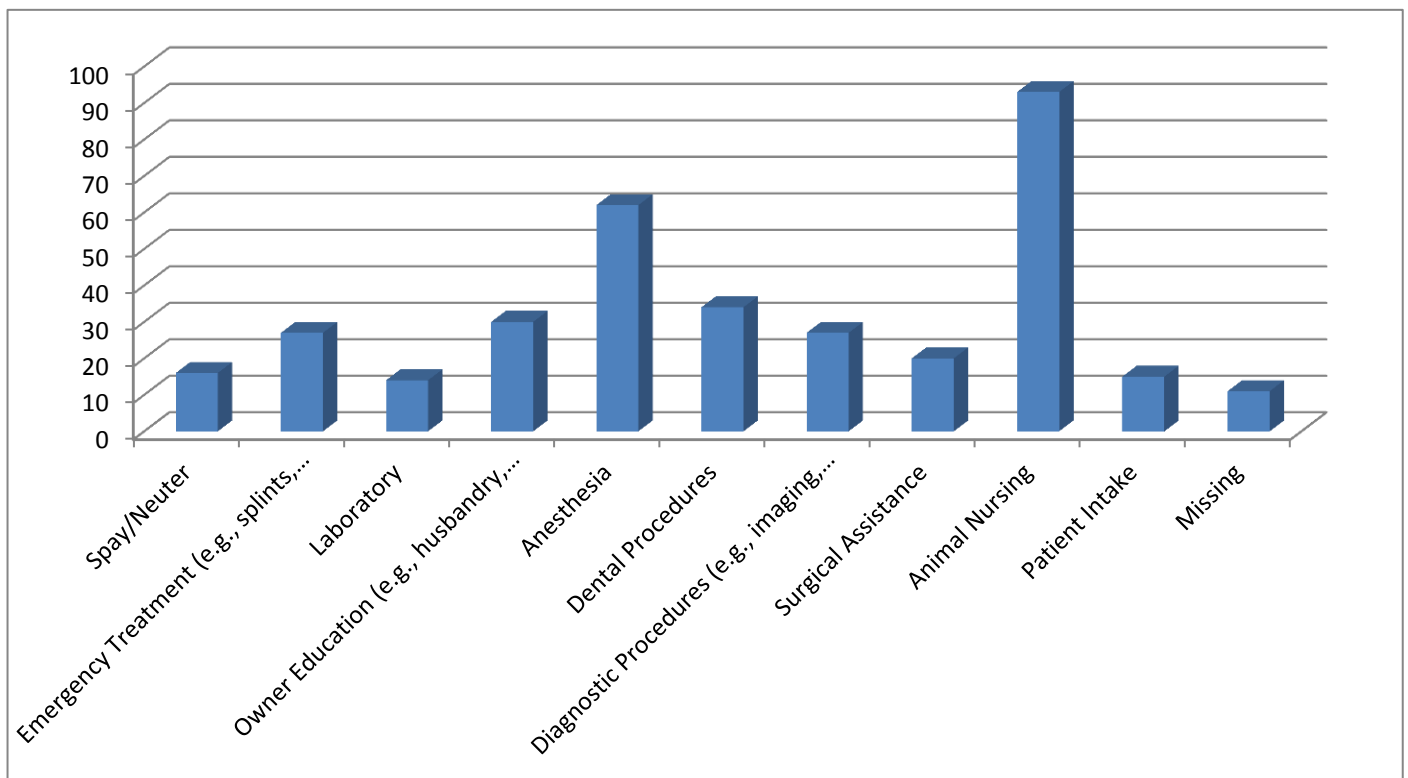




TABLE 7 – PERCENTAGE OF TIME SPENT (MEAN AND STANDARD DEVIATION)  
ON PRIMARY TREATMENT FOCUS CATEGORY

<b>TREATMENT FOCUS CATEGORY</b>	<b>MEAN</b>	<b>SD</b>
Spay/Neuter	28.50%	21.13%
Emergency Treatment (e.g., splints, bandages, suture)	24.14%	17.71%
Laboratory	28.50%	29.86%
Owner Education (e.g., husbandry, preventatives, medication)	28.30%	20.39%
Anesthesia	40.89%	21.41%
Dental Procedures	45.65%	20.01%
Diagnostic Procedures (e.g., imaging, samples)	36.19%	17.07%
Surgical Assistance	27.50%	19.54%
Animal Nursing	29.15%	18.80%
Patient Intake	20.67%	16.67%

TABLE 8 – HIGHEST LEVEL OF EDUCATION

EDUCATION	N	PERCENT
Certificate	18	5.2
Some college	36	10.3
Associate degree	151	43.3
Bachelor's degree	125	35.8
Master's degree	10	2.9
Doctorate degree	1	0.3
Other formal education	6	1.7
Missing	2	0.6
Total	349	100*

\*NOTE: Percentages do not add to 100 due to rounding.

FIGURE 7 – HIGHEST LEVEL OF EDUCATION

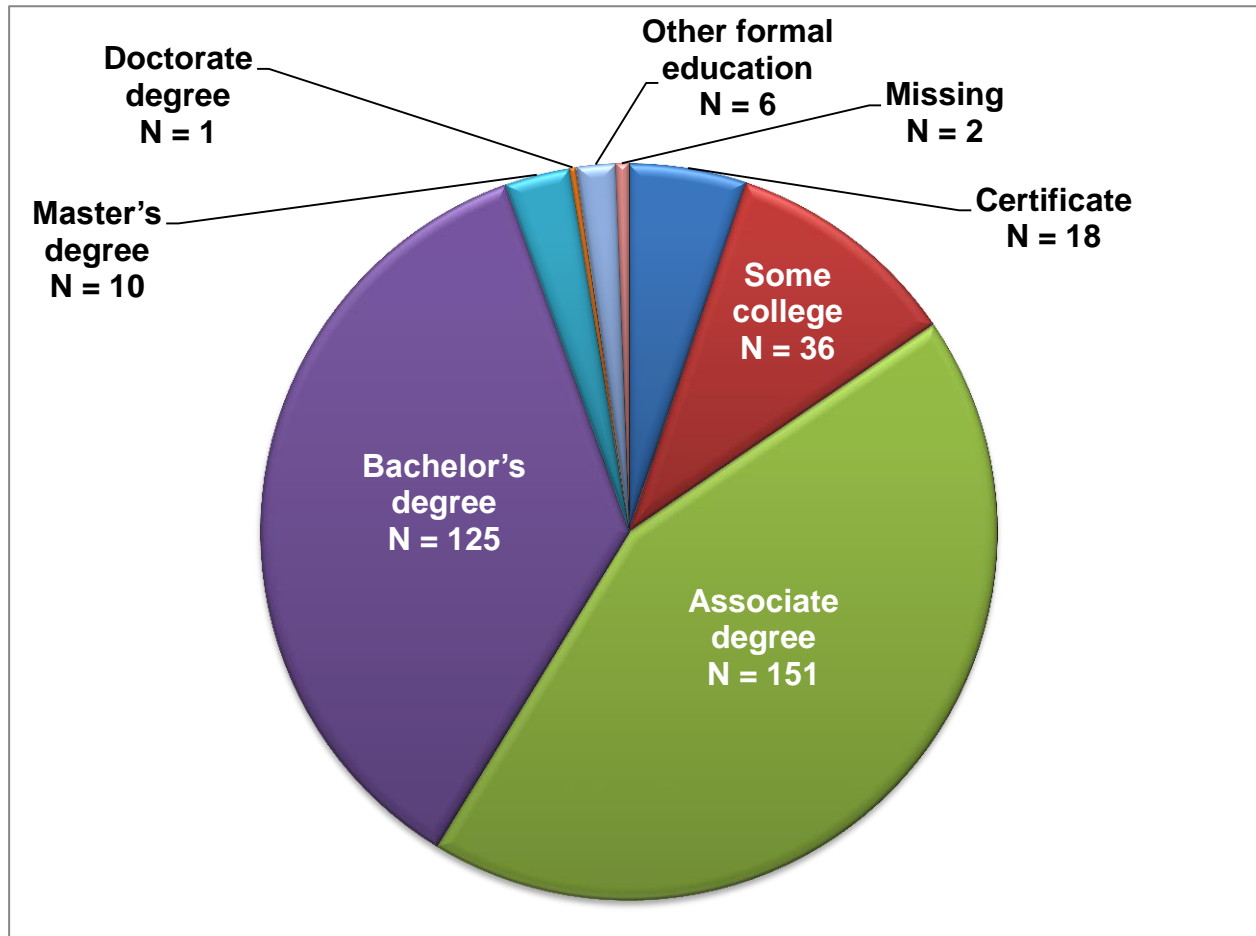


TABLE 9 – APPROXIMATE GROSS ANNUAL INCOME

INCOME	N	PERCENT
Up to \$20,999	28	8.0
\$21,000 to \$39,999	191	54.7
\$40,000 to \$59,999	101	28.9
\$60,000 to \$79,999	24	6.9
\$80,000 to \$99,999	3	0.9
More than \$100,000	1	0.3
Missing	1	0.3
Total	349	100

FIGURE 8 – APPROXIMATE GROSS ANNUAL INCOME

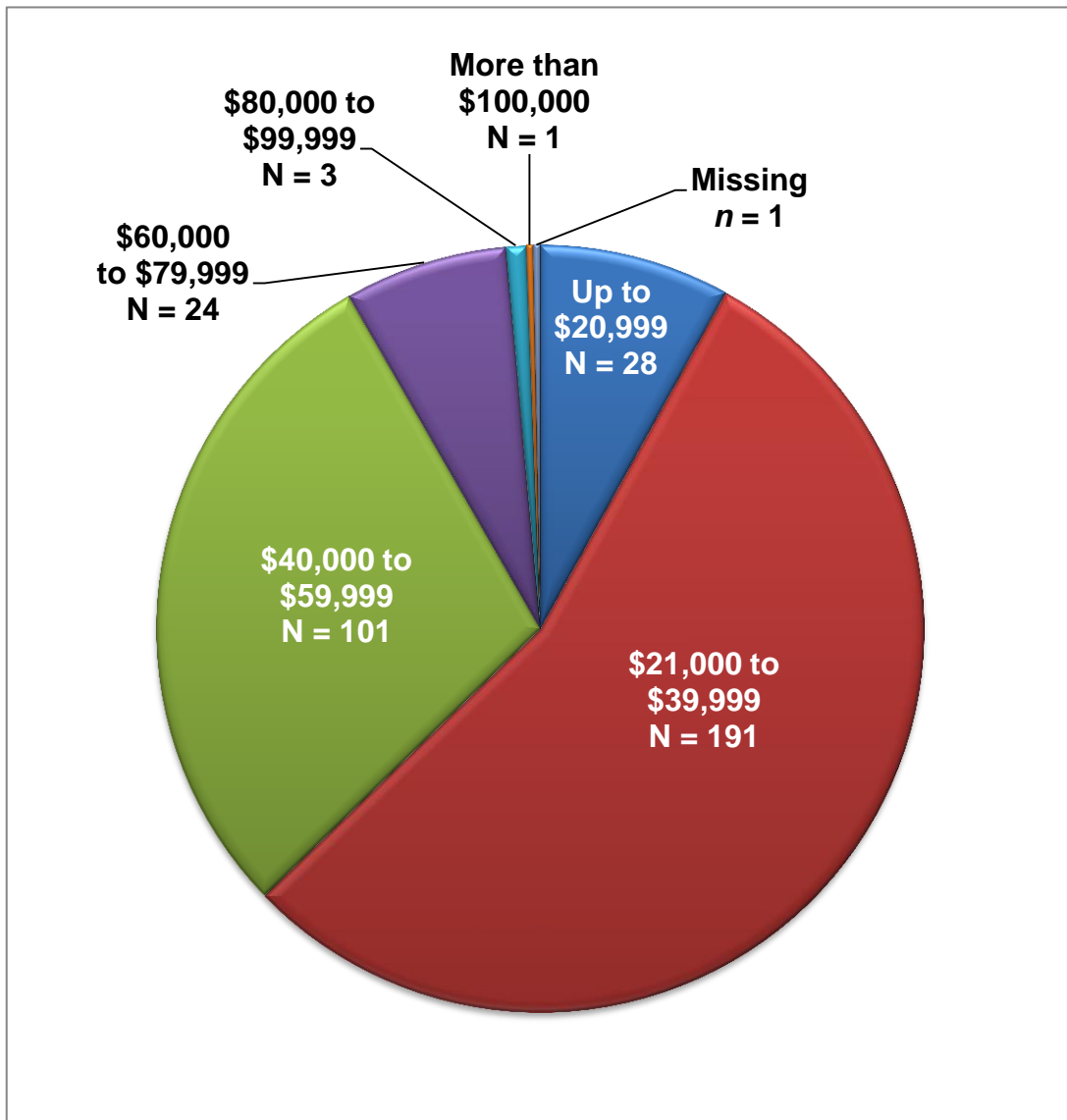


TABLE 10 – ADDITIONAL CALIFORNIA LICENSES HELD RELATED TO CRVT PRACTICE\*

OTHER LICENSES	N	PERCENT
Certified Nurse Assistant	1	0.3
Emergency Medical Technician	2	0.6
California Radiology Technician	2	0.6
Pharmacy Technician	1	0.3
Registered Nurse	2	0.6
Phlebotomy Technician	1	0.3
Registered Laboratory Animal Technician	2	0.6

\*NOTE: Respondents (N = 349) were asked to select all that apply.

TABLE 11 – DID THE TRAINING PROGRAM TAKEN PREPARE RESPONDENTS FOR THEIR FIRST YEAR IN PRACTICE?

PREPAREDNESS	N	PERCENT
Yes	294	84.2
No	52	14.9
Missing	3	0.9
Total	349	100

TABLE 12 – RESPONDENTS BY REGION

SOUTHERN CALIFORNIA

County of Practice	Frequency
San Bernardino	15
San Diego	54
Los Angeles	69
Orange	31
Riverside	10
TOTAL	179

SAN FRANCISCO/ BAY AREA

County of Practice	Frequency
Alameda	13
Contra Costa	15
Marin	6
San Francisco	4
San Mateo	11
Santa Clara	8
Santa Cruz	9
Solano	2
TOTAL	68

SAN JOAQUIN VALLEY

County of Practice	Frequency
Fresno	5
Kern	1
San Joaquin	6
Stanislaus	7
Tulare	2
TOTAL	21

SACRAMENTO VALLEY

County of Practice	Frequency
Butte	3
Sacramento	15
Shasta	1
Sutter	2
Yolo	7
Yuba	1
TOTAL	29

SIERRA MOUNTAIN VALLEY

<b>County of Practice</b>	<b>Frequency</b>
Nevada	2
Placer	6
Tuolumne	1
TOTAL	9

NORTH COAST

<b>County of Practice</b>	<b>Frequency</b>
Humboldt	2
Napa	1
Sonoma	15
TOTAL	18

SOUTH/CENTRAL COAST

<b>County of Practice</b>	<b>Frequency</b>
Monterey	2
San Luis Obispo	7
Santa Barbara	5
Ventura	9
TOTAL	23

DECLINED TO ANSWER

	<b>Frequency</b>
TOTAL	2

## CHAPTER 4. DATA ANALYSIS AND RESULTS

### RELIABILITY OF RATINGS

The job task and knowledge ratings obtained by the questionnaire were evaluated with a standard index of reliability called coefficient alpha ( $\alpha$ ) that ranges from 0 to 1. Coefficient alpha is an estimate of the internal consistency of the respondents' ratings of the job task and knowledge statements. A higher coefficient value indicates more consistency between respondent ratings. Coefficients were calculated for all respondent ratings.

Table 13 displays the reliability coefficients for the task statement rating scales in each content area. The overall ratings of task frequency ( $\alpha = .99$ ) and task importance ( $\alpha = .99$ ) across content areas were highly reliable. Table 14 displays the reliability coefficients for the knowledge statement rating scale in each content area. The overall ratings of knowledge importance ( $\alpha = .99$ ) across content areas were highly reliable. These results indicate that the responding CRVTs rated the task and knowledge statements consistently throughout the questionnaire.

TABLE 13 – TASK SCALE RELIABILITY

<b>CONTENT AREA</b>	<b>Number of Tasks</b>	<b><math>\alpha</math> Frequency</b>	<b><math>\alpha</math> Importance</b>
I. Patient Examination	23	.96	.96
II. Emergency and Critical Care	22	.97	.97
III. Diagnostic Imaging	13	.96	.96
IV. Laboratory and Diagnostic Procedures	18	.95	.96
V. Anesthesia and Surgical Assistance	22	.97	.97
VI. Animal Dentistry	14	.97	.97
VII. Animal Nursing	39	.98	.98
VIII. Pharmacology	13	.92	.92
IX. Owner/Agent Communication	19	.98	.98
Total	183	.99	.99

TABLE 14 – KNOWLEDGE SCALE RELIABILITY

CONTENT AREA	Number of Knowledge Statements	$\alpha$ Importance
I. Patient Examination	46	.97
II. Emergency and Critical Care	32	.98
III. Diagnostic Imaging	18	.96
IV. Laboratory and Diagnostic Procedures	23	.95
V. Anesthesia and Surgical Assistance	40	.98
VI. Animal Dentistry	24	.98
VII. Animal Nursing	50	.97
VIII. Pharmacology	19	.94
IX. Owner/Agent Communication	22	.96
Total	274	.99

#### TASK CRITICAL VALUES

Two workshops, each comprised of a diverse sample of 6 to 7 CRVTs, were convened at OPES in October 2016. The goals of the two workshops were to review the average importance and frequency ratings for the tasks as well as the criticality indices of all task and knowledge statements. The desired outcome of these workshops was to identify the essential tasks and knowledge required for safe and effective CRVT practice at the time of licensure.

In order to determine the critical values (criticality) of the task statements, the frequency rating ( $F_i$ ) and the importance rating ( $I_i$ ) for each task were multiplied for each respondent, and the products were then averaged across respondents.

$$\text{Critical task value} = \text{mean } [(F_i) \times (I_i)]$$

The task statements were then ordered according to their critical task values. The task statements, with mean frequency and importance ratings and associated task criticality values sorted by descending order and content area, are presented in Appendix A. All Task statements, sorted by descending order of criticality (with content areas omitted), are presented in Appendix B.

The SMEs who participated in the first October 2016 workshop evaluated the tasks' critical values derived from the questionnaire results. OPES staff instructed the SMEs to identify a cutoff critical task value to determine if any of the tasks did not have a high enough critical value to be retained. Based on their view of the relative importance of all tasks to CRVT practice, the SMEs determined that a cutoff value of 6.40 should be set. A total of 13 task statements did not meet the cutoff critical task value and were thus



excluded from the content outline. The exclusion of a task statement from the content outline does not mean that the task is not performed in CRVT practice; it was only considered not critical for testing relative to other tasks.

The SMEs in the second October 2016 workshop performed an independent review of the same data and arrived at the same conclusion that was determined by the SMEs from the first workshop.

## KNOWLEDGE IMPORTANCE RATINGS

In order to determine the importance of each knowledge, the mean importance (KImp) rating for each knowledge statement was calculated. The knowledge statements and importance ratings, sorted by descending order and content area, are presented in Appendix C. All knowledge statements sorted by descending order of importance (with content areas omitted) are presented in Appendix D.

The SMEs who participated in the first October 2016 workshop to evaluate the critical task values also reviewed the knowledge statement importance values. After reviewing the average importance ratings and considering their relative importance to CRVT practice, the SMEs determined that a cutoff value of 2.5 should be established. A total of 18 knowledge statements did not meet the cutoff value and were thus excluded from the content outline. The exclusion of a knowledge statement from the content outline does not mean that the knowledge is not used in CRVT practice; it was only considered not critical for testing relative to other knowledge concepts.

The SMEs in the second October 2016 workshop independently reviewed the same data and arrived at the same conclusion that was determined by the SMEs from the first workshop.

## CHAPTER 5. EXAMINATION PLAN

### TASK – KNOWLEDGE LINKAGE

The SMEs who participated in the first October 2016 workshop reviewed the preliminary assignments of the task and knowledge statements to content areas and determined the appropriate linkage of specific knowledge statements to task statements. The content areas were developed so that they were non-overlapping and described major areas of practice. The SMEs who participated in the second October 2016 workshop reviewed the SME results from the first October workshop and agreed with the outcome.

### CONTENT AREAS AND WEIGHTS

The SMEs in the second workshop conducted in October 2016 were asked to review the proposed examination weights, which were reflective of the relative weights of the content areas. The proposed examination weights were initially calculated by dividing the sum of the task critical values for each content area by the overall sum of the task critical values for all tasks, as shown below.

$$\frac{\textit{Sum of Critical Values for Tasks in Content Area}}{\textit{Sum of Critical Values for All Tasks}} = \textit{Percent Weight of Content Area}$$

After reviewing the preliminary weights based solely on the task critical values (TCV Prelim. Wts.), the SMEs determined these weights were not reflective of the relative importance of the content areas to CRVT practice in California. Thus, for determining the final weighting of the content areas, the SMEs looked at the group of tasks and knowledge, the linkage between the tasks and knowledge, and the relative importance of the tasks and knowledge in each content area to CRVT practice in California, and they made minor adjustments to the weight according to a consensus on relative importance. A summary of the final content area weights is presented in Table 15. A more detailed breakdown of the final content area weights is presented in Table 16. The exam content outline for the CRVT profession is presented in Table 17.

### CRITICAL INDICES BY PRIMARY FOCUS OF TREATMENT

Additional calculations were performed from a treatment-centered approach, based on the practitioners' primary focus of treatment, by parsing the critical values data by primary treatment focus. The four primary focuses of treatment, Animal Nursing, Anesthesia, Dental Procedures, and Owner/Agent Communication were examined to determine differences in the critical values of each task statement. The calculation of the critical indices by primary treatment focus can be found in Appendix C.

TABLE 15 – CONTENT AREA WEIGHTS

CONTENT AREA		TCV Prelim. Wts.	Final Weights
I.	Patient Examination	14%	14%
II.	Emergency and Critical Care	12%	10%
III.	Diagnostic Imaging	7%	6%
IV.	Laboratory and Diagnostic Procedures	8%	8%
V.	Anesthesia and Surgical Assistance	14.5%	19%
VI.	Animal Dentistry	6%	6%
VII.	Animal Nursing	21%	22%
VIII.	Pharmacology	8.5%	8%
IX.	Owner/Agent Communication	9%	7%
Total		100	100

TABLE 16 – DETAILED BREAKDOWN OF CONTENT AREA WEIGHTS WITH UNRETAINED TASKS REMOVED

CONTENT AREA	Number of Tasks in Content Area	Task Indices in Content Area	Initial Content Area Weight Calculation (%)	Consensus-based Content Area Weight (%)
I. Patient Examination	23	335.25	14%	14%
II. Emergency and Critical Care	21	276.68	12%	10%
III. Diagnostic Imaging	11	156.44	6.5%	6%
IV. Laboratory and Diagnostic Procedures	16	192.38	8%	8%
V. Anesthesia and Surgical Assistance	20	340.16	15%	19%
VI. Animal Dentistry	12	133.66	5.5%	6%
VII. Animal Nursing	36	488.51	21%	22%
VIII. Pharmacology	12	205.30	9%	8%
IX. Owner/Agent Communication	19	216.23	9%	7%
Total	170*	2344.61	100%	100%

\*NOTE: Total (N=170) reflects the deduction of the 13 tasks that did not meet the task importance cutoff explained in Chapter 4.

TABLE 17 – EXAMINATION CONTENT OUTLINE: CALIFORNIA REGISTERED VETERINARY TECHNICIAN

**I. Patient Examination (14%)** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T1.</b> Scan patient to determine the presence of identification products and/or markings (e.g., microchip, band, tattoo).	<b>K37.</b> Knowledge of techniques for locating identification products and/or markings. <b>K39.</b> Knowledge of restraint techniques and/or devices for various species/breed.
<b>T2.</b> Interview owner/agent regarding household environment (e.g., multiple pet, smoking, children, noise level) that may affect patient condition.	<b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status. <b>K3.</b> Knowledge of the relationship between patient lifestyle (e.g., breeding, companion, work, export) and recommended health requirements (e.g., diet, husbandry, exercise). <b>K5.</b> Knowledge of appropriate housing and environmental conditions for patient species. <b>K42.</b> Knowledge of common household exposures (e.g., plants, chemicals, pesticides).
<b>T3.</b> Interview owner/agent regarding household exposures (e.g., chemicals, toxins, recreational drugs, plants) that may affect patient condition.	<b>K8.</b> Knowledge of potential effect of over-the-counter medications on patient’s present condition. <b>K11.</b> Knowledge of adverse reactions to previous medications or treatments. <b>K23.</b> Knowledge of normal and abnormal neurological signs. <b>K25.</b> Knowledge of signs of toxicity. <b>K42.</b> Knowledge of common household exposures (e.g., plants, chemicals, pesticides).

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T4.</b> Interview owner/agent regarding patient lifestyle (e.g., companion, competition, breeding, work, export) to focus methodology for examination.	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K2.</b> Knowledge of inappropriate and appropriate diets for various conditions (e.g., species, breeds, age, health status).</p> <p><b>K3.</b> Knowledge of the relationship between patient lifestyle (e.g., breeding, companion, work, export) and recommended health requirements (e.g., diet, husbandry, exercise).</p> <p><b>K4.</b> Knowledge of normal eating and elimination patterns.</p> <p><b>K9.</b> Knowledge of patient’s reproductive history and status and potential effect on present condition.</p> <p><b>K10.</b> Knowledge of potential effect of patient’s preventive health history on present condition.</p> <p><b>K12.</b> Knowledge of effect of patient’s travel and/or disease exposure on health status.</p> <p><b>K13.</b> Knowledge of normal and/or abnormal animal behavior for a given species/breed.</p>

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T5.</b> Obtain baseline information from owner/agent about chief complaint, signs and symptoms (e.g., sneezing, coughing, diarrhea, vomiting), and overall health status of the patient.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K2.</b> Knowledge of inappropriate and appropriate diets for various conditions (e.g., species, breeds, age, health status).</p> <p><b>K4.</b> Knowledge of normal eating and elimination patterns.</p> <p><b>K10.</b> Knowledge of potential effect of patient’s preventive health history on present condition.</p> <p><b>K11.</b> Knowledge of adverse reactions to previous medications or treatments.</p> <p><b>K13.</b> Knowledge of normal and/or abnormal animal behavior for a given species/breed.</p> <p><b>K40.</b> Knowledge of vaccine protocols and preventative measures and/or schedules.</p> <p><b>K41.</b> Knowledge of pain indicators (e.g., elevated heart rate, whining, panting, hiding, drooling).</p> <p><b>K43.</b> Knowledge of methods for obtaining patient signalment information.</p>

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T6.</b> Obtain and/or review information regarding patient medical history and current medications and supplements.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K6.</b> Knowledge of potential effect of medications/supplements on patient’s condition.</p> <p><b>K7.</b> Knowledge of potential effect of alternative therapies on patient’s present condition.</p> <p><b>K8.</b> Knowledge of potential effect of over-the-counter medications on patient’s present condition.</p> <p><b>K10.</b> Knowledge of potential effect of patient’s preventive health history on present condition.</p> <p><b>K11.</b> Knowledge of adverse reactions to previous medications or treatments.</p> <p><b>K40.</b> Knowledge of vaccine protocols and preventative measures and/or schedules.</p>
<p><b>T7.</b> Obtain information about patient’s general husbandry, including diet and eating/drinking habits.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K2.</b> Knowledge of inappropriate and appropriate diets for various conditions (e.g., species, breeds, age, health status).</p> <p><b>K3.</b> Knowledge of the relationship between patient lifestyle (e.g., breeding, companion, work, export) and recommended health requirements (e.g., diet, husbandry, exercise).</p> <p><b>K4.</b> Knowledge of normal eating and elimination patterns.</p> <p><b>K5.</b> Knowledge of appropriate housing and environmental conditions for patient species.</p>

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T8.</b> Obtain information about patient’s preventive health history (e.g., vaccines, heartworm, fecal).</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K10.</b> Knowledge of potential effect of patient’s preventive health history on present condition.</p> <p><b>K32.</b> Knowledge of reportable diseases according to federal law.</p> <p><b>K34.</b> Knowledge of reportable diseases according to California law.</p> <p><b>K40.</b> Knowledge of vaccine protocols and preventative measures and/or schedules.</p>
<p><b>T9.</b> Obtain information about patient’s travel history (e.g., local, domestic, international) and/or disease exposure (e.g., camping, boating, park, kennel, groomer).</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K3.</b> Knowledge of the relationship between patient lifestyle (e.g., breeding, companion, work, export) and recommended health requirements (e.g., diet, husbandry, exercise).</p> <p><b>K12.</b> Knowledge of effect of patient’s travel and/or disease exposure on health status.</p> <p><b>K32.</b> Knowledge of reportable diseases according to federal law.</p> <p><b>K34.</b> Knowledge of reportable diseases according to California law.</p> <p><b>K36.</b> Knowledge of zoonotic diseases (e.g., giardia, ringworm, leptospirosis).</p>
<p><b>T10.</b> Obtain information about patient’s signalment (e.g., name, species, color, breed, sex, weight, reproductive status, age).</p>	<p><b>K33.</b> Knowledge of species, breed identification, and sex determination.</p> <p><b>K43.</b> Knowledge of methods for obtaining patient signalment information.</p>



**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T11.</b> Assess patient’s demeanor (e.g., bright, alert, responsive, lethargic) to establish/update patient health record.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K13.</b> Knowledge of normal and/or abnormal animal behavior for a given species/breed.</p> <p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p>
<p><b>T12.</b> Identify patient’s behavioral issues (e.g., aggressive, pacing, anxious, agitated, fearful) to establish/update patient health record.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K13.</b> Knowledge of normal and/or abnormal animal behavior for a given species/breed.</p> <p><b>K15.</b> Knowledge of body posture and body language for different species.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p>

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T13.</b> Assess patient pain score to determine need for further evaluation.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K4.</b> Knowledge of normal eating and elimination patterns.</p> <p><b>K13.</b> Knowledge of normal and/or abnormal animal behavior for a given species/breed.</p> <p><b>K15.</b> Knowledge of body posture and body language for different species.</p> <p><b>K17.</b> Knowledge of normal and abnormal vital signs.</p> <p><b>K18.</b> Knowledge of normal and abnormal respiration.</p> <p><b>K21.</b> Knowledge of common equipment used to conduct physical examinations.</p> <p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K26.</b> Knowledge of normal eye appearance.</p> <p><b>K41.</b> Knowledge of pain indicators (e.g., elevated heart rate, whining, panting, hiding, drooling).</p>
<p><b>T14.</b> Perform oral examination (e.g., gingivitis, tartar, halitosis, abnormalities) to establish baseline for patient.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K29.</b> Knowledge of signs of normal and abnormal color, moisture, and capillary refill time of mucous membranes.</p> <p><b>K38.</b> Knowledge of signs of normal and abnormal dental health and normal dentition.</p> <p><b>K39.</b> Knowledge of restraint techniques and/or devices for various species/breed.</p> <p><b>K44.</b> Knowledge of the relationship between dentition, dental health, and patient age.</p>

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T15.</b> Assess skin turgor to establish/update patient health record.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K14.</b> Knowledge of methods (e.g., skin turgor, ocular appearance, mucous membrane appearance) for determining hydration status.</p> <p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p>
<p><b>T16.</b> Assess patient’s overall body condition (e.g., coat, skin, nasal, eye) to establish/update health record.</p>	<p><b>K1.</b> Knowledge of factors that affect patient’s attitude, behavior, and overall health status.</p> <p><b>K16.</b> Knowledge of normal and abnormal skin conditions.</p> <p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K26.</b> Knowledge of normal eye appearance.</p> <p><b>K27.</b> Knowledge of normal ear appearance.</p> <p><b>K28.</b> Knowledge of normal nasal appearance.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p> <p><b>K35.</b> Knowledge of proper methods for obtaining body condition score.</p> <p><b>K45.</b> Knowledge of the types of physical abnormalities found during palpation.</p>
<p><b>T17.</b> Auscultate patient to evaluate heart, lung, respiration, and gastrointestinal sounds to establish/update patient health record.</p>	<p><b>K17.</b> Knowledge of normal and abnormal vital signs.</p> <p><b>K22.</b> Knowledge of normal and abnormal gastrointestinal sounds.</p> <p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p>

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T18.</b> Assess mucous membrane (e.g., capillary refill time [CRT], color, moisture) to establish a baseline and/or update for patient medical record.	<p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K29.</b> Knowledge of signs of normal and abnormal color, moisture, and capillary refill time of mucous membranes.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p>
<b>T19.</b> Obtain vital signs (e.g., temperature, pulse, respiration) to establish/update patient health record.	<p><b>K17.</b> Knowledge of normal and abnormal vital signs.</p> <p><b>K21.</b> Knowledge of common equipment used to conduct physical examinations.</p> <p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p>
<b>T20.</b> Assess body score for patient utilizing body conditioning system (e.g., observation and palpation of ribs, lumbar vertebrae, pelvic bones, fat deposits) to establish/update health record.	<p><b>K24.</b> Knowledge of signs of life-threatening conditions.</p> <p><b>K31.</b> Knowledge of regulations regarding medical recordkeeping.</p> <p><b>K35.</b> Knowledge of proper methods for obtaining body condition score.</p>
<b>T21.</b> Palpate patient to determine the presence of physical abnormalities (e.g., masses, enlarged lymph nodes, swelling) and deformities (e.g., eye, ear, limbs).	<p><b>K26.</b> Knowledge of normal eye appearance.</p> <p><b>K28.</b> Knowledge of normal nasal appearance.</p> <p><b>K30.</b> Knowledge of normal growth and development of young animals.</p> <p><b>K45.</b> Knowledge of the types of physical abnormalities found during palpation.</p>
<b>T22.</b> Assess patient to determine presence of parasites (e.g., fleas, worms, ticks).	<p><b>K36.</b> Knowledge of zoonotic diseases (e.g., giardia, ringworm, leptospirosis).</p> <p><b>K46.</b> Knowledge of the signs and symptoms of parasitic infestation.</p>

**I. Patient Examination (14%) continued** – This content area addresses the candidate’s ability to obtain patient signalment and history (e.g., husbandry, medications, clinical signs) and discuss the patient with the owner; observe patient (e.g., demeanor, behavior, condition) and examine patient (e.g., oral, vitals, skin) to establish/update patient status.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T23.</b> Assess patient’s skin to determine abnormalities (e.g., fungal, yeast, bacteria, hair loss, allergies).	<p><b>K16.</b> Knowledge of normal and abnormal skin conditions.</p> <p><b>K46.</b> Knowledge of the signs and symptoms of parasitic infestation.</p>

**II. Emergency and Critical Care (10%)** – This content area addresses the candidate’s ability to triage patients; initiate emergency treatment (e.g., oxygen therapy, hemorrhage control, intravenous fluids, monitor vitals, CPR) in order to stabilize patient; perform applicable diagnostics; calculate and administer medications as directed.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T24.</b> Determine treatment order (e.g., triage) for various patients exhibiting varying levels of distress.	<p><b>K47.</b> Knowledge of the methods used to triage patients.</p> <p><b>K48.</b> Knowledge of clinical signs of shock.</p> <p><b>K50.</b> Knowledge of clinical signs and effects of trauma.</p>
<b>T25.</b> Perform initial intake procedures to determine vitals, weight, and signalment.	<b>K72.</b> Knowledge of the types of equipment used for monitoring vitals.
<b>T26.</b> Initiate emesis induction on patient to treat ingestion of toxic materials.	<p><b>K52.</b> Knowledge of laws and regulations pertaining to reporting animal abuse, neglect, or zoonotic disease exposure.</p> <p><b>K64.</b> Knowledge of agents that can cause toxicity.</p> <p><b>K65.</b> Knowledge of treatments and antidotes for toxicity.</p> <p><b>K69.</b> Knowledge of methods to obtain different dosages of medications.</p> <p><b>K75.</b> Knowledge of various emesis protocols.</p> <p><b>K76.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<b>T27.</b> Perform intravenous catheter placement in order to administer blood products, medications, or fluid therapy to stabilize/treat patient.	<p><b>K67.</b> Knowledge of emergency intravenous techniques to stabilize patient.</p> <p><b>K68.</b> Knowledge of signs for potential adverse transfusion reaction.</p> <p><b>K71.</b> Knowledge of types and administration of emergency fluid therapy.</p> <p><b>K76.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<b>T28.</b> Monitor patient for overhydration symptoms.	<b>K70.</b> Knowledge of common signs of overhydration.

**II. Emergency and Critical Care (10%) continued** – This content area addresses the candidate’s ability to triage patients; initiate emergency treatment (e.g., oxygen therapy, hemorrhage control, intravenous fluids, monitor vitals, CPR) in order to stabilize patient; perform applicable diagnostics; calculate and administer medications as directed.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T29.</b> Collect sample (e.g., blood, urine) for initial diagnostics.	<p><b>K64.</b> Knowledge of agents that can cause toxicity.</p> <p><b>K78.</b> Knowledge of the methods for preventing the spread of zoonotic and infectious diseases.</p>
<b>T30.</b> Perform radiographs for initial diagnostics.	<p><b>K50.</b> Knowledge of clinical signs and effects of trauma.</p> <p><b>K51.</b> Knowledge of procedures to safely stabilize traumatic injuries.</p> <p><b>K66.</b> Knowledge of techniques for stabilizing orthopedic conditions.</p> <p><b>K74.</b> Knowledge of pain management protocols.</p>
<b>T31.</b> Provide supportive treatment for patient exhibiting signs of shock.	<p><b>K48.</b> Knowledge of clinical signs of shock.</p> <p><b>K49.</b> Knowledge of the methods for stabilizing a patient in shock.</p> <p><b>K53.</b> Knowledge of procedures for assisted ventilation.</p> <p><b>K54.</b> Knowledge of procedures for establishing a patent airway.</p> <p><b>K57.</b> Knowledge of techniques to regulate body temperature in cases of hyperthermia or hypothermia.</p> <p><b>K59.</b> Knowledge of techniques for oxygen administration.</p> <p><b>K60.</b> Knowledge of precautions for oxygen therapy.</p> <p><b>K61.</b> Knowledge of methods to perform cardiopulmonary cerebral resuscitation (CPCR).</p> <p><b>K71.</b> Knowledge of types and administration of emergency fluid therapy.</p> <p><b>K74.</b> Knowledge of pain management protocols.</p> <p><b>K76.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>

**II. Emergency and Critical Care (10%) continued** – This content area addresses the candidate’s ability to triage patients; initiate emergency treatment (e.g., oxygen therapy, hemorrhage control, intravenous fluids, monitor vitals, CPR) in order to stabilize patient; perform applicable diagnostics; calculate and administer medications as directed.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T32.</b> Provide supportive treatment for patient exhibiting signs of hyperthermia (e.g., seizures, heat prostration).</p>	<p><b>K56.</b> Knowledge of clinical signs of heat prostration.  <b>K57.</b> Knowledge of techniques to regulate body temperature in cases of hyperthermia or hypothermia.  <b>K62.</b> Knowledge of medical conditions that could cause seizures.  <b>K63.</b> Knowledge of treatments and protocols to stabilize seizing patients.  <b>K67.</b> Knowledge of emergency intravenous techniques to stabilize patient.  <b>K71.</b> Knowledge of types and administration of emergency fluid therapy.  <b>K76.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<p><b>T33.</b> Provide supportive treatment for patient exhibiting signs of hypothermia.</p>	<p><b>K57.</b> Knowledge of techniques to regulate body temperature in cases of hyperthermia or hypothermia.</p>
<p><b>T34.</b> Apply wound dressings to burned tissue.</p>	<p><b>K58.</b> Knowledge of techniques and dressings for managing burns.  <b>K74.</b> Knowledge of pain management protocols.  <b>K77.</b> Knowledge of bandage placement techniques.</p>
<p><b>T35.</b> Apply bandages to stabilize hemorrhagic patients.</p>	<p><b>K49.</b> Knowledge of the methods for stabilizing a patient in shock.  <b>K51.</b> Knowledge of procedures to safely stabilize traumatic injuries.  <b>K55.</b> Knowledge of safe techniques for applying tourniquets and pressure bandages.  <b>K77.</b> Knowledge of bandage placement techniques.</p>



**II. Emergency and Critical Care (10%) continued** – This content area addresses the candidate’s ability to triage patients; initiate emergency treatment (e.g., oxygen therapy, hemorrhage control, intravenous fluids, monitor vitals, CPR) in order to stabilize patient; perform applicable diagnostics; calculate and administer medications as directed.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T36.</b> Apply bandages/splints to stabilize orthopedic conditions.	<p><b>K51.</b> Knowledge of procedures to safely stabilize traumatic injuries.</p> <p><b>K66.</b> Knowledge of techniques for stabilizing orthopedic conditions.</p> <p><b>K74.</b> Knowledge of pain management protocols.</p> <p><b>K77.</b> Knowledge of bandage placement techniques.</p>
<b>T37.</b> Apply tourniquet to control blood flow.	<p><b>K51.</b> Knowledge of procedures to safely stabilize traumatic injuries.</p> <p><b>K55.</b> Knowledge of safe techniques for applying tourniquets and pressure bandages.</p>
<b>T38.</b> Establish patent airway (e.g., intubate, clear obstruction) to stabilize patient condition.	<p><b>K53.</b> Knowledge of procedures for assisted ventilation.</p> <p><b>K54.</b> Knowledge of procedures for establishing a patent airway.</p> <p><b>K59.</b> Knowledge of techniques for oxygen administration.</p> <p><b>K60.</b> Knowledge of precautions for oxygen therapy.</p>
<b>T39.</b> Perform cardiopulmonary cerebral resuscitation (CPCR) to revive and stabilize patient in cardiac arrest.	<p><b>K47.</b> Knowledge of the methods used to triage patients.</p> <p><b>K48.</b> Knowledge of clinical signs of shock.</p> <p><b>K53.</b> Knowledge of procedures for assisted ventilation.</p> <p><b>K54.</b> Knowledge of procedures for establishing a patent airway.</p> <p><b>K59.</b> Knowledge of techniques for oxygen administration.</p> <p><b>K60.</b> Knowledge of precautions for oxygen therapy.</p> <p><b>K61.</b> Knowledge of methods to perform cardiopulmonary cerebral resuscitation (CPCR).</p>
<b>T40.</b> Provide protective restraint and environment for seizing patient to prevent/minimize trauma.	<p><b>K63.</b> Knowledge of treatments and protocols to stabilize seizing patients.</p>

**II. Emergency and Critical Care (10%) continued** – This content area addresses the candidate’s ability to triage patients; initiate emergency treatment (e.g., oxygen therapy, hemorrhage control, intravenous fluids, monitor vitals, CPR) in order to stabilize patient; perform applicable diagnostics; calculate and administer medications as directed.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T41.</b> Administer oxygen to stabilize patient exhibiting respiratory distress.</p>	<p><b>K53.</b> Knowledge of procedures for assisted ventilation.</p> <p><b>K54.</b> Knowledge of procedures for establishing a patent airway.</p> <p><b>K59.</b> Knowledge of techniques for oxygen administration.</p> <p><b>K60.</b> Knowledge of precautions for oxygen therapy.</p>
<p><b>T43.</b> Utilize personal protective equipment and safe handling techniques for suspected rabies and other zoonotic/infectious disease exposed patients.</p>	<p><b>K52.</b> Knowledge of laws and regulations pertaining to reporting animal abuse, neglect, or zoonotic disease exposure.</p> <p><b>K78.</b> Knowledge of the methods for preventing the spread of zoonotic and infectious diseases.</p>
<p><b>T44.</b> Calculate dosages, dilutions, constant rate infusions, and conversions of medications.</p>	<p><b>K71.</b> Knowledge of types and administration of emergency fluid therapy.</p> <p><b>K76.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<p><b>T45.</b> Interview owner/agent regarding critical incident and history of patient.</p>	<p><b>K47.</b> Knowledge of the methods used to triage patients.</p> <p><b>K48.</b> Knowledge of clinical signs of shock.</p> <p><b>K50.</b> Knowledge of clinical signs and effects of trauma.</p> <p><b>K62.</b> Knowledge of medical conditions that could cause seizures.</p> <p><b>K64.</b> Knowledge of agents that can cause toxicity.</p> <p><b>K73.</b> Knowledge of metabolic diseases (e.g., hypoglycemia, urethral obstruction, gastric dilatation volvulus) and life-threatening conditions in various breeds/species.</p>

**III. Diagnostic Imaging (6%)** – This content area addresses the candidate’s ability to prepare and position patient for diagnostic imaging (e.g., radiography, ultrasonography) in a safe manner to maximize the quality of results; maintain images, imaging equipment, and personal protective equipment (PPE).

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T46.</b> Adhere with radiation protocol (e.g., personal protective equipment placement, distance from exposure, equipment settings) to ensure safety of staff and patients.</p>	<p><b>K79.</b> Knowledge of laws and regulations regarding radiation safety.</p> <p><b>K80.</b> Knowledge of methods to limit operator radiation exposure (e.g., collimation and personal protective equipment).</p> <p><b>K82.</b> Knowledge of methods, procedures, and equipment for radiography.</p> <p><b>K94.</b> Knowledge of dangers associated with radiation exposure.</p> <p><b>K96.</b> Knowledge of the care and maintenance of personal protective equipment.</p>
<p><b>T47.</b> Restrain patient utilizing various techniques (e.g., manual, mechanical, chemical) for radiographic imaging.</p>	<p><b>K81.</b> Knowledge of techniques of manual, mechanical, and chemical restraint for radiography.</p>
<p><b>T48.</b> Obtain diagnostic radiographs on patient for veterinarian review.</p>	<p><b>K80.</b> Knowledge of methods to limit operator radiation exposure (e.g., collimation and personal protective equipment).</p> <p><b>K81.</b> Knowledge of techniques of manual, mechanical, and chemical restraint for radiography.</p> <p><b>K82.</b> Knowledge of methods, procedures, and equipment for radiography.</p> <p><b>K83.</b> Knowledge of procedures to set equipment according to a radiographic technique chart.</p> <p><b>K84.</b> Knowledge of relationship of kVp and mAs to produce diagnostic radiographs.</p> <p><b>K93.</b> Knowledge of methods and media for contrast radiography.</p> <p><b>K94.</b> Knowledge of dangers associated with radiation exposure.</p> <p><b>K96.</b> Knowledge of the care and maintenance of personal protective equipment.</p>

**III. Diagnostic Imaging (6%) continued** – This content area addresses the candidate’s ability to prepare and position patient for diagnostic imaging (e.g., radiography, ultrasonography) in a safe manner to maximize the quality of results; maintain images, imaging equipment, and personal protective equipment (PPE).

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T49.</b> Process diagnostic radiographs (e.g., digital, film) for veterinarian review.</p>	<p><b>K82.</b> Knowledge of methods, procedures, and equipment for radiography.</p> <p><b>K91.</b> Knowledge of manual and automatic radiographic film processing techniques.</p> <p><b>K92.</b> Knowledge of laws and regulations regarding labeling and storage of radiographs.</p> <p><b>K96.</b> Knowledge of the care and maintenance of personal protective equipment.</p>
<p><b>T50.</b> Position patient for radiography (e.g., general, specialized) to maximize imaging results and ensure staff and patient safety.</p>	<p><b>K80.</b> Knowledge of methods to limit operator radiation exposure (e.g., collimation and personal protective equipment).</p> <p><b>K82.</b> Knowledge of methods, procedures, and equipment for radiography.</p> <p><b>K89.</b> Knowledge of anatomy for positioning patients for radiography.</p> <p><b>K94.</b> Knowledge of dangers associated with radiation exposure.</p> <p><b>K96.</b> Knowledge of the care and maintenance of personal protective equipment.</p>

**III. Diagnostic Imaging (6%) continued** – This content area addresses the candidate’s ability to prepare and position patient for diagnostic imaging (e.g., radiography, ultrasonography) in a safe manner to maximize the quality of results; maintain images, imaging equipment, and personal protective equipment (PPE).

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T51.</b> Perform contrast radiology studies for veterinarian review.</p>	<p><b>K79.</b> Knowledge of laws and regulations regarding radiation safety.</p> <p><b>K80.</b> Knowledge of methods to limit operator radiation exposure (e.g., collimation and personal protective equipment).</p> <p><b>K81.</b> Knowledge of techniques of manual, mechanical, and chemical restraint for radiography.</p> <p><b>K84.</b> Knowledge of relationship of kVp and mAs to produce diagnostic radiographs.</p> <p><b>K89.</b> Knowledge of anatomy for positioning patients for radiography.</p> <p><b>K93.</b> Knowledge of methods and media for contrast radiography.</p> <p><b>K94.</b> Knowledge of dangers associated with radiation exposure.</p> <p><b>K96.</b> Knowledge of the care and maintenance of personal protective equipment.</p>
<p><b>T52.</b> Adhere with state regulations regarding radiograph equipment maintenance to ensure staff and patient safety.</p>	<p><b>K79.</b> Knowledge of laws and regulations regarding radiation safety.</p> <p><b>K82.</b> Knowledge of methods, procedures, and equipment for radiography.</p> <p><b>K94.</b> Knowledge of dangers associated with radiation exposure.</p> <p><b>K96.</b> Knowledge of the care and maintenance of personal protective equipment.</p>
<p><b>T53.</b> Prepare and position patient for ultrasonography to maximize procedural results.</p>	<p><b>K85.</b> Knowledge of techniques to prepare and position patients for ultrasonography.</p> <p><b>K90.</b> Knowledge of anatomy for patient preparation, positioning, and sample collection for ultrasonography.</p>

**III. Diagnostic Imaging (6%) continued** – This content area addresses the candidate’s ability to prepare and position patient for diagnostic imaging (e.g., radiography, ultrasonography) in a safe manner to maximize the quality of results; maintain images, imaging equipment, and personal protective equipment (PPE).

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T55.</b> Maintain radiographic image bank for further diagnostic purposes and/or to monitor disease progression.</p>	<p><b>K82.</b> Knowledge of methods, procedures, and equipment for radiography.</p> <p><b>K92.</b> Knowledge of laws and regulations regarding labeling and storage of radiographs.</p>
<p><b>T56.</b> Assist with ultrasonography for a variety of veterinary medical procedures (e.g., biopsy, organ location, cystocentesis, injections, fluid drainage) to facilitate the process.</p>	<p><b>K85.</b> Knowledge of techniques to prepare and position patients for ultrasonography.</p> <p><b>K86.</b> Knowledge of care and maintenance procedures for ultrasound equipment.</p> <p><b>K88.</b> Knowledge of techniques to obtain laboratory samples using ultrasound.</p> <p><b>K90.</b> Knowledge of anatomy for patient preparation, positioning, and sample collection for ultrasonography.</p>
<p><b>T58.</b> Label diagnostic images in accordance with State regulation.</p>	<p><b>K91.</b> Knowledge of manual and automatic radiographic film processing techniques.</p> <p><b>K92.</b> Knowledge of laws and regulations regarding labeling and storage of radiographs.</p>

**IV. Laboratory and Diagnostic Procedures (8%)** – This content area addresses the candidate’s ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T59.</b> Obtain a diagnostic electrocardiogram (ECG) to establish patient condition.	<b>K98.</b> Knowledge of techniques for obtaining electrocardiograms (ECGs).
<b>T60.</b> Obtain patient blood pressure to establish patient condition.	<b>K99.</b> Knowledge of the equipment and techniques for obtaining blood pressure.
<b>T61.</b> Determine patient blood clotting times for diagnostic purposes.	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K108.</b> Knowledge of procedures, equipment, and normal values for hematology.</p> <p><b>K116.</b> Knowledge of procedures and equipment for coagulation studies.</p> <p><b>K117.</b> Knowledge of possible ramifications of improper sampling and handling procedures on clotting/coagulation disorders.</p> <p><b>K118.</b> Knowledge of blood composition (e.g., plasma, serum, cell morphology).</p>
<b>T62.</b> Obtain patient blood samples for coagulation values.	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K116.</b> Knowledge of procedures and equipment for coagulation studies.</p> <p><b>K117.</b> Knowledge of possible ramifications of improper sampling and handling procedures on clotting/coagulation disorders.</p>

**IV. Laboratory and Diagnostic Procedures (8%) continued** – This content area addresses the candidate’s ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T63.</b> Collect and prepare fecal samples from patient for analysis and review by the veterinarian.</p>	<p><b>K97.</b> Knowledge of gross and microscopic identification of ectoparasites and endoparasites.</p> <p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K114.</b> Knowledge of procedures and equipment for fecal analysis.</p>
<p><b>T64.</b> Prepare tissue samples obtained from patient for analysis and review by the veterinarian.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K101.</b> Knowledge of methods and procedures to obtain tissue samples for histology and microbiology.</p> <p><b>K103.</b> Knowledge of techniques for collecting, handling, reading, and storing samples for culture.</p> <p><b>K104.</b> Knowledge of various staining techniques for samples.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K109.</b> Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).</p>
<p><b>T65.</b> Collect ectoparasites from patient for identification purposes.</p>	<p><b>K97.</b> Knowledge of gross and microscopic identification of ectoparasites and endoparasites.</p> <p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K102.</b> Knowledge of techniques to obtain, prepare, and analyze skin scrapings.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p>



**IV. Laboratory and Diagnostic Procedures (8%) continued** – This content area addresses the candidate's ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T66.</b> Obtain and prepare various samples (e.g., otic, facial fold) for cytology evaluation.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K101.</b> Knowledge of methods and procedures to obtain tissue samples for histology and microbiology.</p> <p><b>K103.</b> Knowledge of techniques for collecting, handling, reading, and storing samples for culture.</p> <p><b>K104.</b> Knowledge of various staining techniques for samples.</p> <p><b>K109.</b> Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).</p>
<p><b>T67.</b> Obtain and prepare skin scrapings and/or impressions from patient for analysis and review by the veterinarian.</p>	<p><b>K97.</b> Knowledge of gross and microscopic identification of ectoparasites and endoparasites.</p> <p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K102.</b> Knowledge of techniques to obtain, prepare, and analyze skin scrapings.</p> <p><b>K104.</b> Knowledge of various staining techniques for samples.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K109.</b> Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).</p>

**IV. Laboratory and Diagnostic Procedures (8%) continued** – This content area addresses the candidate's ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T68.</b> Obtain and prepare diagnostic samples from patient for bacterial (e.g., urinary, aural, skin) and fungal cultures.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K103.</b> Knowledge of techniques for collecting, handling, reading, and storing samples for culture.</p> <p><b>K104.</b> Knowledge of various staining techniques for samples.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K109.</b> Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).</p> <p><b>K115.</b> Knowledge of procedures and equipment for urinalysis.</p>
<p><b>T70.</b> Determine patient packed-cell volume (PCV) and total protein for analysis and review by the veterinarian.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K108.</b> Knowledge of procedures, equipment, and normal values for hematology.</p> <p><b>K118.</b> Knowledge of blood composition (e.g., plasma, serum, cell morphology).</p>

**IV. Laboratory and Diagnostic Procedures (8%) continued** – This content area addresses the candidate’s ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T71.</b> Collect and prepare blood samples for analysis and review by the veterinarian.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K104.</b> Knowledge of various staining techniques for samples.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K108.</b> Knowledge of procedures, equipment, and normal values for hematology.</p> <p><b>K110.</b> Knowledge of procedures, equipment, and normal values for electrolytes.</p> <p><b>K111.</b> Knowledge of procedures, equipment, and normal values for blood chemistries.</p> <p><b>K112.</b> Knowledge of procedures and equipment for in-house serological testing.</p> <p><b>K116.</b> Knowledge of procedures and equipment for coagulation studies.</p> <p><b>K117.</b> Knowledge of possible ramifications of improper sampling and handling procedures on clotting/coagulation disorders.</p> <p><b>K118.</b> Knowledge of blood composition (e.g., plasma, serum, cell morphology).</p>

**IV. Laboratory and Diagnostic Procedures (8%) continued** – This content area addresses the candidate’s ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T72.</b> Perform routine blood chemistries for analysis and review by the veterinarian.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K108.</b> Knowledge of procedures, equipment, and normal values for hematology.</p> <p><b>K110.</b> Knowledge of procedures, equipment, and normal values for electrolytes.</p> <p><b>K111.</b> Knowledge of procedures, equipment, and normal values for blood chemistries.</p> <p><b>K112.</b> Knowledge of procedures and equipment for in-house serological testing.</p> <p><b>K118.</b> Knowledge of blood composition (e.g., plasma, serum, cell morphology).</p>
<p><b>T73.</b> Perform serological testing for analysis and review by the veterinarian.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K108.</b> Knowledge of procedures, equipment, and normal values for hematology.</p> <p><b>K110.</b> Knowledge of procedures, equipment, and normal values for electrolytes.</p> <p><b>K111.</b> Knowledge of procedures, equipment, and normal values for blood chemistries.</p> <p><b>K112.</b> Knowledge of procedures and equipment for in-house serological testing.</p> <p><b>K118.</b> Knowledge of blood composition (e.g., plasma, serum, cell morphology).</p>

**IV. Laboratory and Diagnostic Procedures (8%) continued** – This content area addresses the candidate's ability to collect, prepare, and determine diagnostic samples (e.g., cytology, urinalysis, microbiology, hematology, parasitology) for veterinarian review; obtain electrocardiogram and blood pressure.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T74.</b> Collect and prepare patient urine samples for analysis of patient condition.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K103.</b> Knowledge of techniques for collecting, handling, reading, and storing samples for culture.</p> <p><b>K104.</b> Knowledge of various staining techniques for samples.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K109.</b> Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).</p> <p><b>K115.</b> Knowledge of procedures and equipment for urinalysis.</p>
<p><b>T76.</b> Collect and prepare blood samples to perform cytological evaluation (e.g., red blood cell count, white blood cell count, differential count) of patient.</p>	<p><b>K100.</b> Knowledge of techniques of specimen collection, handling, and storage.</p> <p><b>K104.</b> Knowledge of various staining techniques for samples.</p> <p><b>K107.</b> Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.</p> <p><b>K108.</b> Knowledge of procedures, equipment, and normal values for hematology.</p> <p><b>K109.</b> Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).</p> <p><b>K112.</b> Knowledge of procedures and equipment for in-house serological testing.</p> <p><b>K117.</b> Knowledge of possible ramifications of improper sampling and handling procedures on clotting/coagulation disorders.</p> <p><b>K118.</b> Knowledge of blood composition (e.g., plasma, serum, cell morphology).</p>

**V. Anesthesia and Surgical Assistance (19%)** – This content area addresses the candidate’s ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate’s ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T77.</b> Induce anesthesia on patient utilizing various methods (e.g., intravenously, inhalation, intramuscularly) to prepare patient for veterinary surgical procedures.</p>	<p><b>K120.</b> Knowledge of levels and planes of anesthesia.</p> <p><b>K121.</b> Knowledge of techniques for extubation and/or recovery of various species and breeds from anesthesia.</p> <p><b>K122.</b> Knowledge of the techniques for inducing anesthesia.</p> <p><b>K123.</b> Knowledge of the methods for intubating various species and breeds for anesthesia.</p> <p><b>K124.</b> Knowledge of various anesthetic agents (e.g., inhalation, injectable).</p> <p><b>K126.</b> Knowledge of effects of patient positioning on efficacy of anesthesia.</p> <p><b>K127.</b> Knowledge of effects of patient positioning on patient vital signs.</p> <p><b>K128.</b> Knowledge of physiological effects of anesthesia on patient.</p> <p><b>K129.</b> Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).</p> <p><b>K131.</b> Knowledge of actions taken in response to anesthetic emergencies.</p> <p><b>K132.</b> Knowledge of anesthetic requirements for different species and breeds.</p> <p><b>K135.</b> Knowledge of the procedures for operating and maintaining anesthetic equipment.</p> <p><b>K136.</b> Knowledge of the methods for preventing anesthetic complications to ensure patient safety.</p> <p><b>K137.</b> Knowledge of sedation protocols.</p> <p><b>K138.</b> Knowledge of protocol for the management of endotracheal tubes.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T77</b> (cont'd). Induce anesthesia on patient utilizing various methods (e.g., intravenously, inhalation, intramuscularly) to prepare patient for veterinary surgical procedures.</p>	<p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p> <p><b>K157.</b> Knowledge of procedures for operating and maintaining anesthesia collection systems (e.g., scavenging) to ensure health and safety of personnel.</p> <p><b>K158.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T78.</b> Monitor patient (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p>	<p><b>K120.</b> Knowledge of levels and planes of anesthesia.</p> <p><b>K121.</b> Knowledge of techniques for extubation and/or recovery of various species and breeds from anesthesia.</p> <p><b>K122.</b> Knowledge of the techniques for inducing anesthesia.</p> <p><b>K123.</b> Knowledge of the methods for intubating various species and breeds for anesthesia.</p> <p><b>K124.</b> Knowledge of various anesthetic agents (e.g., inhalation, injectable).</p> <p><b>K125.</b> Knowledge of various analgesic agents (e.g., intravenous, intramuscular).</p> <p><b>K126.</b> Knowledge of effects of patient positioning on efficacy of anesthesia.</p> <p><b>K127.</b> Knowledge of effects of patient positioning on patient vital signs.</p> <p><b>K128.</b> Knowledge of physiological effects of anesthesia on patient.</p> <p><b>K129.</b> Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).</p> <p><b>K130.</b> Knowledge of normal values obtained from anesthetic monitoring equipment.</p> <p><b>K131.</b> Knowledge of actions taken in response to anesthetic emergencies.</p> <p><b>K132.</b> Knowledge of anesthetic requirements for different species and breeds.</p> <p><b>K134.</b> Knowledge of pharmacological agents utilized for local analgesia (e.g., nerve blocks).</p>



**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T78</b> (cont'd). Monitor patient (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p>	<p><b>K135.</b> Knowledge of the procedures for operating and maintaining anesthetic equipment.</p> <p><b>K136.</b> Knowledge of the methods for preventing anesthetic complications to ensure patient safety.</p> <p><b>K137.</b> Knowledge of sedation protocols.</p> <p><b>K138.</b> Knowledge of protocol for the management of endotracheal tubes.</p> <p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p> <p><b>K154.</b> Knowledge of procedures to maintain aseptic surgical environment.</p> <p><b>K156.</b> Knowledge of the methods for post-surgical bandage application and care.</p> <p><b>K157.</b> Knowledge of procedures for operating and maintaining anesthesia collection systems (e.g., scavenging) to ensure health and safety of personnel.</p> <p><b>K158.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T79.</b> Administer local analgesia to manage pain.</p>	<p><b>K125.</b> Knowledge of various analgesic agents (e.g., intravenous, intramuscular).</p> <p><b>K134.</b> Knowledge of pharmacological agents utilized for local analgesia (e.g., nerve blocks).</p> <p><b>K139.</b> Knowledge of methods and procedures for performing local analgesia.</p> <p><b>K158.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<p><b>T80.</b> Administer pre-operative and post-operative analgesics to manage pain.</p>	<p><b>K125.</b> Knowledge of various analgesic agents (e.g., intravenous, intramuscular).</p> <p><b>K134.</b> Knowledge of pharmacological agents utilized for local analgesia (e.g., nerve blocks).</p> <p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p> <p><b>K158.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T81.</b> Perform endotracheal intubation on patient to establish airway for surgical procedures.</p>	<p><b>K120.</b> Knowledge of levels and planes of anesthesia.</p> <p><b>K121.</b> Knowledge of techniques for extubation and/or recovery of various species and breeds from anesthesia.</p> <p><b>K122.</b> Knowledge of the techniques for inducing anesthesia.</p> <p><b>K123.</b> Knowledge of the methods for intubating various species and breeds for anesthesia.</p> <p><b>K124.</b> Knowledge of various anesthetic agents (e.g., inhalation, injectable).</p> <p><b>K126.</b> Knowledge of effects of patient positioning on efficacy of anesthesia.</p> <p><b>K128.</b> Knowledge of physiological effects of anesthesia on patient.</p> <p><b>K129.</b> Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).</p> <p><b>K131.</b> Knowledge of actions taken in response to anesthetic emergencies.</p> <p><b>K132.</b> Knowledge of anesthetic requirements for different species and breeds.</p> <p><b>K136.</b> Knowledge of the methods for preventing anesthetic complications to ensure patient safety.</p> <p><b>K137.</b> Knowledge of sedation protocols.</p> <p><b>K138.</b> Knowledge of protocol for the management of endotracheal tubes.</p> <p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T81</b> (cont'd). Perform endotracheal intubation on patient to establish airway for surgical procedures.	<b>K157.</b> Knowledge of procedures for operating and maintaining anesthesia collection systems (e.g., scavenging) to ensure health and safety of personnel.
<b>T82.</b> Extubate patient following surgical procedure.	<p><b>K120.</b> Knowledge of levels and planes of anesthesia.</p> <p><b>K121.</b> Knowledge of techniques for extubation and/or recovery of various species and breeds from anesthesia.</p> <p><b>K124.</b> Knowledge of various anesthetic agents (e.g., inhalation, injectable).</p> <p><b>K127.</b> Knowledge of effects of patient positioning on patient vital signs.</p> <p><b>K128.</b> Knowledge of physiological effects of anesthesia on patient.</p> <p><b>K130.</b> Knowledge of normal values obtained from anesthetic monitoring equipment.</p> <p><b>K131.</b> Knowledge of actions taken in response to anesthetic emergencies.</p> <p><b>K138.</b> Knowledge of protocol for the management of endotracheal tubes.</p> <p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T84.</b> Prepare surgical instruments and materials for veterinary procedures in adherence with aseptic techniques.</p>	<p><b>K141.</b> Knowledge of methods to prepare surgical and instrument packs.</p> <p><b>K142.</b> Knowledge of procedures for storing sterile items.</p> <p><b>K143.</b> Knowledge of procedures for closed, open, or assisted gloving.</p> <p><b>K146.</b> Knowledge of instruments for different suture and staple materials.</p> <p><b>K151.</b> Knowledge of surgical instruments and materials.</p> <p><b>K152.</b> Knowledge of various surgical closure agents.</p> <p><b>K155.</b> Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.</p>
<p><b>T85.</b> Maintain aseptic environment in surgical suite.</p>	<p><b>K141.</b> Knowledge of methods to prepare surgical and instrument packs.</p> <p><b>K142.</b> Knowledge of procedures for storing sterile items.</p> <p><b>K143.</b> Knowledge of procedures for closed, open, or assisted gloving.</p> <p><b>K144.</b> Knowledge of techniques to prepare patient for sterile procedures.</p> <p><b>K154.</b> Knowledge of procedures to maintain aseptic surgical environment.</p> <p><b>K155.</b> Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T86.</b> Utilize aseptic techniques (e.g., scrubbing in, opening surgical packs) for surgical procedures.</p>	<p><b>K141.</b> Knowledge of methods to prepare surgical and instrument packs.</p> <p><b>K143.</b> Knowledge of procedures for closed, open, or assisted gloving.</p> <p><b>K144.</b> Knowledge of techniques to prepare patient for sterile procedures.</p> <p><b>K145.</b> Knowledge of techniques and procedures to suture/staple skin.</p> <p><b>K151.</b> Knowledge of surgical instruments and materials.</p> <p><b>K154.</b> Knowledge of procedures to maintain aseptic surgical environment.</p> <p><b>K155.</b> Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T87.</b> Close existing incisions (e.g., aural hematoma, lacerations, gingiva) on patient with sutures, staples, or tissue adhesives to control bleeding and prevent infection.</p>	<p><b>K143.</b> Knowledge of procedures for closed, open, or assisted gloving.</p> <p><b>K144.</b> Knowledge of techniques to prepare patient for sterile procedures.</p> <p><b>K145.</b> Knowledge of techniques and procedures to suture/staple skin.</p> <p><b>K146.</b> Knowledge of instruments for different suture and staple materials.</p> <p><b>K147.</b> Knowledge of the different types of drains.</p> <p><b>K149.</b> Knowledge of protocols and techniques to remove sutures and staples.</p> <p><b>K150.</b> Knowledge of the management and phases of wound healing.</p> <p><b>K151.</b> Knowledge of surgical instruments and materials.</p> <p><b>K152.</b> Knowledge of various surgical closure agents.</p> <p><b>K153.</b> Knowledge of different suture patterns.</p> <p><b>K155.</b> Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.</p> <p><b>K156.</b> Knowledge of the methods for post-surgical bandage application and care.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T88.</b> Remove sutures or staples from patient upon completion of healing cycle.</p>	<p><b>K145.</b> Knowledge of techniques and procedures to suture/staple skin.</p> <p><b>K146.</b> Knowledge of instruments for different suture and staple materials.</p> <p><b>K147.</b> Knowledge of the different types of drains.</p> <p><b>K149.</b> Knowledge of protocols and techniques to remove sutures and staples.</p> <p><b>K150.</b> Knowledge of the management and phases of wound healing.</p> <p><b>K152.</b> Knowledge of various surgical closure agents.</p> <p><b>K153.</b> Knowledge of different suture patterns.</p>
<p><b>T89.</b> Prepare and position patient (e.g., shave, scrub, express bladder) for veterinary surgical procedures.</p>	<p><b>K133.</b> Knowledge of anatomical sites for local anesthesia.</p> <p><b>K134.</b> Knowledge of pharmacological agents utilized for local analgesia (e.g., nerve blocks).</p> <p><b>K138.</b> Knowledge of protocol for the management of endotracheal tubes.</p> <p><b>K139.</b> Knowledge of methods and procedures for performing local analgesia.</p> <p><b>K144.</b> Knowledge of techniques to prepare patient for sterile procedures.</p> <p><b>K155.</b> Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.</p>



**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T90.</b> Provide post-surgical patient evaluation and care (e.g., radiographs, bandage maintenance) to optimize recovery.</p>	<p><b>K125.</b> Knowledge of various analgesic agents (e.g., intravenous, intramuscular).</p> <p><b>K127.</b> Knowledge of effects of patient positioning on patient vital signs.</p> <p><b>K150.</b> Knowledge of the management and phases of wound healing.</p> <p><b>K156.</b> Knowledge of the methods for post-surgical bandage application and care.</p>
<p><b>T91.</b> Utilize various methods to maintain patient body temperature before, during, and after surgical procedures.</p>	<p><b>K124.</b> Knowledge of various anesthetic agents (e.g., inhalation, injectable).</p> <p><b>K125.</b> Knowledge of various analgesic agents (e.g., intravenous, intramuscular).</p> <p><b>K129.</b> Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).</p> <p><b>K136.</b> Knowledge of the methods for preventing anesthetic complications to ensure patient safety.</p> <p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T92.</b> Obtain blood pressure to establish and/or maintain baseline for patient.</p>	<p><b>K124.</b> Knowledge of various anesthetic agents (e.g., inhalation, injectable).</p> <p><b>K125.</b> Knowledge of various analgesic agents (e.g., intravenous, intramuscular).</p> <p><b>K127.</b> Knowledge of effects of patient positioning on patient vital signs.</p> <p><b>K128.</b> Knowledge of physiological effects of anesthesia on patient.</p> <p><b>K129.</b> Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).</p> <p><b>K132.</b> Knowledge of anesthetic requirements for different species and breeds.</p> <p><b>K136.</b> Knowledge of the methods for preventing anesthetic complications to ensure patient safety.</p> <p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p>
<p><b>T93.</b> Provide surgical instruments to assist in the completion of surgical tasks.</p>	<p><b>K141.</b> Knowledge of methods to prepare surgical and instrument packs.</p> <p><b>K142.</b> Knowledge of procedures for storing sterile items.</p> <p><b>K146.</b> Knowledge of instruments for different suture and staple materials.</p> <p><b>K151.</b> Knowledge of surgical instruments and materials.</p> <p><b>K152.</b> Knowledge of various surgical closure agents.</p> <p><b>K155.</b> Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T94.</b> Calculate dosages, dilutions, constant rate infusions, and conversions of medications.</p>	<p><b>K124.</b> Knowledge of various anesthetic agents (e.g., inhalation, injectable).</p> <p><b>K125.</b> Knowledge of various analgesic agents (e.g., intravenous, intramuscular).</p> <p><b>K129.</b> Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).</p> <p><b>K137.</b> Knowledge of sedation protocols.</p> <p><b>K158.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<p><b>T96.</b> Maintain anesthetic equipment to ensure safety of patients and veterinary staff.</p>	<p><b>K135.</b> Knowledge of the procedures for operating and maintaining anesthetic equipment.</p> <p><b>K138.</b> Knowledge of protocol for the management of endotracheal tubes.</p> <p><b>K157.</b> Knowledge of procedures for operating and maintaining anesthesia collection systems (e.g., scavenging) to ensure health and safety of personnel.</p>

**V. Anesthesia and Surgical Assistance (19%) continued** – This content area addresses the candidate's ability to prepare patient (e.g., position, shave, scrub) and surgical area(s) for anesthetic procedures (e.g., dosage calculation, surgical equipment, aseptic environment, emergency supplies); administer and induce anesthetics/sedation/medication; monitor patient through all phases of anesthesia; maintain surgical suite and equipment. This section also addresses the candidate's ability to assist with surgical procedures (e.g., scrub-in, suture) in adherence with sterility protocol; provide post-operative care (e.g., bandage, extubate) to optimize recovery.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T97.</b> Assemble supplies to utilize in the event of an anesthetic emergency.</p>	<p><b>K123.</b> Knowledge of the methods for intubating various species and breeds for anesthesia.</p> <p><b>K128.</b> Knowledge of physiological effects of anesthesia on patient.</p> <p><b>K131.</b> Knowledge of actions taken in response to anesthetic emergencies.</p> <p><b>K136.</b> Knowledge of the methods for preventing anesthetic complications to ensure patient safety.</p> <p><b>K138.</b> Knowledge of protocol for the management of endotracheal tubes.</p> <p><b>K140.</b> Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.</p> <p><b>K158.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<p><b>T98.</b> Maintain surgical instrument sterilization and storage protocol in accordance with laws and regulations.</p>	<p><b>K141.</b> Knowledge of methods to prepare surgical and instrument packs.</p> <p><b>K142.</b> Knowledge of procedures for storing sterile items.</p> <p><b>K151.</b> Knowledge of surgical instruments and materials.</p>

**VI. Animal Dentistry (6%)** – This content area addresses the candidate’s ability to perform dental care (e.g., charting, radiography, prophylaxis, extractions, dosage calculations/administration); maintain dental instruments and equipment.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T99.</b> Perform diagnostic dental radiographs.</p>	<p><b>K160.</b> Knowledge of methods, procedures, and equipment for dental radiology.</p> <p><b>K165.</b> Knowledge of normal and abnormal oral anatomy.</p> <p><b>K172.</b> Knowledge of procedures to maintain dental instruments and equipment.</p> <p><b>K178.</b> Knowledge of the tooth anatomy of various species and breeds.</p> <p><b>K179.</b> Knowledge of oral and facial anatomy of different species and breeds.</p> <p><b>K182.</b> Knowledge of proper patient positioning techniques for dental procedures.</p> <p><b>K183.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications for dental procedures.</p>
<p><b>T100.</b> Prepare instruments for dental procedures.</p>	<p><b>K161.</b> Knowledge of purposes of common dental instruments.</p> <p><b>K172.</b> Knowledge of procedures to maintain dental instruments and equipment.</p>
<p><b>T101.</b> Perform oral examination on patient to identify areas that require further veterinary evaluation.</p>	<p><b>K161.</b> Knowledge of purposes of common dental instruments.</p> <p><b>K162.</b> Knowledge of indications for tooth extraction.</p> <p><b>K165.</b> Knowledge of normal and abnormal oral anatomy.</p> <p><b>K166.</b> Knowledge of signs of oral pathologies.</p> <p><b>K170.</b> Knowledge of dental charting techniques.</p> <p><b>K171.</b> Knowledge of common dental terminology.</p> <p><b>K178.</b> Knowledge of the tooth anatomy of various species and breeds.</p> <p><b>K179.</b> Knowledge of oral and facial anatomy of different species and breeds.</p>

**VI. Animal Dentistry (6%) continued** – This content area addresses the candidate's ability to perform dental care (e.g., charting, radiography, prophylaxis, extractions, dosage calculations/administration); maintain dental instruments and equipment.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T102.</b> Extract teeth from patient to maintain oral health.</p>	<p><b>K161.</b> Knowledge of purposes of common dental instruments.</p> <p><b>K162.</b> Knowledge of indications for tooth extraction.</p> <p><b>K165.</b> Knowledge of normal and abnormal oral anatomy.</p> <p><b>K166.</b> Knowledge of signs of oral pathologies.</p> <p><b>K170.</b> Knowledge of dental charting techniques.</p> <p><b>K171.</b> Knowledge of common dental terminology.</p> <p><b>K178.</b> Knowledge of the tooth anatomy of various species and breeds.</p> <p><b>K179.</b> Knowledge of oral and facial anatomy of different species and breeds.</p>

**VI. Animal Dentistry (6%) continued** – This content area addresses the candidate's ability to perform dental care (e.g., charting, radiography, prophylaxis, extractions, dosage calculations/administration); maintain dental instruments and equipment.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T103.</b> Perform dental prophylaxis on patient to maintain oral health.</p>	<p><b>K160.</b> Knowledge of methods, procedures, and equipment for dental radiology.</p> <p><b>K161.</b> Knowledge of purposes of common dental instruments.</p> <p><b>K162.</b> Knowledge of indications for tooth extraction.</p> <p><b>K163.</b> Knowledge of procedures for dental prophylaxis and polishing.</p> <p><b>K165.</b> Knowledge of normal and abnormal oral anatomy.</p> <p><b>K166.</b> Knowledge of signs of oral pathologies.</p> <p><b>K170.</b> Knowledge of dental charting techniques.</p> <p><b>K171.</b> Knowledge of common dental terminology.</p> <p><b>K172.</b> Knowledge of procedures to maintain dental instruments and equipment.</p> <p><b>K173.</b> Knowledge of techniques to avoid operator exposure to infectious agents during dental prophylaxis.</p> <p><b>K174.</b> Knowledge of techniques to avoid patient cross-contamination from dental procedures.</p> <p><b>K175.</b> Knowledge of pain control methods (e.g., nerve blocks) for dental procedures.</p> <p><b>K178.</b> Knowledge of the tooth anatomy of various species and breeds.</p> <p><b>K179.</b> Knowledge of oral and facial anatomy of different species and breeds.</p> <p><b>K180.</b> Knowledge of the interactive effects of dental health and overall health.</p> <p><b>K182.</b> Knowledge of proper patient positioning techniques for dental procedures.</p>

**VI. Animal Dentistry (6%) continued** – This content area addresses the candidate's ability to perform dental care (e.g., charting, radiography, prophylaxis, extractions, dosage calculations/administration); maintain dental instruments and equipment.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T104.</b> Perform dental charting on patient for further diagnostic purposes and/or to monitor disease progression.</p>	<p><b>K161.</b> Knowledge of purposes of common dental instruments.</p> <p><b>K165.</b> Knowledge of normal and abnormal oral anatomy.</p> <p><b>K166.</b> Knowledge of signs of oral pathologies.</p> <p><b>K170.</b> Knowledge of dental charting techniques.</p> <p><b>K171.</b> Knowledge of common dental terminology.</p> <p><b>K178.</b> Knowledge of the tooth anatomy of various species and breeds.</p> <p><b>K179.</b> Knowledge of oral and facial anatomy of different species and breeds.</p>
<p><b>T107.</b> Maintain dental instruments and equipment in accordance with the standards for a clinical environment.</p>	<p><b>K161.</b> Knowledge of purposes of common dental instruments.</p> <p><b>K172.</b> Knowledge of procedures to maintain dental instruments and equipment.</p> <p><b>K174.</b> Knowledge of techniques to avoid patient cross-contamination from dental procedures.</p>
<p><b>T108.</b> Perform local anesthetic blocks on patient to control pain during procedures.</p>	<p><b>K165.</b> Knowledge of normal and abnormal oral anatomy.</p> <p><b>K175.</b> Knowledge of pain control methods (e.g., nerve blocks) for dental procedures.</p> <p><b>K179.</b> Knowledge of oral and facial anatomy of different species and breeds.</p> <p><b>K183.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications for dental procedures.</p>
<p><b>T109.</b> Suture patient gingival tissue to facilitate wound healing.</p>	<p><b>K164.</b> Knowledge of techniques for tooth extraction.</p> <p><b>K181.</b> Knowledge of suturing techniques for dental procedures.</p>



**VI. Animal Dentistry (6%) continued** – This content area addresses the candidate's ability to perform dental care (e.g., charting, radiography, prophylaxis, extractions, dosage calculations/administration); maintain dental instruments and equipment.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T110.</b> Administer hemostatic agents (e.g., collagen, epinephrine, gel foam) to control bleeding.	<p><b>K176.</b> Knowledge of hemostatic agents for the control of bleeding.</p> <p><b>K183.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications for dental procedures.</p>
<b>T111.</b> Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	<b>K183.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications for dental procedures.
<b>T112.</b> Position patient to optimize dental cleaning procedures and maintain safety.	<b>K182.</b> Knowledge of proper patient positioning techniques for dental procedures.

**VII. Animal Nursing (22%)** – This content area addresses the candidate's ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T113.</b> Perform ocular diagnostics to determine possible injuries and abnormalities.	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K210.</b> Knowledge of various types of ocular diagnostics.</p>
<b>T115.</b> Provide protective restraint of patient to ensure staff and patient safety.	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K217.</b> Knowledge of techniques to prepare and position patient for diagnostic procedures.</p>
<b>T116.</b> Express and treat anal sacs (e.g., medicating, flushing) to relieve patient discomfort.	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K204.</b> Knowledge of normal anatomy of various species and breeds.</p> <p><b>K212.</b> Knowledge of location and appearance of normal and abnormal anal sacs.</p> <p><b>K213.</b> Knowledge of methods to express and infuse anal sacs.</p> <p><b>K231.</b> Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.</p>
<b>T117.</b> Administer enemas to stimulate bowel movement and relieve patient discomfort.	<p><b>K184.</b> Knowledge of different types and applications of enemas.</p> <p><b>K185.</b> Knowledge of procedures to administer enemas.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T118.</b> Administer fluid therapy to manage patient condition.</p>	<p><b>K186.</b> Knowledge of fluid therapy protocols.</p> <p><b>K187.</b> Knowledge of operation and maintenance of fluid administration pumps.</p> <p><b>K188.</b> Knowledge of different types of intravenous drip sets.</p> <p><b>K189.</b> Knowledge of administration rates for fluid therapy.</p> <p><b>K190.</b> Knowledge of possible adverse reactions to incorrect fluid administration.</p> <p><b>K201.</b> Knowledge of types, placement, and techniques for care of intravenous catheters.</p>
<p><b>T119.</b> Administer liquid nutrition utilizing gastric tube to manage patient condition.</p>	<p><b>K191.</b> Knowledge of protocol regarding the placement, use, and maintenance of tubes (e.g., nasogastric, gastrointestinal).</p> <p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p>
<p><b>T120.</b> Administer medications (e.g., orally, intramuscularly, intravenously) to treat patient condition in adherence with veterinarian instruction.</p>	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K213.</b> Knowledge of methods to express and infuse anal sacs.</p> <p><b>K226.</b> Knowledge of common sites and techniques for applying topical medications.</p> <p><b>K227.</b> Knowledge of common sites and handling techniques for transdermal medications.</p> <p><b>K228.</b> Knowledge of methods to calculate dosages, dilutions, and conversions of medications.</p> <p><b>K231.</b> Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T121.</b> Assemble nebulizer and administer treatment to improve patient condition.	<b>K231.</b> Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.
<b>T122.</b> Apply casts and splints to stabilize patient injury.	<p><b>K192.</b> Knowledge of the application and problems associated with bandages, casts, and splints.</p> <p><b>K193.</b> Knowledge of different types of bandages, casts, and splints and their application.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p>
<b>T123.</b> Apply bandages to stabilize patient injury.	<p><b>K192.</b> Knowledge of the application and problems associated with bandages, casts, and splints.</p> <p><b>K193.</b> Knowledge of different types of bandages, casts, and splints and their application.</p> <p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K220.</b> Knowledge of techniques, materials, and equipment for administration of blood products.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T124.</b> Provide care for abscesses or wounds on patient to facilitate healing.</p>	<p><b>K192.</b> Knowledge of the application and problems associated with bandages, casts, and splints.</p> <p><b>K193.</b> Knowledge of different types of bandages, casts, and splints and their application.</p> <p><b>K194.</b> Knowledge of the protocol for applying topical insecticidal solutions.</p> <p><b>K195.</b> Knowledge of techniques and protocols for nonsurgical debridement and cleaning of wounds.</p> <p><b>K196.</b> Knowledge of techniques and protocols for cleaning and flushing of abscesses.</p> <p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K209.</b> Knowledge of treatments for common skin problems.</p> <p><b>K213.</b> Knowledge of methods to express and infuse anal sacs.</p> <p><b>K226.</b> Knowledge of common sites and techniques for applying topical medications.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K231.</b> Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T125.</b> Perform ear cleaning and flushing to manage patient condition.</p>	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K215.</b> Knowledge of normal and abnormal ear anatomy.</p> <p><b>K216.</b> Knowledge of techniques for cleaning and flushing ears.</p> <p><b>K226.</b> Knowledge of common sites and techniques for applying topical medications.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K231.</b> Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.</p>
<p><b>T126.</b> Place intravenous catheter utilizing aseptic technique to manage patient condition.</p>	<p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K201.</b> Knowledge of types, placement, and techniques for care of intravenous catheters.</p> <p><b>K204.</b> Knowledge of normal anatomy of various species and breeds.</p>
<p><b>T127.</b> Monitor intravenous catheter site to maintain patency and prevent infection.</p>	<p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K201.</b> Knowledge of types, placement, and techniques for care of intravenous catheters.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T128.</b> Place and maintain indwelling urinary catheter and collection systems to ensure optimum function, comfort, and treatment of patient condition.</p>	<p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K202.</b> Knowledge of types, placement, and care of urinary catheters.</p> <p><b>K203.</b> Knowledge of the methods used to manage urinary collection systems and calculate urine output.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K233.</b> Knowledge of the methods for collecting urine samples.</p>
<p><b>T129.</b> Maintain urine collection systems to calculate output and determine hydration level or kidney function.</p>	<p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K202.</b> Knowledge of types, placement, and care of urinary catheters.</p> <p><b>K203.</b> Knowledge of the methods used to manage urinary collection systems and calculate urine output.</p> <p><b>K233.</b> Knowledge of the methods for collecting urine samples.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T131.</b> Prepare and position patient for diagnostic procedures.</p>	<p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K217.</b> Knowledge of techniques to prepare and position patient for diagnostic procedures.</p> <p><b>K219.</b> Knowledge of techniques, materials, and equipment for collection and handling of blood products.</p> <p><b>K232.</b> Knowledge of the methods for collecting blood.</p> <p><b>K233.</b> Knowledge of the methods for collecting urine samples.</p>
<p><b>T132.</b> Provide physical therapy in accordance with medical orders from the veterinarian.</p>	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K204.</b> Knowledge of normal anatomy of various species and breeds.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p>
<p><b>T133.</b> Observe and evaluate patient for abnormalities in health.</p>	<p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K230.</b> Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.</p>
<p><b>T134.</b> Place patient identification products (e.g., microchips, bands).</p>	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K218.</b> Knowledge of procedures to implant microchips.</p>



**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T135.</b> Administer blood products (e.g., plasma, transfusions) in accordance with medical orders from the veterinarian.</p>	<p><b>K187.</b> Knowledge of operation and maintenance of fluid administration pumps.</p> <p><b>K188.</b> Knowledge of different types of intravenous drip sets.</p> <p><b>K189.</b> Knowledge of administration rates for fluid therapy.</p> <p><b>K190.</b> Knowledge of possible adverse reactions to incorrect fluid administration.</p> <p><b>K219.</b> Knowledge of techniques, materials, and equipment for collection and handling of blood products.</p> <p><b>K220.</b> Knowledge of techniques, materials, and equipment for administration of blood products.</p> <p><b>K221.</b> Knowledge of adverse reactions and contraindications for transfusion of blood products.</p>
<p><b>T137.</b> Collect urine samples for various diagnostics.</p>	<p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K203.</b> Knowledge of the methods used to manage urinary collection systems and calculate urine output.</p> <p><b>K204.</b> Knowledge of normal anatomy of various species and breeds.</p> <p><b>K217.</b> Knowledge of techniques to prepare and position patient for diagnostic procedures.</p> <p><b>K233.</b> Knowledge of the methods for collecting urine samples.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T138.</b> Euthanize animals utilizing humane methodology in accordance with State regulations.</p>	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K201.</b> Knowledge of types, placement, and techniques for care of intravenous catheters.</p> <p><b>K206.</b> Knowledge of procedures and acceptable methods for euthanasia of various species and breeds.</p> <p><b>K211.</b> Knowledge of federal and state regulations regarding handling, storage, and disposal of biohazardous waste.</p> <p><b>K228.</b> Knowledge of methods to calculate dosages, dilutions, and conversions of medications.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p>
<p><b>T139.</b> Express patient urinary bladder to relieve discomfort and prevent infection.</p>	<p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K204.</b> Knowledge of normal anatomy of various species and breeds.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K230.</b> Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.</p>
<p><b>T140.</b> Observe patient gait (e.g., limp, discomfort, nervousness, pain) to determine behavioral or physical conditions.</p>	<p><b>K204.</b> Knowledge of normal anatomy of various species and breeds.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K230.</b> Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T141.</b> Observe patient behavior to determine need for further diagnostics.</p>	<p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K230.</b> Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.</p>
<p><b>T142.</b> Collect blood for diagnostics.</p>	<p><b>K199.</b> Knowledge of aseptic technique for medical procedures.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K211.</b> Knowledge of federal and state regulations regarding handling, storage, and disposal of biohazardous waste.</p> <p><b>K217.</b> Knowledge of techniques to prepare and position patient for diagnostic procedures.</p> <p><b>K219.</b> Knowledge of techniques, materials, and equipment for collection and handling of blood products.</p> <p><b>K232.</b> Knowledge of the methods for collecting blood.</p>
<p><b>T143.</b> Dispose of biohazard material in accordance with State and local laws.</p>	<p><b>K207.</b> Knowledge of techniques to manage contagious diseases.</p> <p><b>K211.</b> Knowledge of federal and state regulations regarding handling, storage, and disposal of biohazardous waste.</p> <p><b>K219.</b> Knowledge of techniques, materials, and equipment for collection and handling of blood products.</p>
<p><b>T144.</b> Maintain surgical and diagnostic equipment in accordance with the standards for a clinical environment.</p>	<p><b>K219.</b> Knowledge of techniques, materials, and equipment for collection and handling of blood products.</p> <p><b>K220.</b> Knowledge of techniques, materials, and equipment for administration of blood products.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T145.</b> Provide medical grooming services (e.g., bathing, trimming, dipping, clipping) for a variety of breeds and species to maintain hygiene standards.</p>	<p><b>K194.</b> Knowledge of the protocol for applying topical insecticidal solutions.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K207.</b> Knowledge of techniques to manage contagious diseases.</p> <p><b>K208.</b> Knowledge of treatments for common endoparasites and ectoparasites.</p> <p><b>K209.</b> Knowledge of treatments for common skin problems.</p> <p><b>K212.</b> Knowledge of location and appearance of normal and abnormal anal sacs.</p> <p><b>K213.</b> Knowledge of methods to express and infuse anal sacs.</p> <p><b>K215.</b> Knowledge of normal and abnormal ear anatomy.</p> <p><b>K216.</b> Knowledge of techniques for cleaning and flushing ears.</p> <p><b>K222.</b> Knowledge of techniques and equipment to trim nails of different species.</p>
<p><b>T146.</b> Perform infection and pathogen control in accordance with State and federal law regarding an aseptic clinical environment.</p>	<p><b>K207.</b> Knowledge of techniques to manage contagious diseases.</p> <p><b>K211.</b> Knowledge of federal and state regulations regarding handling, storage, and disposal of biohazardous waste.</p> <p><b>K219.</b> Knowledge of techniques, materials, and equipment for collection and handling of blood products.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T147.</b> Monitor hospitalized patient to maintain stability and/or determine need for adjustments to treatment and husbandry.</p>	<p><b>K186.</b> Knowledge of fluid therapy protocols.</p> <p><b>K187.</b> Knowledge of operation and maintenance of fluid administration pumps.</p> <p><b>K188.</b> Knowledge of different types of intravenous drip sets.</p> <p><b>K189.</b> Knowledge of administration rates for fluid therapy.</p> <p><b>K190.</b> Knowledge of possible adverse reactions to incorrect fluid administration.</p> <p><b>K191.</b> Knowledge of protocol regarding the placement, use, and maintenance of tubes (e.g., nasogastric, gastrointestinal).</p> <p><b>K192.</b> Knowledge of the application and problems associated with bandages, casts, and splints.</p> <p><b>K201.</b> Knowledge of types, placement, and techniques for care of intravenous catheters.</p> <p><b>K202.</b> Knowledge of types, placement, and care of urinary catheters.</p> <p><b>K203.</b> Knowledge of the methods used to manage urinary collection systems and calculate urine output.</p> <p><b>K221.</b> Knowledge of adverse reactions and contraindications for transfusion of blood products.</p> <p><b>K228.</b> Knowledge of methods to calculate dosages, dilutions, and conversions of medications.</p> <p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K231.</b> Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.</p>

**VII. Animal Nursing (22%) continued** – This content area addresses the candidate’s ability to restrain and prepare patient for diagnostics (e.g., ocular, orthopedic, blood pressure) and therapeutic procedures (e.g., fluid and blood products, bandages, medication, medical grooming); observe patient behavior and/or recognize physical abnormalities; administer euthanasia, dispose of biohazardous and infectious materials in adherence with State, local, and federal regulations; place permanent identification products.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T148.</b> Obtain blood pressure to establish baseline for patient.	<b>K217.</b> Knowledge of techniques to prepare and position patient for diagnostic procedures.
<b>T149.</b> Provide nutritional support (e.g., tube feeding) for hospitalized and/or incapacitated patients to boost/optimize treatment outcome.	<p><b>K191.</b> Knowledge of protocol regarding the placement, use, and maintenance of tubes (e.g., nasogastric, gastrointestinal).</p> <p><b>K197.</b> Knowledge of prescription and nonprescription diets.</p> <p><b>K198.</b> Knowledge of commonly used methods for obtaining body weights.</p> <p><b>K200.</b> Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.</p> <p><b>K204.</b> Knowledge of normal anatomy of various species and breeds.</p>
<b>T150.</b> Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	<p><b>K186.</b> Knowledge of fluid therapy protocols.</p> <p><b>K187.</b> Knowledge of operation and maintenance of fluid administration pumps.</p> <p><b>K188.</b> Knowledge of different types of intravenous drip sets.</p> <p><b>K189.</b> Knowledge of administration rates for fluid therapy.</p> <p><b>K190.</b> Knowledge of possible adverse reactions to incorrect fluid administration.</p> <p><b>K228.</b> Knowledge of methods to calculate dosages, dilutions, and conversions of medications.</p>
<b>T151.</b> Interpret patient behavior of various breeds and species to determine interactive effects with condition.	<p><b>K229.</b> Knowledge of assessing pain and pain management protocols.</p> <p><b>K230.</b> Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.</p>

**VIII. Pharmacology (8%)** – This content area addresses the candidate’s ability to calculate dosages; administer medications, fluids, and vaccines by various routes; store and maintain medication and controlled substances; prepare medication for dispensing; assess patient for adverse reaction to medication.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T152.</b> Maintain controlled substances logs in accordance with State and federal requirements.</p>	<p><b>K249.</b> Knowledge of federal and state regulations (e.g., drug schedule) regarding ordering, handling, and storage of controlled substances.</p> <p><b>K250.</b> Knowledge of storage requirements of pharmacological agents.</p> <p><b>K251.</b> Knowledge of methods for maintaining controlled substances records and logs.</p>
<p><b>T153.</b> Store and maintain controlled substances in accordance with State and federal requirements.</p>	<p><b>K247.</b> Knowledge of requirements for prescription labels.</p> <p><b>K249.</b> Knowledge of federal and state regulations (e.g., drug schedule) regarding ordering, handling, and storage of controlled substances.</p> <p><b>K250.</b> Knowledge of storage requirements of pharmacological agents.</p> <p><b>K251.</b> Knowledge of methods for maintaining controlled substances records and logs.</p>
<p><b>T154.</b> Administer medications utilizing various routes (e.g., injectable, oral, topical) to stabilize/treat patient condition.</p>	<p><b>K234.</b> Knowledge of pharmacological agents to treat shock.</p> <p><b>K237.</b> Knowledge of pharmacological agents used for treatment of various bodily systems (e.g., gastrointestinal, respiratory, urinary) disorders.</p> <p><b>K238.</b> Knowledge of pharmacological agents for various conditions (e.g., bacterial, viral, endocrinal, immunological).</p> <p><b>K242.</b> Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.</p> <p><b>K243.</b> Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics).</p> <p><b>K244.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p> <p><b>K252.</b> Knowledge of common vaccination protocols.</p>

**VIII. Pharmacology (8%) continued** – This content area addresses the candidate's ability to calculate dosages; administer medications, fluids, and vaccines by various routes; store and maintain medication and controlled substances; prepare medication for dispensing; assess patient for adverse reaction to medication.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T155.</b> Administer medications by non-routine routes (e.g., intranasal, sublingual, rectal, transtracheal, transdermal) to treat patient condition.</p>	<p><b>K237.</b> Knowledge of pharmacological agents used for treatment of various bodily systems (e.g., gastrointestinal, respiratory, urinary) disorders.</p> <p><b>K238.</b> Knowledge of pharmacological agents for various conditions (e.g., bacterial, viral, endocrinal, immunological).</p> <p><b>K242.</b> Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.</p> <p><b>K244.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p>
<p><b>T157.</b> Administer vaccinations in accordance with State regulations.</p>	<p><b>K252.</b> Knowledge of common vaccination protocols.</p>
<p><b>T158.</b> Calculate dosages, dilutions, constant rate infusions, and volumes of prescribed patient medications.</p>	<p><b>K240.</b> Knowledge of methods to obtain different dosages of medications.</p> <p><b>K241.</b> Knowledge of potential adverse drug reactions of medications.</p> <p><b>K242.</b> Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.</p> <p><b>K243.</b> Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics).</p> <p><b>K244.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p> <p><b>K245.</b> Knowledge of conversion factors for calculating weights and measures.</p> <p><b>K246.</b> Knowledge of additives and calculations used in fluid therapy.</p>



**VIII. Pharmacology (8%) continued** – This content area addresses the candidate's ability to calculate dosages; administer medications, fluids, and vaccines by various routes; store and maintain medication and controlled substances; prepare medication for dispensing; assess patient for adverse reaction to medication.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T159.</b> Prepare additives for fluid therapy.</p>	<p><b>K240.</b> Knowledge of methods to obtain different dosages of medications.</p> <p><b>K242.</b> Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.</p> <p><b>K244.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p> <p><b>K245.</b> Knowledge of conversion factors for calculating weights and measures.</p> <p><b>K246.</b> Knowledge of additives and calculations used in fluid therapy.</p> <p><b>K250.</b> Knowledge of storage requirements of pharmacological agents.</p>
<p><b>T160.</b> Calculate flow rates and volumes for fluid therapy.</p>	<p><b>K240.</b> Knowledge of methods to obtain different dosages of medications.</p> <p><b>K244.</b> Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.</p> <p><b>K245.</b> Knowledge of conversion factors for calculating weights and measures.</p> <p><b>K246.</b> Knowledge of additives and calculations used in fluid therapy.</p>

**VIII. Pharmacology (8%) continued** – This content area addresses the candidate's ability to calculate dosages; administer medications, fluids, and vaccines by various routes; store and maintain medication and controlled substances; prepare medication for dispensing; assess patient for adverse reaction to medication.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T161.</b> Fill prescription for patient under direction of veterinarian.</p>	<p><b>K240.</b> Knowledge of methods to obtain different dosages of medications.</p> <p><b>K241.</b> Knowledge of potential adverse drug reactions of medications.</p> <p><b>K243.</b> Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics).</p> <p><b>K247.</b> Knowledge of requirements for prescription labels.</p> <p><b>K248.</b> Knowledge of abbreviations in prescriptions.</p> <p><b>K249.</b> Knowledge of federal and state regulations (e.g., drug schedule) regarding ordering, handling, and storage of controlled substances.</p> <p><b>K250.</b> Knowledge of storage requirements of pharmacological agents.</p> <p><b>K251.</b> Knowledge of methods for maintaining controlled substances records and logs.</p>
<p><b>T162.</b> Administer topical medications to treat patient condition.</p>	<p><b>K242.</b> Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.</p> <p><b>K243.</b> Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics).</p>
<p><b>T163.</b> Assess patient for adverse reactions to medications.</p>	<p><b>K241.</b> Knowledge of potential adverse drug reactions of medications.</p> <p><b>K243.</b> Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics).</p>
<p><b>T164.</b> Store pharmacological agents in accordance with manufacturer's recommendations and State and federal requirements.</p>	<p><b>K249.</b> Knowledge of federal and state regulations (e.g., drug schedule) regarding ordering, handling, and storage of controlled substances.</p> <p><b>K250.</b> Knowledge of storage requirements of pharmacological agents.</p> <p><b>K251.</b> Knowledge of methods for maintaining controlled substances records and logs.</p>

**IX. Owner/Agent Communication (7%)** – This content area addresses the candidate’s ability to educate owner/agents regarding patient care (e.g., dental, grooming, vaccines, preventive care, medications) and husbandry (e.g., nutrition, reproduction, environmental condition, behavior and training) for various species and breeds; conditions and abnormalities that require management or urgent care; common contagious and zoonotic diseases.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T165.</b> Educate owner/agent on the identification of conditions that require urgent care for various species and breeds.</p>	<p><b>K261.</b> Knowledge of conditions that require urgent care.  <b>K262.</b> Knowledge of first aid techniques to be implemented by owner/agent.  <b>K263.</b> Knowledge of reproductive cycles and complications of various species and breeds.  <b>K268.</b> Knowledge of normal and abnormal animal behaviors for owner/agent education.  <b>K273.</b> Knowledge of breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.</p>
<p><b>T166.</b> Educate owner/agent regarding reproduction cycles for various species and breeds.</p>	<p><b>K263.</b> Knowledge of reproductive cycles and complications of various species and breeds.  <b>K268.</b> Knowledge of normal and abnormal animal behaviors for owner/agent education.  <b>K269.</b> Knowledge of reasons and techniques for sterilization and neutering.  <b>K272.</b> Knowledge of the environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.</p>
<p><b>T167.</b> Educate owner/agent regarding dental care for various species and breeds.</p>	<p><b>K253.</b> Knowledge of oral hygiene for various species and breeds.</p>
<p><b>T168.</b> Educate owner/agent regarding ectoparasite and endoparasite control for patient.</p>	<p><b>K255.</b> Knowledge of procedures for parasite prevention and techniques used for various species and breeds.  <b>K265.</b> Knowledge of zoonotic diseases.  <b>K266.</b> Knowledge of administration and storage techniques for dispensed medications.  <b>K270.</b> Knowledge of the signs of contagious animal diseases.  <b>K271.</b> Knowledge of the various types of husbandry for various species and breeds.</p>

**IX. Owner/Agent Communication (7%) continued** – This content area addresses the candidate's ability to educate owner/agents regarding patient care (e.g., dental, grooming, vaccines, preventive care, medications) and husbandry (e.g., nutrition, reproduction, environmental condition, behavior and training) for various species and breeds; conditions and abnormalities that require management or urgent care; common contagious and zoonotic diseases.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T169.</b> Educate owner/agent regarding patient diet, nutrition, and exercise.</p>	<p><b>K257.</b> Knowledge of nutritional and exercise requirements for patient health.</p> <p><b>K258.</b> Knowledge of therapeutic diets for disease management.</p> <p><b>K259.</b> Knowledge of nutritional requirements and regimens for postsurgical patients.</p> <p><b>K271.</b> Knowledge of the various types of husbandry for various species and breeds.</p>
<p><b>T170.</b> Educate owner/agent regarding pre-surgical and post-surgical care (e.g., bandage, infection) for patient.</p>	<p><b>K257.</b> Knowledge of nutritional and exercise requirements for patient health.</p> <p><b>K259.</b> Knowledge of nutritional requirements and regimens for postsurgical patients.</p> <p><b>K260.</b> Knowledge of pain management protocols.</p> <p><b>K261.</b> Knowledge of conditions that require urgent care.</p> <p><b>K262.</b> Knowledge of first aid techniques to be implemented by owner/agent.</p> <p><b>K264.</b> Knowledge of pre-surgical and post-surgical home care protocols.</p> <p><b>K266.</b> Knowledge of administration and storage techniques for dispensed medications.</p> <p><b>K268.</b> Knowledge of normal and abnormal animal behaviors for owner/agent education.</p>

**IX. Owner/Agent Communication (7%) continued** – This content area addresses the candidate's ability to educate owner/agents regarding patient care (e.g., dental, grooming, vaccines, preventive care, medications) and husbandry (e.g., nutrition, reproduction, environmental condition, behavior and training) for various species and breeds; conditions and abnormalities that require management or urgent care; common contagious and zoonotic diseases.

<b>Job Task</b>	<b>Associated Knowledge</b>
<p><b>T171.</b> Educate owner/agent regarding prevention and/or recognition of the signs of contagious animal diseases.</p>	<p><b>K255.</b> Knowledge of procedures for parasite prevention and techniques used for various species and breeds.</p> <p><b>K256.</b> Knowledge of importance of immunology and vaccine mechanisms.</p> <p><b>K265.</b> Knowledge of zoonotic diseases.</p> <p><b>K267.</b> Knowledge of recommended vaccine protocols for owner/agent education.</p> <p><b>K270.</b> Knowledge of the signs of contagious animal diseases.</p> <p><b>K271.</b> Knowledge of the various types of husbandry for various species and breeds.</p>
<p><b>T172.</b> Educate owner/agent regarding prevention and/or recognition of the signs of zoonotic diseases in patient.</p>	<p><b>K255.</b> Knowledge of procedures for parasite prevention and techniques used for various species and breeds.</p> <p><b>K256.</b> Knowledge of importance of immunology and vaccine mechanisms.</p> <p><b>K265.</b> Knowledge of zoonotic diseases.</p> <p><b>K267.</b> Knowledge of recommended vaccine protocols for owner/agent education.</p> <p><b>K270.</b> Knowledge of the signs of contagious animal diseases.</p> <p><b>K271.</b> Knowledge of the various types of husbandry for various species and breeds.</p>
<p><b>T173.</b> Educate owner/agent regarding how to administer and store medications for patient.</p>	<p><b>K266.</b> Knowledge of administration and storage techniques for dispensed medications.</p>
<p><b>T174.</b> Educate owner/agent regarding recommended vaccination schedules for patient.</p>	<p><b>K256.</b> Knowledge of importance of immunology and vaccine mechanisms.</p> <p><b>K267.</b> Knowledge of recommended vaccine protocols for owner/agent education.</p>

**IX. Owner/Agent Communication (7%) continued** – This content area addresses the candidate's ability to educate owner/agents regarding patient care (e.g., dental, grooming, vaccines, preventive care, medications) and husbandry (e.g., nutrition, reproduction, environmental condition, behavior and training) for various species and breeds; conditions and abnormalities that require management or urgent care; common contagious and zoonotic diseases.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T1175.</b> Educate owner/agent regarding animal behavior and training.	<p><b>K268.</b> Knowledge of normal and abnormal animal behaviors for owner/agent education.</p> <p><b>K272.</b> Knowledge of the environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.</p>
<b>T1176.</b> Educate owner/agent regarding spay and neuter procedures for various species and breeds.	<p><b>K261.</b> Knowledge of conditions that require urgent care.</p> <p><b>K263.</b> Knowledge of reproductive cycles and complications of various species and breeds.</p> <p><b>K269.</b> Knowledge of reasons and techniques for sterilization and neutering.</p>
<b>T1177.</b> Educate owner/agent regarding patient anal sacs.	<p><b>K254.</b> Knowledge of anal sac expression techniques.</p> <p><b>K261.</b> Knowledge of conditions that require urgent care.</p> <p><b>K268.</b> Knowledge of normal and abnormal animal behaviors for owner/agent education.</p>
<b>T1178.</b> Educate owner/agent regarding husbandry for various species and breeds.	<p><b>K257.</b> Knowledge of nutritional and exercise requirements for patient health.</p> <p><b>K262.</b> Knowledge of first aid techniques to be implemented by owner/agent.</p> <p><b>K271.</b> Knowledge of the various types of husbandry for various species and breeds.</p> <p><b>K274.</b> Knowledge of grooming techniques (e.g., eyes, ears, nails, coat).</p>
<b>T1179.</b> Educate owner/agent regarding pain management for patient.	<p><b>K260.</b> Knowledge of pain management protocols.</p> <p><b>K262.</b> Knowledge of first aid techniques to be implemented by owner/agent.</p> <p><b>K266.</b> Knowledge of administration and storage techniques for dispensed medications.</p>

**IX. Owner/Agent Communication (7%) continued** – This content area addresses the candidate's ability to educate owner/agents regarding patient care (e.g., dental, grooming, vaccines, preventive care, medications) and husbandry (e.g., nutrition, reproduction, environmental condition, behavior and training) for various species and breeds; conditions and abnormalities that require management or urgent care; common contagious and zoonotic diseases.

<b>Job Task</b>	<b>Associated Knowledge</b>
<b>T180.</b> Educate owner/agent regarding first aid for patient.	<p><b>K261.</b> Knowledge of conditions that require urgent care.</p> <p><b>K262.</b> Knowledge of first aid techniques to be implemented by owner/agent.</p>
<b>T181.</b> Educate owner/agent regarding grooming techniques (e.g., eyes, ears, nails, coat).	<p><b>K271.</b> Knowledge of the various types of husbandry for various species and breeds.</p> <p><b>K274.</b> Knowledge of grooming techniques (e.g., eyes, ears, nails, coat).</p>
<b>T182.</b> Educate owner/agent regarding breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.	<p><b>K263.</b> Knowledge of reproductive cycles and complications of various species and breeds.</p> <p><b>K268.</b> Knowledge of normal and abnormal animal behaviors for owner/agent education.</p> <p><b>K273.</b> Knowledge of breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.</p>
<b>T183.</b> Educate owner/agent regarding environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.	<p><b>K271.</b> Knowledge of the various types of husbandry for various species and breeds.</p> <p><b>K273.</b> Knowledge of breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.</p>

## CHAPTER 6. CONCLUSION

The occupational analysis of the CRVT profession described in this report provides a comprehensive description of current practice in California. The procedures employed to perform the occupational analysis were based upon a content validation strategy to ensure that the results accurately represent CRVT practice. Results of this occupational analysis provide information regarding current practice that can be used to make job-related decisions regarding professional licensure.

By adopting the CRVT examination content outline contained in this report, the Board ensures that its examination program reflects current practice.

This report provides all documentation necessary to verify that the analysis has been completed in accordance with legal, professional, and technical standards.



APPENDIX A. CRITICAL INDICES FOR ALL TASKS  
BY CONTENT AREA

### I. Patient Examination (14%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
11.	Assess patient's demeanor (e.g., bright, alert, responsive, lethargic) to establish/update patient health record.	4.42	4.45	20.19
19.	Obtain vital signs (e.g., temperature, pulse, respiration) to establish/update patient health record.	4.31	4.38	19.80
5.	Obtain baseline information from owner/agent about chief complaint, signs and symptoms (e.g., sneezing, coughing, diarrhea, vomiting), and overall health status of the patient.	4.15	4.16	18.66
6.	Obtain and/or review information regarding patient medical history and current medications and supplements.	4.21	4.23	18.66
10.	Obtain information about patient's signalment (e.g., name, species, color, breed, sex, weight, reproductive status, age).	4.14	4.20	18.19
18.	Assess mucous membrane (e.g., capillary refill time [CRT], color, moisture) to establish a baseline and/or update for patient medical record.	4.07	4.13	17.97
12.	Identify patient's behavioral issues (e.g., aggressive, pacing, anxious, agitated, fearful) to establish/update patient health record.	3.98	4.07	17.06
17.	Auscultate patient to evaluate heart, lung, respiration, and gastrointestinal sounds to establish/update patient health record.	3.99	3.72	16.07
13.	Assess patient pain score to determine need for further evaluation.	3.96	3.80	16.05
7.	Obtain information about patient's general husbandry, including diet and eating/drinking habits.	3.75	3.84	15.64

### I. Patient Examination (14%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
16.	Assess patient's overall body condition (e.g., coat, skin, nasal, eye) to establish/update health record.	3.69	3.63	14.63
8.	Obtain information about patient's preventive health history (e.g., vaccines, heartworm, fecal).	3.54	3.62	14.46
21.	Palpate patient to determine the presence of physical abnormalities (e.g., masses, enlarged lymph nodes, swelling) and deformities (e.g., eye, ear, limbs).	3.66	3.34	13.70
22.	Assess patient to determine presence of parasites (e.g., fleas, worms, ticks).	3.31	3.48	13.03
14.	Perform oral examination (e.g., gingivitis, tartar, halitosis, abnormalities) to establish baseline for patient.	3.33	3.25	12.74
15.	Assess skin turgor to establish/update patient health record.	3.40	3.26	12.51
3.	Interview owner/agent regarding household exposures (e.g., chemicals, toxins, recreational drugs, plants) that may affect patient condition.	3.31	3.05	12.22
23.	Assess patient's skin to determine abnormalities (e.g., fungal, yeast, bacteria, hair loss, allergies).	3.26	3.26	12.14
20.	Assess body score for patient utilizing body conditioning system (e.g., observation and palpation of ribs, lumbar vertebrae, pelvic bones, fat deposits) to establish/update health record.	3.17	3.01	11.27
9.	Obtain information about patient's travel history (e.g., local, domestic, international) and/or disease exposure (e.g., camping, boating, park, kennel, groomer).	3.02	2.94	10.72

### I. Patient Examination (14%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
1.	Scan patient to determine the presence of identification products and/or markings (e.g., microchip, band, tattoo).	2.83	3.08	10.54
2.	Interview owner/agent regarding household environment (e.g., multiple pet, smoking, children, noise level) that may affect patient condition.	2.84	2.89	10.36
4.	Interview owner/agent regarding patient lifestyle (e.g., companion, competition, breeding, work, export) to focus methodology for examination.	2.54	2.50	8.64

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area.

## II. Emergency and Critical Care (10%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
29.	Collect sample (e.g., blood, urine) for initial diagnostics.	4.32	4.40	19.86
44.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	4.43	4.06	18.96
27.	Perform intravenous catheter placement in order to administer blood products, medications, or fluid therapy to stabilize/treat patient.	4.36	4.06	18.93
25.	Perform initial intake procedures to determine vitals, weight, and signalment.	4.11	4.00	17.73
30.	Perform radiographs for initial diagnostics.	3.90	3.87	17.11
24.	Determine treatment order (e.g., triage) for various patients exhibiting varying levels of distress.	4.06	3.36	15.29
45.	Interview owner/agent regarding critical incident and history of patient.	3.91	3.33	14.82
38.	Establish patent airway (e.g., intubate, clear obstruction) to stabilize patient condition.	4.14	3.11	14.60
41.	Administer oxygen to stabilize patient exhibiting respiratory distress.	4.29	3.08	14.32
31.	Provide supportive treatment for patient exhibiting signs of shock.	4.06	2.89	13.49
33.	Provide supportive treatment for patient exhibiting signs of hypothermia.	4.00	2.92	13.14
28.	Monitor patient for overhydration symptoms.	3.66	2.99	13.00
43.	Utilize personal protective equipment and safe handling techniques for suspected rabies and other zoonotic/infectious disease exposed patients.	4.09	2.81	12.74
32.	Provide supportive treatment for patient exhibiting signs of hyperthermia (e.g., seizures, heat prostration).	3.99	2.73	12.49
26.	Initiate emesis induction on patient to treat ingestion of toxic materials.	3.53	2.50	11.03

## II. Emergency and Critical Care (10%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
36.	Apply bandages/splints to stabilize orthopedic conditions.	3.36	2.22	9.25
40.	Provide protective restraint and environment for seizing patient to prevent/minimize trauma.	3.54	2.17	9.18
39.	Perform cardiopulmonary cerebral resuscitation (CPCR) to revive and stabilize patient in cardiac arrest.	4.08	1.91	8.94
35.	Apply bandages to stabilize hemorrhagic patients.	3.55	2.00	8.79
34.	Apply wound dressings to burned tissue.	3.16	1.61	6.56
37.	Apply tourniquet to control blood flow.	3.05	1.64	6.45
<del>42.</del>	<del>Utilize various methods to decompress stomach and stabilize patient.</del>	<del>3.13</del>	<del>1.44</del>	<del>6.19</del>

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).

### III. Diagnostic Imaging (6%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
46.	Adhere with radiation protocol (e.g., personal protective equipment placement, distance from exposure, equipment settings) to ensure safety of staff and patients.	4.15	4.09	18.68
48.	Obtain diagnostic radiographs on patient for veterinarian review.	3.97	3.94	17.50
50.	Position patient for radiography (e.g., general, specialized) to maximize imaging results and ensure staff and patient safety.	3.97	3.91	17.48
47.	Restrain patient utilizing various techniques (e.g., manual, mechanical, and chemical) for radiographic imaging.	3.97	3.93	17.43
52.	Adhere with state regulations regarding radiograph equipment maintenance to ensure staff and patient safety.	3.89	3.51	15.71
49.	Process diagnostic radiographs (e.g., digital, film) for veterinarian review.	3.55	3.52	15.21
58.	Label diagnostic images in accordance with State regulation.	3.57	3.51	14.67
53.	Prepare and position patient for ultrasonography to maximize procedural results.	3.16	2.76	11.35
56.	Assist with ultrasonography for a variety of veterinary medical procedures (e.g., biopsy, organ location, cystocentesis, injections, fluid drainage) to facilitate the process.	3.05	2.68	11.01
55.	Maintain radiographic image bank for further diagnostic purposes and/or to monitor disease progression.	3.11	2.59	10.66
51.	Perform contrast radiology studies for veterinarian review.	2.81	1.79	6.74
54.	Obtain diagnostic ultrasound images for veterinarian review.	2.34	1.26	5.06

### III. Diagnostic Imaging (6%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
57.	<del>Prepare patient for endoscopic exams of various types.</del>	2.12	1.13	4.38

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).



#### IV. Laboratory and Diagnostic Procedures (8%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
71.	Collect and prepare blood samples for analysis and review by the veterinarian.	4.07	4.13	18.26
72.	Perform routine blood chemistries for analysis and review by the veterinarian.	3.99	3.96	17.86
60.	Obtain patient blood pressure to establish patient condition.	3.76	3.50	15.02
70.	Determine patient packed-cell volume (PCV) and total protein for analysis and review by the veterinarian.	3.75	3.50	14.97
74.	Collect and prepare patient urine samples for analysis of patient condition.	3.62	3.49	14.43
76.	Collect and prepare blood samples to perform cytological evaluation (e.g., red blood cell count, white blood cell count, differential count) of patient.	3.43	2.85	11.96
59.	Obtain a diagnostic electrocardiogram (ECG) to establish patient condition.	3.46	2.77	11.61
73.	Perform serological testing for analysis and review by the veterinarian.	3.16	2.75	11.61
62.	Obtain patient blood samples for coagulation values.	3.32	2.59	10.80
68.	Obtain and prepare diagnostic samples from patient for bacterial (e.g., urinary, aural, skin) and fungal cultures.	3.12	2.80	10.45
66.	Obtain and prepare various samples (e.g., otic, facial fold) for cytology evaluation.	2.95	2.80	10.19
67.	Obtain and prepare skin scrapings and/or impressions from patient for analysis and review by the veterinarian.	2.94	2.70	9.84
63.	Collect and prepare fecal samples from patient for analysis and review by the veterinarian.	2.79	2.68	9.81
61.	Determine patient blood clotting times for diagnostic purposes.	3.19	2.29	9.44

#### IV. Laboratory and Diagnostic Procedures (8%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
64.	Prepare tissue samples obtained from patient for analysis and review by the veterinarian.	2.89	2.37	8.99
65.	Collect ectoparasites from patient for identification purposes.	2.50	2.10	7.14
<del>75.</del>	<del>Collect and prepare blood samples to perform blood typing and crossmatching.</del>	<del>2.48</del>	<del>1.40</del>	<del>5.86</del>
<del>69.</del>	<del>Perform bacterial sensitivity testing for analysis and review by the veterinarian.</del>	<del>1.99</del>	<del>1.09</del>	<del>3.86</del>

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).

## V. Anesthesia and Surgical Assistance (19%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
78.	Monitor patient (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.	4.63	4.41	21.24
77.	Induce anesthesia on patient utilizing various methods (e.g., intravenously, inhalation, intramuscularly) to prepare patient for veterinary surgical procedures.	4.51	4.33	20.33
81.	Perform endotracheal intubation on patient to establish airway for surgical procedures.	4.52	4.20	20.22
82.	Extubate patient following surgical procedure.	4.45	4.30	20.19
80.	Administer pre-operative and post-operative analgesics to manage pain.	4.38	4.35	19.91
85.	Maintain aseptic environment in surgical suite.	4.47	4.19	19.64
91.	Utilize various methods to maintain patient body temperature before, during, and after surgical procedures.	4.36	4.26	19.58
86.	Utilize aseptic techniques (e.g., scrubbing in, opening surgical packs) for surgical procedures.	4.47	4.13	19.44
94.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	4.38	3.96	18.49
89.	Prepare and position patient (e.g., shave, scrub, express bladder) for veterinary surgical procedures.	4.14	4.12	18.13
96.	Maintain anesthetic equipment to ensure safety of patients and veterinary staff.	4.32	3.89	17.86
84.	Prepare surgical instruments and materials for veterinary procedures in adherence with aseptic techniques.	4.26	3.91	17.81
92.	Obtain blood pressure to establish and/or maintain baseline for patient.	3.91	3.74	16.56

## V. Anesthesia and Surgical Assistance (19%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
90.	Provide post-surgical patient evaluation and care (e.g., radiographs, bandage maintenance) to optimize recovery.	3.90	3.65	15.77
97.	Assemble supplies to utilize in the event of an anesthetic emergency.	4.28	3.39	15.67
79.	Administer local analgesia to manage pain.	3.93	3.58	15.60
93.	Provide surgical instruments to assist in the completion of surgical tasks.	3.77	3.53	14.97
88.	Remove sutures or staples from patient upon completion of healing cycle.	3.56	3.68	14.32
87.	Close existing incisions (e.g., aural hematoma, lacerations, gingiva) on patient with sutures, staples, or tissue adhesives to control bleeding and prevent infection.	3.28	2.01	8.40
<del>95.</del>	<del>Prepare patient for endoscopic exams of various types (e.g., biopsy, fluid, culture) to facilitate the sampling process.</del>	<del>2.38</del>	<del>1.56</del>	<del>6.35</del>
<del>83.</del>	<del>Place drain(s) in patient wound to remove and prevent excess fluid.</del>	<del>2.72</del>	<del>1.39</del>	<del>5.25</del>

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).

## VI. Animal Dentistry (6%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
111.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	3.92	3.31	15.30
112.	Position patient to optimize dental cleaning procedures and maintain safety.	3.31	3.08	13.36
103.	Perform dental prophylaxis on patient to maintain oral health.	3.34	2.97	13.17
101.	Perform oral examination on patient to identify areas that require further veterinary evaluation.	3.38	3.05	12.83
100.	Prepare instruments for dental procedures.	3.14	2.91	12.00
107.	Maintain dental instruments and equipment in accordance with the standards for a clinical environment.	3.20	2.83	11.82
104.	Perform dental charting on patient for further diagnostic purposes and/or to monitor disease progression.	3.13	2.75	11.76
102.	Extract teeth from patient to maintain oral health.	3.25	2.48	10.88
99.	Perform diagnostic dental radiographs.	2.69	2.15	9.10
109.	Suture patient gingival tissue to facilitate wound healing.	2.85	2.05	8.58
108.	Perform local anesthetic blocks on patient to control pain during procedures.	2.94	2.01	8.45
110.	Administer hemostatic agents (e.g., collagen, epinephrine, gel foam) to control bleeding.	2.72	1.63	6.41
<del>105.</del>	<del>Trim patient teeth/beaks to maintain oral health.</del>	<del>1.74</del>	<del>0.73</del>	<del>2.97</del>
<del>106.</del>	<del>Float patient teeth to maintain oral health.</del>	<del>1.30</del>	<del>0.26</del>	<del>1.05</del>

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).

## VII. Animal Nursing (22%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
120.	Administer medications (e.g., orally, intramuscularly, intravenously) to treat patient condition in adherence with veterinarian instruction.	4.41	4.54	20.69
115.	Provide protective restraint of patient to ensure staff and patient safety.	4.40	4.48	20.29
142.	Collect blood for diagnostics.	4.34	4.48	20.28
126.	Place intravenous catheter utilizing aseptic technique to manage patient condition.	4.38	4.23	19.56
133.	Observe and evaluate patient for abnormalities in health.	4.21	4.26	18.82
118.	Administer fluid therapy to manage patient condition.	4.22	4.17	18.63
150.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	4.30	3.97	18.31
127.	Monitor intravenous catheter site to maintain patency and prevent infection.	4.17	4.02	18.17
143.	Dispose of biohazardous material in accordance with State and local laws.	4.08	4.19	18.00
144.	Maintain surgical and diagnostic equipment in accordance with the standards for a clinical environment.	4.17	3.99	17.66
147.	Monitor hospitalized patient to maintain stability and/or determine need for adjustments to treatment and husbandry.	4.07	3.91	17.49
131.	Prepare and position patient for diagnostic procedures.	3.88	4.07	17.01
146.	Perform infection and pathogen control in accordance with State and federal law regarding an aseptic clinical environment.	4.05	3.75	16.55
137.	Collect urine samples for various diagnostics.	3.64	3.70	15.05
141.	Observe patient behavior to determine need for further diagnostics.	3.72	3.65	14.94

## VII. Animal Nursing (22%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
140.	Observe patient gait (e.g., limp, discomfort, nervousness, pain) to determine behavioral or physical conditions.	3.64	3.50	13.92
148.	Obtain blood pressure to establish baseline for patient.	3.56	3.30	13.90
138.	Euthanize animals utilizing humane methodology in accordance with State regulations.	3.86	3.07	13.61
125.	Perform ear cleaning and flushing to manage patient condition.	3.24	3.44	12.97
151.	Interpret patient behavior of various breeds and species to determine interactive effects with condition.	3.39	3.21	12.83
134.	Place patient identification products (e.g., microchips, bands).	3.22	3.32	12.79
124.	Provide care for abscesses or wounds on patient to facilitate healing.	3.53	3.23	12.77
116.	Express and treat anal sacs (e.g., medicating, flushing) to relieve patient discomfort.	3.00	3.17	11.54
123.	Apply bandages to stabilize patient injury.	3.36	2.79	11.27
139.	Express patient urinary bladder to relieve discomfort and prevent infection.	3.42	2.69	10.88
149.	Provide nutritional support (e.g., tube feeding) for hospitalized and/or incapacitated patients to boost/optimize treatment outcome.	3.25	2.38	9.72
113.	Perform ocular diagnostics to determine possible injuries and abnormalities.	3.23	2.45	9.63
129.	Maintain urine collection systems to calculate output and determine hydration level or kidney function.	3.07	2.22	9.33
117.	Administer enemas to stimulate bowel movement and relieve patient discomfort.	2.94	2.50	9.19

## VII. Animal Nursing (22%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
128.	Place and maintain indwelling urinary catheter and collection systems to ensure optimum function, comfort, and treatment of patient condition.	3.13	2.14	8.88
122.	Apply casts and splints to stabilize patient injury.	3.11	2.15	8.78
145.	Provide medical grooming services (e.g., bathing, trimming, dipping, clipping) for a variety of breeds and species to maintain hygiene standards.	2.40	2.39	7.76
135.	Administer blood products (e.g., plasma, transfusions) in accordance with medical orders from the veterinarian.	2.99	1.74	7.63
121.	Assemble nebulizer and administer treatment to improve patient condition.	2.62	1.74	6.74
119.	Administer liquid nutrition utilizing gastric tube to manage patient condition.	2.77	1.65	6.48
132.	Provide physical therapy in accordance with medical orders from the veterinarian.	2.39	1.69	6.44
<del>130.</del>	<del>Place and maintain gastric tubes to ensure optimum function and treatment of patient condition.</del>	<del>2.38</del>	<del>1.19</del>	<del>4.59</del>
<del>136.</del>	<del>Collect blood for transfusions.</del>	<del>2.41</del>	<del>1.11</del>	<del>4.49</del>
<del>114.</del>	<del>Flush lacrimal ducts to alleviate blockage and tear production deficiencies.</del>	<del>2.04</del>	<del>0.92</del>	<del>3.19</del>

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).



### VIII. Pharmacology (8%)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
154.	Administer medications utilizing various routes (e.g., injectable, oral, topical) to stabilize/treat patient condition.	4.52	4.62	21.32
153.	Store and maintain controlled substances in accordance with State and federal requirements.	4.34	4.26	19.57
152.	Maintain controlled substances logs in accordance with State and federal requirements.	4.34	4.15	19.03
164.	Store pharmacological agents in accordance with manufacturer's recommendations and State and federal requirements.	4.27	4.28	19.00
158.	Calculate dosages, dilutions, constant rate infusions, and volumes of prescribed patient medications.	4.38	4.10	18.98
161.	Fill prescription for patient under direction of veterinarian.	4.09	4.13	18.46
163.	Assess patient for adverse reactions to medications.	4.08	3.72	16.21
157.	Administer vaccinations in accordance with State regulations.	3.60	3.58	15.70
160.	Calculate flow rates and volumes for fluid therapy.	3.94	3.52	15.62
162.	Administer topical medications to treat patient condition.	3.71	3.74	15.12
159.	Prepare additives for fluid therapy.	3.74	3.23	14.01
155.	Administer medications by nonroutine routes (e.g., intranasal, sublingual, rectal, transtracheal, transdermal) to treat patient condition.	3.50	2.99	12.28
<del>156.</del>	<del>Administer medication utilizing tank immersion to stabilize/treat aquatic patients.</del>	<del>1.10</del>	<del>0.34</del>	<del>1.33</del>

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).

**IX. Owner/Agent Communication (7%)**

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
170.	Educate owner/agent regarding pre-surgical and post-surgical care (e.g., bandage, infection) for patient.	4.10	3.95	17.40
173.	Educate owner/agent regarding how to administer and store medications for patient.	3.88	3.83	16.02
179.	Educate owner/agent regarding pain management for patient.	3.85	3.70	15.57
165.	Educate owner/agent on the identification of conditions that require urgent care for various species and breeds.	3.71	3.28	13.82
174.	Educate owner/agent regarding recommended vaccination schedules for patient.	3.29	3.10	12.89
171.	Educate owner/agent regarding prevention and/or recognition of the signs of contagious animal diseases.	3.50	3.10	12.59
168.	Educate owner/agent regarding ectoparasite and endoparasite control for patient.	3.24	3.20	12.57
176.	Educate owner/agent regarding spay and neuter procedures for various species and breeds.	3.21	3.01	12.18
172.	Educate owner/agent regarding prevention and/or recognition of the signs of zoonotic diseases in patient.	3.45	2.88	11.70
169.	Educate owner/agent regarding patient diet, nutrition, and exercise.	3.23	3.07	11.59
167.	Educate owner/agent regarding dental care for various species and breeds.	3.12	2.88	11.33
183.	Educate owner/agent regarding environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.	3.12	2.66	9.96

**IX. Owner/Agent Communication (7%)**

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
182.	Educate owner/agent regarding breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.	3.08	2.56	9.43
175.	Educate owner/agent regarding animal behavior and training.	2.90	2.52	9.27
178.	Educate owner/agent regarding husbandry for various species and breeds.	2.86	2.51	9.13
177.	Educate owner/agent regarding patient anal sacs.	2.58	2.53	8.52
180.	Educate owner/agent regarding first aid for patient.	2.86	2.26	8.09
181.	Educate owner/agent regarding grooming techniques (e.g., eyes, ears, nails, coat).	2.44	2.38	7.63
166.	Educate owner/agent regarding reproduction cycles for various species and breeds.	2.36	1.94	6.54

\*NOTE: The task statements have been sorted in descending order of critical indices for each content area.

APPENDIX B. CRITICAL INDICES FOR ALL TASKS  
(CONTENT AREAS OMITTED)

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
154.	Administer medications utilizing various routes (e.g., injectable, oral, topical) to stabilize/treat patient condition.	4.52	4.62	21.32
78.	Monitor patient (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.	4.63	4.41	21.24
120.	Administer medications (e.g., orally, intramuscularly, intravenously) to treat patient condition in adherence with veterinarian instruction.	4.41	4.54	20.69
77.	Induce anesthesia on patient utilizing various methods (e.g., intravenously, inhalation, intramuscularly) to prepare patient for veterinary surgical procedures.	4.51	4.33	20.33
115.	Provide protective restraint of patient to ensure staff and patient safety.	4.40	4.48	20.29
142.	Collect blood for diagnostics.	4.34	4.48	20.28
81.	Perform endotracheal intubation on patient to establish airway for surgical procedures.	4.52	4.20	20.22
11.	Assess patient's demeanor (e.g., bright, alert, responsive, lethargic) to establish/update patient health record.	4.42	4.45	20.19
82.	Extubate patient following surgical procedure.	4.45	4.30	20.19
80.	Administer pre-operative and post-operative analgesics to manage pain.	4.38	4.35	19.91
29.	Collect sample (e.g., blood, urine) for initial diagnostics.	4.32	4.40	19.86
19.	Obtain vital signs (e.g., temperature, pulse, respiration) to establish/update patient health record.	4.31	4.38	19.80
85.	Maintain aseptic environment in surgical suite.	4.47	4.19	19.64

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
91.	Utilize various methods to maintain patient body temperature before, during, and after surgical procedures.	4.36	4.26	19.58
153.	Store and maintain controlled substances in accordance with State and federal requirements.	4.34	4.26	19.57
126.	Place intravenous catheter utilizing aseptic technique to manage patient condition.	4.38	4.23	19.56
86.	Utilize aseptic techniques (e.g., scrubbing in, opening surgical packs) for surgical procedures.	4.47	4.13	19.44
152.	Maintain controlled substances logs in accordance with State and federal requirements.	4.34	4.15	19.03
164.	Store pharmacological agents in accordance with manufacturer's recommendations and State and federal requirements.	4.27	4.28	19.00
158.	Calculate dosages, dilutions, constant rate infusions, and volumes of prescribed patient medications.	4.38	4.10	18.98
44.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	4.43	4.06	18.96
27.	Perform intravenous catheter placement in order to administer blood products, medications, or fluid therapy to stabilize/treat patient.	4.36	4.06	18.93
133.	Observe and evaluate patient for abnormalities in health.	4.21	4.26	18.82
46.	Adhere with radiation protocol (e.g., personal protective equipment placement, distance from exposure, equipment settings) to ensure safety of staff and patients.	4.15	4.09	18.68

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
5.	Obtain baseline information from owner/agent about chief complaint, signs and symptoms (e.g., sneezing, coughing, diarrhea, vomiting), and overall health status of the patient.	4.15	4.16	18.66
6.	Obtain and/or review information regarding patient medical history and current medications and supplements.	4.21	4.23	18.66
118.	Administer fluid therapy to manage patient condition.	4.22	4.17	18.63
94.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	4.38	3.96	18.49
161.	Fill prescription for patient under direction of veterinarian.	4.09	4.13	18.46
150.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	4.30	3.97	18.31
71.	Collect and prepare blood samples for analysis and review by the veterinarian.	4.07	4.13	18.26
10.	Obtain information about patient's signalment (e.g., name, species, color, breed, sex, weight, reproductive status, age).	4.14	4.20	18.19
127.	Monitor intravenous catheter site to maintain patency and prevent infection.	4.17	4.02	18.17
89.	Prepare and position patient (e.g., shave, scrub, express bladder) for veterinary surgical procedures.	4.14	4.12	18.13
143.	Dispose of biohazardous material in accordance with State and local laws.	4.08	4.19	18.00
18.	Assess mucous membrane (e.g., capillary refill time [CRT], color, moisture) to establish a baseline and/or update for patient medical record.	4.07	4.13	17.97
72.	Perform routine blood chemistries for analysis and review by the veterinarian.	3.99	3.96	17.86

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
96.	Maintain anesthetic equipment to ensure safety of patients and veterinary staff.	4.32	3.89	17.86
84.	Prepare surgical instruments and materials for veterinary procedures in adherence with aseptic techniques.	4.26	3.91	17.81
25.	Perform initial intake procedures to determine vitals, weight, and signalment.	4.11	4.00	17.73
144.	Maintain surgical and diagnostic equipment in accordance with the standards for a clinical environment.	4.17	3.99	17.66
98.	Maintain surgical instrument sterilization and storage protocol in accordance with laws and regulations.	4.24	3.87	17.54
48.	Obtain diagnostic radiographs on patient for veterinarian review.	3.97	3.94	17.50
147.	Monitor hospitalized patient to maintain stability and/or determine need for adjustments to treatment and husbandry.	4.07	3.91	17.49
50.	Position patient for radiography (e.g., general, specialized) to maximize imaging results and ensure staff and patient safety.	3.97	3.91	17.48
47.	Restrain patient utilizing various techniques (e.g., manual, mechanical, and chemical) for radiographic imaging.	3.97	3.93	17.43
170.	Educate owner/agent regarding pre-surgical and post-surgical care (e.g., bandage, infection) for patient.	4.10	3.95	17.40
30.	Perform radiographs for initial diagnostics.	3.90	3.87	17.11
12.	Identify patient's behavioral issues (e.g., aggressive, pacing, anxious, agitated, fearful) to establish/update patient health record.	3.98	4.07	17.06
131.	Prepare and position patient for diagnostic procedures.	3.88	4.07	17.01



TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
92.	Obtain blood pressure to establish and/or maintain baseline for patient.	3.91	3.74	16.56
146.	Perform infection and pathogen control in accordance with State and federal law regarding an aseptic clinical environment.	4.05	3.75	16.55
163.	Assess patient for adverse reactions to medications.	4.08	3.72	16.21
17.	Auscultate patient to evaluate heart, lung, respiration, and gastrointestinal sounds to establish/update patient health record.	3.99	3.72	16.07
13.	Assess patient pain score to determine need for further evaluation.	3.96	3.80	16.05
173.	Educate owner/agent regarding how to administer and store medications for patient.	3.88	3.83	16.02
90.	Provide post-surgical patient evaluation and care (e.g., radiographs, bandage maintenance) to optimize recovery.	3.90	3.65	15.77
52.	Adhere with state regulations regarding radiograph equipment maintenance to ensure staff and patient safety.	3.89	3.51	15.71
157.	Administer vaccinations in accordance with State regulations.	3.60	3.58	15.70
97.	Assemble supplies to utilize in the event of an anesthetic emergency.	4.28	3.39	15.67
7.	Obtain information about patient's general husbandry, including diet and eating/drinking habits.	3.75	3.84	15.64
160.	Calculate flow rates and volumes for fluid therapy.	3.94	3.52	15.62
79.	Administer local analgesia to manage pain.	3.93	3.58	15.60
179.	Educate owner/agent regarding pain management for patient.	3.85	3.70	15.57
111.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	3.92	3.31	15.30

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
24.	Determine treatment order (e.g., triage) for various patients exhibiting varying levels of distress.	4.06	3.36	15.29
49.	Process diagnostic radiographs (e.g., digital, film) for veterinarian review.	3.55	3.52	15.21
162.	Administer topical medications to treat patient condition.	3.71	3.74	15.12
137.	Collect urine samples for various diagnostics.	3.64	3.70	15.05
60.	Obtain patient blood pressure to establish patient condition.	3.76	3.50	15.02
70.	Determine patient packed-cell volume (PCV) and total protein for analysis and review by the veterinarian.	3.75	3.50	14.97
93.	Provide surgical instruments to assist in the completion of surgical tasks.	3.77	3.53	14.97
141.	Observe patient behavior to determine need for further diagnostics.	3.72	3.65	14.94
45.	Interview owner/agent regarding critical incident and history of patient.	3.91	3.33	14.82
58.	Label diagnostic images in accordance with State regulation.	3.57	3.51	14.67
16.	Assess patient's overall body condition (e.g., coat, skin, nasal, eye) to establish/update health record.	3.69	3.63	14.63
38.	Establish patent airway (e.g., intubate, clear obstruction) to stabilize patient condition.	4.14	3.11	14.60
8.	Obtain information about patient's preventive health history (e.g., vaccines, heartworm, fecal).	3.54	3.62	14.46
74.	Collect and prepare patient urine samples for analysis of patient condition.	3.62	3.49	14.43
41.	Administer oxygen to stabilize patient exhibiting respiratory distress.	4.29	3.08	14.32

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
88.	Remove sutures or staples from patient upon completion of healing cycle.	3.56	3.68	14.32
159.	Prepare additives for fluid therapy.	3.74	3.23	14.01
140.	Observe patient gait (e.g., limp, discomfort, nervousness, pain) to determine behavioral or physical conditions.	3.64	3.50	13.92
148.	Obtain blood pressure to establish baseline for patient.	3.56	3.30	13.90
165.	Educate owner/agent on the identification of conditions that require urgent care for various species and breeds.	3.71	3.28	13.82
21.	Palpate patient to determine the presence of physical abnormalities (e.g., masses, enlarged lymph nodes, swelling) and deformities (e.g., eye, ear, limbs).	3.66	3.34	13.70
138.	Euthanize animals utilizing humane methodology in accordance with State regulations.	3.86	3.07	13.61
31.	Provide supportive treatment for patient exhibiting signs of shock.	4.06	2.89	13.49
112.	Position patient to optimize dental cleaning procedures and maintain safety.	3.31	3.08	13.36
103.	Perform dental prophylaxis on patient to maintain oral health.	3.34	2.97	13.17
33.	Provide supportive treatment for patient exhibiting signs of hypothermia.	4.00	2.92	13.14
22.	Assess patient to determine presence of parasites (e.g., fleas, worms, ticks).	3.31	3.48	13.03
28.	Monitor patient for overhydration symptoms.	3.66	2.99	13.00
125.	Perform ear cleaning and flushing to manage patient condition.	3.24	3.44	12.97
174.	Educate owner/agent regarding recommended vaccination schedules for patient.	3.29	3.10	12.89

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
101.	Perform oral examination on patient to identify areas that require further veterinary evaluation.	3.38	3.05	12.83
151.	Interpret patient behavior of various breeds and species to determine interactive effects with condition.	3.39	3.21	12.83
134.	Place patient identification products (e.g., microchips, bands).	3.22	3.32	12.79
124.	Provide care for abscesses or wounds on patient to facilitate healing.	3.53	3.23	12.77
14.	Perform oral examination (e.g., gingivitis, tartar, halitosis, abnormalities) to establish baseline for patient.	3.33	3.25	12.74
43.	Utilize personal protective equipment and safe handling techniques for suspected rabies and other zoonotic/infectious disease exposed patients.	4.09	2.81	12.74
171.	Educate owner/agent regarding prevention and/or recognition of the signs of contagious animal diseases.	3.50	3.10	12.59
168.	Educate owner/agent regarding ectoparasite and endoparasite control for patient.	3.24	3.20	12.57
15.	Assess skin turgor to establish/update patient health record.	3.40	3.26	12.51
32.	Provide supportive treatment for patient exhibiting signs of hyperthermia (e.g., seizures, heat prostration).	3.99	2.73	12.49
155.	Administer medications by nonroutine routes (e.g., intranasal, sublingual, rectal, transtracheal, transdermal) to treat patient condition.	3.50	2.99	12.28

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
3.	Interview owner/agent regarding household exposures (e.g., chemicals, toxins, recreational drugs, plants) that may affect patient condition.	3.31	3.05	12.22
176.	Educate owner/agent regarding spay and neuter procedures for various species and breeds.	3.21	3.01	12.18
23.	Assess patient's skin to determine abnormalities (e.g., fungal, yeast, bacteria, hair loss, allergies).	3.26	3.26	12.14
100.	Prepare instruments for dental procedures.	3.14	2.91	12.00
76.	Collect and prepare blood samples to perform cytological evaluation (e.g., red blood cell count, white blood cell count, differential count) of patient.	3.43	2.85	11.96
107.	Maintain dental instruments and equipment in accordance with the standards for a clinical environment.	3.20	2.83	11.82
104.	Perform dental charting on patient for further diagnostic purposes and/or to monitor disease progression.	3.13	2.75	11.76
172.	Educate owner/agent regarding prevention and/or recognition of the signs of zoonotic diseases in patient.	3.45	2.88	11.70
59.	Obtain a diagnostic electrocardiogram (ECG) to establish patient condition.	3.46	2.77	11.61
73.	Perform serological testing for analysis and review by the veterinarian.	3.16	2.75	11.61
169.	Educate owner/agent regarding patient diet, nutrition, and exercise.	3.23	3.07	11.59
116.	Express and treat anal sacs (e.g., medicating, flushing) to relieve patient discomfort.	3.00	3.17	11.54
53.	Prepare and position patient for ultrasonography to maximize procedural results.	3.16	2.76	11.35

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
167.	Educate owner/agent regarding dental care for various species and breeds.	3.12	2.88	11.33
20.	Assess body score for patient utilizing body conditioning system (e.g., observation and palpation of ribs, lumbar vertebrae, pelvic bones, fat deposits) to establish/update health record.	3.17	3.01	11.27
123.	Apply bandages to stabilize patient injury.	3.36	2.79	11.27
26.	Initiate emesis induction on patient to treat ingestion of toxic materials.	3.53	2.50	11.03
56.	Assist with ultrasonography for a variety of veterinary medical procedures (e.g., biopsy, organ location, cystocentesis, injections, fluid drainage) to facilitate the process.	3.05	2.68	11.01
102.	Extract teeth from patient to maintain oral health.	3.25	2.48	10.88
139.	Express patient urinary bladder to relieve discomfort and prevent infection.	3.42	2.69	10.88
62.	Obtain patient blood samples for coagulation values.	3.32	2.59	10.80
9.	Obtain information about patient's travel history (e.g., local, domestic, international) and/or disease exposure (e.g., camping, boating, park, kennel, groomer).	3.02	2.94	10.72
55.	Maintain radiographic image bank for further diagnostic purposes and/or to monitor disease progression.	3.11	2.59	10.66
1.	Scan patient to determine the presence of identification products and/or markings (e.g., microchip, band, tattoo).	2.83	3.08	10.54
68.	Obtain and prepare diagnostic samples from patient for bacterial (e.g., urinary, aural, skin) and fungal cultures.	3.12	2.80	10.45

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
2.	Interview owner/agent regarding household environment (e.g., multiple pet, smoking, children, noise level) that may affect patient condition.	2.84	2.89	10.36
66.	Obtain and prepare various samples (e.g., otic, facial fold) for cytology evaluation.	2.95	2.80	10.19
183.	Educate owner/agent regarding environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.	3.12	2.66	9.96
67.	Obtain and prepare skin scrapings and/or impressions from patient for analysis and review by the veterinarian.	2.94	2.70	9.84
63.	Collect and prepare fecal samples from patient for analysis and review by the veterinarian.	2.79	2.68	9.81
149.	Provide nutritional support (e.g., tube feeding) for hospitalized and/or incapacitated patients to boost/optimize treatment outcome.	3.25	2.38	9.72
113.	Perform ocular diagnostics to determine possible injuries and abnormalities.	3.23	2.45	9.63
61.	Determine patient blood clotting times for diagnostic purposes.	3.19	2.29	9.44
182.	Educate owner/agent regarding breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.	3.08	2.56	9.43
129.	Maintain urine collection systems to calculate output and determine hydration level or kidney function.	3.07	2.22	9.33
175.	Educate owner/agent regarding animal behavior and training.	2.90	2.52	9.27
36.	Apply bandages/splints to stabilize orthopedic conditions.	3.36	2.22	9.25
117.	Administer enemas to stimulate bowel movement and relieve patient discomfort.	2.94	2.50	9.19

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
40.	Provide protective restraint and environment for seizing patient to prevent/minimize trauma.	3.54	2.17	9.18
178.	Educate owner/agent regarding husbandry for various species and breeds.	2.86	2.51	9.13
99.	Perform diagnostic dental radiographs.	2.69	2.15	9.10
64.	Prepare tissue samples obtained from patient for analysis and review by the veterinarian.	2.89	2.37	8.99
39.	Perform cardiopulmonary cerebral resuscitation (CPCR) to revive and stabilize patient in cardiac arrest.	4.08	1.91	8.94
128.	Place and maintain indwelling urinary catheter and collection systems to ensure optimum function, comfort, and treatment of patient condition.	3.13	2.14	8.88
35.	Apply bandages to stabilize hemorrhagic patients.	3.55	2.00	8.79
122.	Apply casts and splints to stabilize patient injury.	3.11	2.15	8.78
4.	Interview owner/agent regarding patient lifestyle (e.g., companion, competition, breeding, work, export) to focus methodology for examination.	2.54	2.50	8.64
109.	Suture patient gingival tissue to facilitate wound healing.	2.85	2.05	8.58
177.	Educate owner/agent regarding patient anal sacs.	2.58	2.53	8.52
108.	Perform local anesthetic blocks on patient to control pain during procedures.	2.94	2.01	8.45
87.	Close existing incisions (e.g., aural hematoma, lacerations, gingiva) on patient with sutures, staples, or tissue adhesives to control bleeding and prevent infection.	3.28	2.01	8.40
180.	Educate owner/agent regarding first aid for patient.	2.86	2.26	8.09



TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
145.	Provide medical grooming services (e.g., bathing, trimming, dipping, clipping) for a variety of breeds and species to maintain hygiene standards.	2.40	2.39	7.76
135.	Administer blood products (e.g., plasma, transfusions) in accordance with medical orders from the veterinarian.	2.99	1.74	7.63
181.	Educate owner/agent regarding grooming techniques (e.g., eyes, ears, nails, coat).	2.44	2.38	7.63
65.	Collect ectoparasites from patient for identification purposes.	2.50	2.10	7.14
51.	Perform contrast radiology studies for veterinarian review.	2.81	1.79	6.74
121.	Assemble nebulizer and administer treatment to improve patient condition.	2.62	1.74	6.74
34.	Apply wound dressings to burned tissue.	3.16	1.61	6.56
166.	Educate owner/agent regarding reproduction cycles for various species and breeds.	2.36	1.94	6.54
119.	Administer liquid nutrition utilizing gastric tube to manage patient condition.	2.77	1.65	6.48
37.	Apply tourniquet to control blood flow.	3.05	1.64	6.45
132.	Provide physical therapy in accordance with medical orders from the veterinarian.	2.39	1.69	6.44
110.	Administer hemostatic agents (e.g., collagen, epinephrine, gel foam) to control bleeding.	2.72	1.63	6.41
95.	Prepare patient for endoscopic exams of various types (e.g., biopsy, fluid, culture) to facilitate the sampling process.	2.38	1.56	6.35
42.	Utilize various methods to decompress stomach and stabilize patient.	3.13	1.41	6.19
75.	Collect and prepare blood samples to perform blood typing and crossmatching.	2.48	1.40	5.86

TASK #	TASK STATEMENT	MEAN TASK		CRITICAL TASK INDEX*
		IMP (I)	FREQ (F)	
<del>83.</del>	<del>Place drain(s) in patient wound to remove and prevent excess fluid.</del>	<del>2.72</del>	<del>1.39</del>	<del>5.25</del>
<del>54.</del>	<del>Obtain diagnostic ultrasound images for veterinarian review.</del>	<del>2.31</del>	<del>1.26</del>	<del>5.06</del>
<del>130.</del>	<del>Place and maintain gastric tubes to ensure optimum function and treatment of patient condition.</del>	<del>2.38</del>	<del>1.19</del>	<del>4.59</del>
<del>136.</del>	<del>Collect blood for transfusions.</del>	<del>2.41</del>	<del>1.11</del>	<del>4.49</del>
<del>57.</del>	<del>Prepare patient for endoscopic exams of various types.</del>	<del>2.12</del>	<del>1.13</del>	<del>4.38</del>
<del>69.</del>	<del>Perform bacterial sensitivity testing for analysis and review by the veterinarian.</del>	<del>1.99</del>	<del>1.09</del>	<del>3.86</del>
<del>114.</del>	<del>Flush lacrimal ducts to alleviate blockage and tear production deficiencies.</del>	<del>2.04</del>	<del>0.92</del>	<del>3.19</del>
<del>105.</del>	<del>Trim patient teeth/beaks to maintain oral health.</del>	<del>1.74</del>	<del>0.73</del>	<del>2.97</del>
<del>156.</del>	<del>Administer medication utilizing tank immersion to stabilize/treat aquatic patients.</del>	<del>1.10</del>	<del>0.34</del>	<del>1.33</del>
<del>106.</del>	<del>Float patient teeth to maintain oral health.</del>	<del>1.30</del>	<del>0.26</del>	<del>1.05</del>

*\*NOTE: The task statements have been sorted in descending order of criticality indices. Task statements in strikethrough font did not meet the criticality cutoff determined by SMEs (see Chapter 4).*

APPENDIX C. KNOWLEDGE IMPORTANCE RATINGS  
BY CONTENT AREA

## I. Patient Examination (14%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
24.	Knowledge of signs of life-threatening conditions.	4.67
18.	Knowledge of normal and abnormal respiration.	4.58
17.	Knowledge of normal and abnormal vital signs.	4.54
29.	Knowledge of signs of normal and abnormal color, moisture, and capillary refill time of mucous membranes.	4.40
39.	Knowledge of restraint techniques and/or devices for various species/breeds.	4.36
41.	Knowledge of pain indicators (e.g., elevated heart rate, whining, panting, hiding, drooling).	4.30
19.	Knowledge of normal and abnormal respiratory sounds.	4.23
25.	Knowledge of signs of toxicity.	4.17
20.	Knowledge of normal and abnormal cardiac sounds.	4.13
11.	Knowledge of adverse reactions to previous medications or treatments.	4.09
6.	Knowledge of potential effect of medications/supplements on patient's condition.	4.08
36.	Knowledge of zoonotic diseases (e.g., giardia, ringworm, leptospirosis).	4.05
23.	Knowledge of normal and abnormal neurological signs.	4.03
15.	Knowledge of body posture and body language for different species.	4.01
14.	Knowledge of methods (e.g., skin turgor, ocular appearance, mucous membrane appearance) for determining hydration status.	4.00
21.	Knowledge of common equipment used to conduct physical examinations.	3.99
31.	Knowledge of regulations regarding medical recordkeeping.	3.96
1.	Knowledge of factors that affect patient's attitude, behavior, and overall health status.	3.87
43.	Knowledge of methods for obtaining patient signalment information.	3.85
26.	Knowledge of normal eye appearance.	3.83
32.	Knowledge of reportable diseases according to federal law.	3.62
33.	Knowledge of species, breed identification, and sex determination.	3.62
34.	Knowledge of reportable diseases according to California law.	3.62

## I. Patient Examination (14%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
4.	Knowledge of normal eating and elimination patterns.	3.61
8.	Knowledge of potential effect of over-the-counter medications on patient's present condition.	3.54
13.	Knowledge of normal and/or abnormal animal behavior for a given species/breed.	3.52
45.	Knowledge of the types of physical abnormalities found during palpation.	3.52
40.	Knowledge of vaccine protocols and preventative measures and/or schedules.	3.51
27.	Knowledge of normal ear appearance.	3.47
42.	Knowledge of common household exposures (e.g., plants, chemicals, pesticides).	3.44
16.	Knowledge of normal and abnormal skin conditions.	3.43
46.	Knowledge of the signs and symptoms of parasitic infestation.	3.42
38.	Knowledge of signs of normal and abnormal dental health and normal dentition.	3.40
5.	Knowledge of appropriate housing and environmental conditions for patient species.	3.39
10.	Knowledge of potential effect of patient's preventive health history on present condition.	3.37
28.	Knowledge of normal nasal appearance.	3.36
2.	Knowledge of inappropriate and appropriate diets for various conditions (e.g., species, breeds, age, health status).	3.35
9.	Knowledge of patient's reproductive history and status and potential effect on present condition.	3.18
30.	Knowledge of normal growth and development of young animals.	3.16
12.	Knowledge of effect of patient's travel and/or disease exposure on health status.	3.12
44.	Knowledge of the relationship between dentition, dental health, and patient age.	3.10
22.	Knowledge of normal and abnormal gastrointestinal sounds.	3.04
37.	Knowledge of techniques for locating identification products and/or markings.	3.02
35.	Knowledge of proper methods for obtaining body condition score.	3.00
7.	Knowledge of potential effect of alternative therapies on patient's present condition.	2.97

### I. Patient Examination (14%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
3.	Knowledge of the relationship between patient lifestyle (e.g., breeding, companion, work, export) and recommended health requirements (e.g., diet, husbandry, exercise).	2.81

*\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area.*

## II. Emergency and Critical Care (10%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
54.	Knowledge of procedures for establishing a patent airway.	4.33
72.	Knowledge of the types of equipment used for monitoring vitals.	4.26
76.	Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	4.25
59.	Knowledge of techniques for oxygen administration.	4.23
78.	Knowledge of the methods for preventing the spread of zoonotic and infectious diseases.	4.15
48.	Knowledge of clinical signs of shock.	4.12
57.	Knowledge of techniques to regulate body temperature in cases of hyperthermia or hypothermia.	4.10
69.	Knowledge of methods to obtain different dosages of medications.	4.10
67.	Knowledge of emergency intravenous techniques to stabilize patient.	4.09
74.	Knowledge of pain management protocols.	4.04
50.	Knowledge of clinical signs and effects of trauma.	4.03
49.	Knowledge of the methods for stabilizing a patient in shock.	4.01
47.	Knowledge of the methods used to triage patients.	3.97
61.	Knowledge of methods to perform cardiopulmonary cerebral resuscitation (CPCR).	3.97
51.	Knowledge of procedures to safely stabilize traumatic injuries.	3.92
53.	Knowledge of procedures for assisted ventilation.	3.85
63.	Knowledge of treatments and protocols to stabilize seizing patients.	3.83
60.	Knowledge of precautions for oxygen therapy.	3.81
73.	Knowledge of metabolic diseases (e.g., hypoglycemia, urethral obstruction, gastric dilatation volvulus) and life-threatening conditions in various breeds/species.	3.77
62.	Knowledge of medical conditions that could cause seizures.	3.74
71.	Knowledge of types and administration of emergency fluid therapy.	3.74
56.	Knowledge of clinical signs of heat prostration.	3.71
64.	Knowledge of agents that can cause toxicity.	3.68

## II. Emergency and Critical Care (10%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
55.	Knowledge of safe techniques for applying tourniquets and pressure bandages.	3.61
70.	Knowledge of common signs of overhydration.	3.59
52.	Knowledge of laws and regulations pertaining to reporting animal abuse, neglect, or zoonotic disease exposure.	3.47
65.	Knowledge of treatments and antidotes for toxicity.	3.47
77.	Knowledge of bandage placement techniques.	3.44
75.	Knowledge of various emesis protocols.	3.35
66.	Knowledge of techniques for stabilizing orthopedic conditions.	3.13
68.	Knowledge of signs for potential adverse transfusion reaction.	3.09
58.	Knowledge of techniques and dressings for managing burns.	2.91

\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area.



### III. Diagnostic Imaging (6%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
80.	Knowledge of methods to limit operator radiation exposure (e.g., collimation and personal protective equipment).	3.90
94.	Knowledge of dangers associated with radiation exposure.	3.83
79.	Knowledge of laws and regulations regarding radiation safety.	3.82
89.	Knowledge of anatomy for positioning patients for radiography.	3.80
81.	Knowledge of techniques of manual, mechanical, and chemical restraint for radiography.	3.78
82.	Knowledge of methods, procedures, and equipment for radiography.	3.78
96.	Knowledge of the care and maintenance of personal protective equipment.	3.64
83.	Knowledge of procedures to set equipment according to a radiographic technique chart.	3.58
84.	Knowledge of relationship of kVp and mAs to produce diagnostic radiographs.	3.23
92.	Knowledge of laws and regulations regarding labeling and storage of radiographs.	2.94
85.	Knowledge of techniques to prepare and position patients for ultrasonography.	2.87
90.	Knowledge of anatomy for patient preparation, positioning, and sample collection for ultrasonography.	2.86
88.	Knowledge of techniques to obtain laboratory samples using ultrasound.	2.69
86.	Knowledge of care and maintenance procedures for ultrasound equipment.	2.58
93.	Knowledge of methods and media for contrast radiography.	2.56
91.	Knowledge of manual and automatic radiographic film processing techniques.	2.55
87.	<del>Knowledge of techniques to obtain diagnostic ultrasound images.</del>	<del>2.27</del>
95.	<del>Knowledge of the techniques for preparing a patient for endoscopic evaluation.</del>	<del>1.80</del>

\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area. Knowledge statements in strikethrough font did not meet the importance cutoff determined by SMEs (see Chapter 4).

#### IV. Laboratory and Diagnostic Procedures (8%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
100.	Knowledge of techniques of specimen collection, handling, and storage.	4.04
99.	Knowledge of the equipment and techniques for obtaining blood pressure.	3.75
111.	Knowledge of procedures, equipment, and normal values for blood chemistries.	3.42
98.	Knowledge of techniques for obtaining electrocardiograms (ECGs).	3.39
103.	Knowledge of techniques for collecting, handling, reading, and storing samples for culture.	3.37
108.	Knowledge of procedures, equipment, and normal values for hematology.	3.36
107.	Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.	3.31
101.	Knowledge of methods and procedures to obtain tissue samples for histology and microbiology.	3.30
118.	Knowledge of blood composition (e.g., plasma, serum, cell morphology).	3.22
97.	Knowledge of gross and microscopic identification of ectoparasites and endoparasites.	3.21
104.	Knowledge of various staining techniques for samples.	3.21
110.	Knowledge of procedures, equipment, and normal values for electrolytes.	3.20
109.	Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).	3.15
117.	Knowledge of possible ramifications of improper sampling and handling procedures on clotting/coagulation disorders.	3.11
102.	Knowledge of techniques to obtain, prepare, and analyze skin scrapings.	3.10
115.	Knowledge of procedures and equipment for urinalysis.	3.04
112.	Knowledge of procedures and equipment for in-house serological testing.	3.01
116.	Knowledge of procedures and equipment for coagulation studies.	2.71
114.	Knowledge of procedures and equipment for fecal analysis.	2.58
113.	Knowledge of procedures, equipment, and normal values for blood gases.	2.16
119.	Knowledge of the techniques for blood typing and crossmatching.	2.02

#### IV. Laboratory and Diagnostic Procedures (8%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
<del>105.</del>	<del>Knowledge of techniques to incubate cultures.</del>	<del>1.88</del>
106.	Knowledge of identifying characteristics of common microorganisms and their antibiotic sensitivities.	1.71

*\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area. Knowledge statements in strikethrough font did not meet the importance cutoff determined by SMEs (see Chapter 4).*

## V. Anesthesia and Surgical Assistance (19%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
122.	Knowledge of the techniques for inducing anesthesia.	4.56
131.	Knowledge of actions taken in response to anesthetic emergencies.	4.54
140.	Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.	4.54
120.	Knowledge of levels and planes of anesthesia.	4.49
136.	Knowledge of the methods for preventing anesthetic complications to ensure patient safety.	4.49
121.	Knowledge of techniques for extubation and/or recovery of various species and breeds from anesthesia.	4.45
130.	Knowledge of normal values obtained from anesthetic monitoring equipment.	4.44
124.	Knowledge of various anesthetic agents (e.g., inhalation, injectable).	4.42
125.	Knowledge of various analgesic agents (e.g., intravenous, intramuscular).	4.39
123.	Knowledge of the methods for intubating various species and breeds for anesthesia.	4.38
128.	Knowledge of physiological effects of anesthesia on patient.	4.36
129.	Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).	4.30
144.	Knowledge of techniques to prepare patient for sterile procedures.	4.28
154.	Knowledge of procedures to maintain aseptic surgical environment.	4.27
135.	Knowledge of the procedures for operating and maintaining anesthetic equipment.	4.26
155.	Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.	4.22
157.	Knowledge of procedures for operating and maintaining anesthesia collection systems (e.g., scavenging) to ensure health and safety of personnel.	4.22
158.	Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	4.21

## V. Anesthesia and Surgical Assistance (19%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
127.	Knowledge of effects of patient positioning on patient vital signs.	4.19
132.	Knowledge of anesthetic requirements for different species and breeds.	4.19
137.	Knowledge of sedation protocols.	4.17
138.	Knowledge of protocol for the management of endotracheal tubes.	4.16
126.	Knowledge of effects of patient positioning on efficacy of anesthesia.	4.07
142.	Knowledge of procedures for storing sterile items.	3.91
141.	Knowledge of methods to prepare surgical and instrument packs.	3.87
151.	Knowledge of surgical instruments and materials.	3.81
143.	Knowledge of procedures for closed, open, or assisted gloving.	3.62
149.	Knowledge of protocols and techniques to remove sutures and staples.	3.60
146.	Knowledge of instruments for different suture and staple materials.	3.54
156.	Knowledge of the methods for post-surgical bandage application and care.	3.51
150.	Knowledge of the management and phases of wound healing.	3.49
133.	Knowledge of anatomical sites for local anesthesia.	3.48
139.	Knowledge of methods and procedures for performing local analgesia.	3.44
134.	Knowledge of pharmacological agents utilized for local analgesia (e.g., nerve blocks).	3.43
145.	Knowledge of techniques and procedures to suture/staple skin.	3.36
152.	Knowledge of various surgical closure agents.	3.33
147.	Knowledge of the different types of drains.	2.76
153.	Knowledge of different suture patterns.	2.64
<del>148.</del>	<del>Knowledge of techniques to place drains.</del>	<del>2.33</del>
<del>159.</del>	<del>Knowledge of the techniques for endoscopic procedures.</del>	<del>1.73</del>

\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area. Knowledge statements in strikethrough font did not meet the importance cutoff determined by SMEs (see Chapter 4).

## VI. Animal Dentistry (6%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
165.	Knowledge of normal and abnormal oral anatomy.	3.49
183.	Knowledge of methods to calculate dosages, constant rate infusions,, dilutions, and conversions of medications for dental procedures.	3.38
166.	Knowledge of signs of oral pathologies.	3.26
180.	Knowledge of the interactive effects of dental health and overall health.	3.26
173.	Knowledge of techniques to avoid operator exposure to infectious agents during dental prophylaxis.	3.24
163.	Knowledge of procedures for dental prophylaxis and polishing.	3.23
174.	Knowledge of techniques to avoid patient cross-contamination from dental procedures.	3.23
162.	Knowledge of indications for tooth extraction.	3.18
164.	Knowledge of techniques for tooth extraction.	3.14
171.	Knowledge of common dental terminology.	3.14
182.	Knowledge of proper patient positioning techniques for dental procedures.	3.11
179.	Knowledge of oral and facial anatomy of different species and breeds.	3.10
161.	Knowledge of purposes of common dental instruments.	3.09
176.	Knowledge of hemostatic agents for the control of bleeding.	3.07
172.	Knowledge of procedures to maintain dental instruments and equipment.	3.04
178.	Knowledge of the tooth anatomy of various species and breeds.	2.99
170.	Knowledge of dental charting techniques.	2.89
177.	Knowledge of the complications related to oral surgery in various species and breeds.	2.82
175.	Knowledge of pain control methods (e.g., nerve blocks) for dental procedures.	2.79
181.	Knowledge of suturing techniques for dental procedures.	2.63
160.	Knowledge of methods, procedures, and equipment for dental radiology.	2.55
<del>167.</del>	<del>Knowledge of methods to develop dental radiographs.</del>	<del>2.08</del>
<del>168.</del>	<del>Knowledge of techniques to trim teeth/beaks.</del>	<del>1.41</del>
<del>169.</del>	<del>Knowledge of techniques to float teeth.</del>	<del>0.86</del>

\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area. Knowledge statements in strikethrough font did not meet the importance cutoff determined by SMEs (see Chapter 4).

## VII. Animal Nursing (22%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
200.	Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.	4.38
232.	Knowledge of the methods for collecting blood.	4.33
201.	Knowledge of types, placement, and techniques for care of intravenous catheters.	4.24
199.	Knowledge of aseptic technique for medical procedures.	4.22
231.	Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.	4.22
228.	Knowledge of methods to calculate dosages, dilutions, and conversions of medications.	4.19
207.	Knowledge of techniques to manage contagious diseases.	4.17
229.	Knowledge of assessing pain and pain management protocols.	4.11
190.	Knowledge of possible adverse reactions to incorrect fluid administration.	4.06
186.	Knowledge of fluid therapy protocols.	3.93
211.	Knowledge of federal and state regulations regarding handling, storage, and disposal of biohazardous waste.	3.92
233.	Knowledge of the methods for collecting urine samples.	3.90
187.	Knowledge of operation and maintenance of fluid administration pumps.	3.89
189.	Knowledge of administration rates for fluid therapy.	3.88
217.	Knowledge of techniques to prepare and position patient for diagnostic procedures.	3.86
204.	Knowledge of normal anatomy of various species and breeds.	3.84
206.	Knowledge of procedures and acceptable methods for euthanasia of various species and breeds.	3.79
219.	Knowledge of techniques, materials, and equipment for collection and handling of blood products.	3.66
188.	Knowledge of different types of intravenous drip sets.	3.56
198.	Knowledge of commonly used methods for obtaining body weights.	3.56

## VII. Animal Nursing (22%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
230.	Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.	3.48
192.	Knowledge of the application and problems associated with bandages, casts, and splints.	3.45
195.	Knowledge of techniques and protocols for nonsurgical debridement and cleaning of wounds.	3.34
196.	Knowledge of techniques and protocols for cleaning and flushing of abscesses.	3.33
208.	Knowledge of treatments for common endoparasites and ectoparasites.	3.33
216.	Knowledge of techniques for cleaning and flushing ears.	3.33
226.	Knowledge of common sites and techniques for applying topical medications.	3.29
202.	Knowledge of types, placement, and care of urinary catheters.	3.27
193.	Knowledge of different types of bandages, casts, and splints and their application.	3.26
215.	Knowledge of normal and abnormal ear anatomy.	3.23
212.	Knowledge of location and appearance of normal and abnormal anal sacs.	3.18
209.	Knowledge of treatments for common skin problems.	3.12
210.	Knowledge of various types of ocular diagnostics.	3.05
213.	Knowledge of methods to express and infuse anal sacs.	3.05
222.	Knowledge of techniques and equipment to trim nails of different species.	3.05
203.	Knowledge of the methods used to manage urinary collection systems and calculate urine output.	3.03
218.	Knowledge of procedures to implant microchips.	3.01
197.	Knowledge of prescription and nonprescription diets.	2.97
194.	Knowledge of the protocol for applying topical insecticidal solutions.	2.86
185.	Knowledge of procedures to administer enemas.	2.80
220.	Knowledge of techniques, materials, and equipment for administration of blood products.	2.80
221.	Knowledge of adverse reactions and contraindications for transfusion of blood products.	2.76



## VII. Animal Nursing (22%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
227.	Knowledge of common sites and handling techniques for transdermal medications.	2.74
191.	Knowledge of protocol regarding the placement, use, and maintenance of tubes (e.g., nasogastric, gastrointestinal).	2.72
184.	Knowledge of different types and applications of enemas.	2.58
<del>214.</del>	<del>Knowledge of equipment and techniques to administer drugs via nebulization.</del>	<del>2.29</del>
<del>205.</del>	<del>Knowledge of physical therapy protocols for various species and breeds.</del>	<del>2.18</del>
<del>225.</del>	<del>Knowledge of feather anatomy and the techniques and equipment used to clip wings.</del>	<del>1.09</del>
<del>224.</del>	<del>Knowledge of techniques and equipment to trim beaks.</del>	<del>1.06</del>
<del>223.</del>	<del>Knowledge of techniques and equipment to trim hooves of different species.</del>	<del>0.79</del>

\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area. Knowledge statements in strikethrough font did not meet the importance cutoff determined by SMEs (see Chapter 4).

### VIII. Pharmacology (8%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
244.	Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	4.19
242.	Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.	4.18
251.	Knowledge of methods for maintaining controlled substances records and logs.	4.16
248.	Knowledge of abbreviations in prescriptions.	4.12
249.	Knowledge of federal and state regulations (e.g., drug schedule) regarding ordering, handling, and storage of controlled substances.	4.11
241.	Knowledge of potential adverse drug reactions of medications.	4.09
245.	Knowledge of conversion factors for calculating weights and measures.	4.05
243.	Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics).	4.03
240.	Knowledge of methods to obtain different dosages of medications.	3.97
250.	Knowledge of storage requirements of pharmacological agents.	3.96
247.	Knowledge of requirements for prescription labels.	3.82
235.	Knowledge of primary pharmacological agents to arrest seizure activity.	3.81
246.	Knowledge of additives and calculations used in fluid therapy.	3.61
234.	Knowledge of pharmacological agents to treat shock.	3.58
237.	Knowledge of pharmacological agents used for treatment of various bodily systems (e.g., gastrointestinal, respiratory, urinary) disorders.	3.56
238.	Knowledge of pharmacological agents for various conditions (e.g., bacterial, viral, endocrinal, immunological).	3.51
252.	Knowledge of common vaccination protocols.	3.49
<del>239.</del>	<del>Knowledge of nutraceutical products.</del>	<del>2.45</del>
<del>236.</del>	<del>Knowledge of methods to calculate body mass.</del>	<del>2.40</del>

\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area. Knowledge statements in strikethrough font did not meet the importance cutoff determined by SMEs (see Chapter 4).

## IX. Owner/Agent Communication (7%)

Knowledge #	KNOWLEDGE STATEMENT	Importance*
261.	Knowledge of conditions that require urgent care.	4.32
260.	Knowledge of pain management protocols.	4.01
270.	Knowledge of the signs of contagious animal diseases.	3.93
265.	Knowledge of zoonotic diseases.	3.89
266.	Knowledge of administration and storage techniques for dispensed medications.	3.85
264.	Knowledge of pre-surgical and post-surgical home care protocols.	3.83
269.	Knowledge of reasons and techniques for sterilization and neutering.	3.54
273.	Knowledge of breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.	3.54
259.	Knowledge of nutritional requirements and regimens for postsurgical patients.	3.43
268.	Knowledge of normal and abnormal animal behaviors for owner/agent education.	3.40
272.	Knowledge of the environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.	3.27
255.	Knowledge of procedures for parasite prevention and techniques used for various species and breeds.	3.26
267.	Knowledge of recommended vaccine protocols for owner/agent education.	3.26
256.	Knowledge of importance of immunology and vaccine mechanisms.	3.21
271.	Knowledge of the various types of husbandry for various species and breeds.	3.18
262.	Knowledge of first aid techniques to be implemented by owner/agent.	3.17
258.	Knowledge of therapeutic diets for disease management.	3.04
254.	Knowledge of anal sac expression techniques.	3.01
257.	Knowledge of nutritional and exercise requirements for patient health.	2.99
253.	Knowledge of oral hygiene for various species and breeds.	2.92
274.	Knowledge of grooming techniques (e.g., eyes, ears, nails, coat).	2.77
263.	Knowledge of reproductive cycles and complications of various species and breeds.	2.58

\*NOTE: The knowledge statements have been sorted in descending order of importance for each content area.

APPENDIX D. KNOWLEDGE IMPORTANCE RATINGS  
(CONTENT AREAS OMITTED)

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
24.	Knowledge of signs of life-threatening conditions.	4.67
18.	Knowledge of normal and abnormal respiration.	4.58
122.	Knowledge of the techniques for inducing anesthesia.	4.56
17.	Knowledge of normal and abnormal vital signs.	4.54
131.	Knowledge of actions taken in response to anesthetic emergencies.	4.54
140.	Knowledge of the methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.	4.54
120.	Knowledge of levels and planes of anesthesia.	4.49
136.	Knowledge of the methods for preventing anesthetic complications to ensure patient safety.	4.49
121.	Knowledge of techniques for extubation and/or recovery of various species and breeds from anesthesia.	4.45
130.	Knowledge of normal values obtained from anesthetic monitoring equipment.	4.44
124.	Knowledge of various anesthetic agents (e.g., inhalation, injectable).	4.42
29.	Knowledge of signs of normal and abnormal color, moisture, and capillary refill time of mucous membranes.	4.40
125.	Knowledge of various analgesic agents (e.g., intravenous, intramuscular).	4.39
123.	Knowledge of the methods for intubating various species and breeds for anesthesia.	4.38
200.	Knowledge of methods of restraint for various breeds and species to ensure staff and patient safety.	4.38
39.	Knowledge of restraint techniques and/or devices for various species/breeds.	4.36
128.	Knowledge of physiological effects of anesthesia on patient.	4.36
54.	Knowledge of procedures for establishing a patent airway.	4.33
232.	Knowledge of the methods for collecting blood.	4.33
261.	Knowledge of conditions that require urgent care.	4.32
41.	Knowledge of pain indicators (e.g., elevated heart rate, whining, panting, hiding, drooling).	4.30
129.	Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).	4.30

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
144.	Knowledge of techniques to prepare patient for sterile procedures.	4.28
154.	Knowledge of procedures to maintain aseptic surgical environment.	4.27
72.	Knowledge of the types of equipment used for monitoring vitals.	4.26
135.	Knowledge of the procedures for operating and maintaining anesthetic equipment.	4.26
76.	Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	4.25
201.	Knowledge of types, placement, and techniques for care of intravenous catheters.	4.24
19.	Knowledge of normal and abnormal respiratory sounds.	4.23
59.	Knowledge of techniques for oxygen administration.	4.23
155.	Knowledge of aseptic technique (e.g., scrubbing in, opening surgical packs) for surgical procedures.	4.22
157.	Knowledge of procedures for operating and maintaining anesthesia collection systems (e.g., scavenging) to ensure health and safety of personnel.	4.22
199.	Knowledge of aseptic technique for medical procedures.	4.22
231.	Knowledge of the methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.	4.22
158.	Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	4.21
127.	Knowledge of effects of patient positioning on patient vital signs.	4.19
132.	Knowledge of anesthetic requirements for different species and breeds.	4.19
228.	Knowledge of methods to calculate dosages, dilutions, and conversions of medications.	4.19
244.	Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	4.19
242.	Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.	4.18
25.	Knowledge of signs of toxicity.	4.17

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
137.	Knowledge of sedation protocols.	4.17
207.	Knowledge of techniques to manage contagious diseases.	4.17
138.	Knowledge of protocol for the management of endotracheal tubes.	4.16
251.	Knowledge of methods for maintaining controlled substances records and logs.	4.16
78.	Knowledge of the methods for preventing the spread of zoonotic and infectious diseases.	4.15
20.	Knowledge of normal and abnormal cardiac sounds.	4.13
48.	Knowledge of clinical signs of shock.	4.12
248.	Knowledge of abbreviations in prescriptions.	4.12
229.	Knowledge of assessing pain and pain management protocols.	4.11
249.	Knowledge of federal and state regulations (e.g., drug schedule) regarding ordering, handling, and storage of controlled substances.	4.11
57.	Knowledge of techniques to regulate body temperature in cases of hyperthermia or hypothermia.	4.10
69.	Knowledge of methods to obtain different dosages of medications.	4.10
11.	Knowledge of adverse reactions to previous medications or treatments.	4.09
67.	Knowledge of emergency intravenous techniques to stabilize patient.	4.09
241.	Knowledge of potential adverse drug reactions of medications.	4.09
6.	Knowledge of potential effect of medications/supplements on patient's condition.	4.08
126.	Knowledge of effects of patient positioning on efficacy of anesthesia.	4.07
190.	Knowledge of possible adverse reactions to incorrect fluid administration.	4.06
36.	Knowledge of zoonotic diseases (e.g., giardia, ringworm, leptospirosis).	4.05
245.	Knowledge of conversion factors for calculating weights and measures.	4.05
74.	Knowledge of pain management protocols.	4.04
100.	Knowledge of techniques of specimen collection, handling, and storage.	4.04
23.	Knowledge of normal and abnormal neurological signs.	4.03
50.	Knowledge of clinical signs and effects of trauma.	4.03

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
243.	Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics).	4.03
15.	Knowledge of body posture and body language for different species.	4.01
49.	Knowledge of the methods for stabilizing a patient in shock.	4.01
260.	Knowledge of pain management protocols.	4.01
14.	Knowledge of methods (e.g., skin turgor, ocular appearance, mucous membrane appearance) for determining hydration status.	4.00
21.	Knowledge of common equipment used to conduct physical examinations.	3.99
47.	Knowledge of the methods used to triage patients.	3.97
61.	Knowledge of methods to perform cardiopulmonary cerebral resuscitation (CPCR).	3.97
240.	Knowledge of methods to obtain different dosages of medications.	3.97
31.	Knowledge of regulations regarding medical recordkeeping.	3.96
250.	Knowledge of storage requirements of pharmacological agents.	3.96
186.	Knowledge of fluid therapy protocols.	3.93
270.	Knowledge of the signs of contagious animal diseases.	3.93
51.	Knowledge of procedures to safely stabilize traumatic injuries.	3.92
211.	Knowledge of federal and state regulations regarding handling, storage, and disposal of biohazardous waste.	3.92
142.	Knowledge of procedures for storing sterile items.	3.91
80.	Knowledge of methods to limit operator radiation exposure (e.g., collimation and personal protective equipment).	3.90
233.	Knowledge of the methods for collecting urine samples.	3.90
187.	Knowledge of operation and maintenance of fluid administration pumps.	3.89
265.	Knowledge of zoonotic diseases.	3.89
189.	Knowledge of administration rates for fluid therapy.	3.88
1.	Knowledge of factors that affect patient's attitude, behavior, and overall health status.	3.87
141.	Knowledge of methods to prepare surgical and instrument packs.	3.87



<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
217.	Knowledge of techniques to prepare and position patient for diagnostic procedures.	3.86
43.	Knowledge of methods for obtaining patient signalment information.	3.85
53.	Knowledge of procedures for assisted ventilation.	3.85
266.	Knowledge of administration and storage techniques for dispensed medications.	3.85
204.	Knowledge of normal anatomy of various species and breeds.	3.84
26.	Knowledge of normal eye appearance.	3.83
63.	Knowledge of treatments and protocols to stabilize seizing patients.	3.83
94.	Knowledge of dangers associated with radiation exposure.	3.83
264.	Knowledge of pre-surgical and post-surgical home care protocols.	3.83
79.	Knowledge of laws and regulations regarding radiation safety.	3.82
247.	Knowledge of requirements for prescription labels.	3.82
60.	Knowledge of precautions for oxygen therapy.	3.81
151.	Knowledge of surgical instruments and materials.	3.81
235.	Knowledge of primary pharmacological agents to arrest seizure activity.	3.81
89.	Knowledge of anatomy for positioning patients for radiography.	3.80
206.	Knowledge of procedures and acceptable methods for euthanasia of various species and breeds.	3.79
81.	Knowledge of techniques of manual, mechanical, and chemical restraint for radiography.	3.78
82.	Knowledge of methods, procedures, and equipment for radiography.	3.78
73.	Knowledge of metabolic diseases (e.g., hypoglycemia, urethral obstruction, gastric dilatation volvulus) and life-threatening conditions in various breeds/species.	3.77
99.	Knowledge of the equipment and techniques for obtaining blood pressure.	3.75
62.	Knowledge of medical conditions that could cause seizures.	3.74
71.	Knowledge of types and administration of emergency fluid therapy.	3.74
56.	Knowledge of clinical signs of heat prostration.	3.71
64.	Knowledge of agents that can cause toxicity.	3.68

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
219.	Knowledge of techniques, materials, and equipment for collection and handling of blood products.	3.66
96.	Knowledge of the care and maintenance of personal protective equipment.	3.64
32.	Knowledge of reportable diseases according to federal law.	3.62
33.	Knowledge of species, breed identification, and sex determination.	3.62
34.	Knowledge of reportable diseases according to California law.	3.62
143.	Knowledge of procedures for closed, open, or assisted gloving.	3.62
4.	Knowledge of normal eating and elimination patterns.	3.61
55.	Knowledge of safe techniques for applying tourniquets and pressure bandages.	3.61
246.	Knowledge of additives and calculations used in fluid therapy.	3.61
149.	Knowledge of protocols and techniques to remove sutures and staples.	3.60
70.	Knowledge of common signs of overhydration.	3.59
83.	Knowledge of procedures to set equipment according to a radiographic technique chart.	3.58
234.	Knowledge of pharmacological agents to treat shock.	3.58
188.	Knowledge of different types of intravenous drip sets.	3.56
198.	Knowledge of commonly used methods for obtaining body weights.	3.56
237.	Knowledge of pharmacological agents used for treatment of various bodily systems (e.g., gastrointestinal, respiratory, urinary) disorders.	3.56
8.	Knowledge of potential effect of over-the-counter medications on patient's present condition.	3.54
146.	Knowledge of instruments for different suture and staple materials.	3.54
269.	Knowledge of reasons and techniques for sterilization and neutering.	3.54
273.	Knowledge of breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.	3.54
13.	Knowledge of normal and/or abnormal animal behavior for a given species/breed.	3.52
45.	Knowledge of the types of physical abnormalities found during palpation.	3.52

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
40.	Knowledge of vaccine protocols and preventative measures and/or schedules.	3.51
156.	Knowledge of the methods for post-surgical bandage application and care.	3.51
238.	Knowledge of pharmacological agents for various conditions (e.g., bacterial, viral, endocrinal, immunological).	3.51
150.	Knowledge of the management and phases of wound healing.	3.49
165.	Knowledge of normal and abnormal oral anatomy.	3.49
252.	Knowledge of common vaccination protocols.	3.49
133.	Knowledge of anatomical sites for local anesthesia.	3.48
230.	Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.	3.48
27.	Knowledge of normal ear appearance.	3.47
52.	Knowledge of laws and regulations pertaining to reporting animal abuse, neglect, or zoonotic disease exposure.	3.47
65.	Knowledge of treatments and antidotes for toxicity.	3.47
192.	Knowledge of the application and problems associated with bandages, casts, and splints.	3.45
42.	Knowledge of common household exposures (e.g., plants, chemicals, pesticides).	3.44
77.	Knowledge of bandage placement techniques.	3.44
139.	Knowledge of methods and procedures for performing local analgesia.	3.44
16.	Knowledge of normal and abnormal skin conditions.	3.43
134.	Knowledge of pharmacological agents utilized for local analgesia (e.g., nerve blocks).	3.43
259.	Knowledge of nutritional requirements and regimens for postsurgical patients.	3.43
46.	Knowledge of the signs and symptoms of parasitic infestation.	3.42
111.	Knowledge of procedures, equipment, and normal values for blood chemistries.	3.42
38.	Knowledge of signs of normal and abnormal dental health and normal dentition.	3.40
268.	Knowledge of normal and abnormal animal behaviors for owner/agent education.	3.40
5.	Knowledge of appropriate housing and environmental conditions for patient species.	3.39

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
98.	Knowledge of techniques for obtaining electrocardiograms (ECGs).	3.39
183.	Knowledge of methods to calculate dosages, constant rate infusions,, dilutions, and conversions of medications for dental procedures.	3.38
10.	Knowledge of potential effect of patient's preventive health history on present condition.	3.37
103.	Knowledge of techniques for collecting, handling, reading, and storing samples for culture.	3.37
28.	Knowledge of normal nasal appearance.	3.36
108.	Knowledge of procedures, equipment, and normal values for hematology.	3.36
145.	Knowledge of techniques and procedures to suture/staple skin.	3.36
2.	Knowledge of inappropriate and appropriate diets for various conditions (e.g., species, breeds, age, health status).	3.35
75.	Knowledge of various emesis protocols.	3.35
195.	Knowledge of techniques and protocols for nonsurgical debridement and cleaning of wounds.	3.34
152.	Knowledge of various surgical closure agents.	3.33
196.	Knowledge of techniques and protocols for cleaning and flushing of abscesses.	3.33
208.	Knowledge of treatments for common endoparasites and ectoparasites.	3.33
216.	Knowledge of techniques for cleaning and flushing ears.	3.33
107.	Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.	3.31
101.	Knowledge of methods and procedures to obtain tissue samples for histology and microbiology.	3.30
226.	Knowledge of common sites and techniques for applying topical medications.	3.29
202.	Knowledge of types, placement, and care of urinary catheters.	3.27
272.	Knowledge of the environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.	3.27
166.	Knowledge of signs of oral pathologies.	3.26
180.	Knowledge of the interactive effects of dental health and overall health.	3.26
193.	Knowledge of different types of bandages, casts, and splints and their application.	3.26

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
255.	Knowledge of procedures for parasite prevention and techniques used for various species and breeds.	3.26
267.	Knowledge of recommended vaccine protocols for owner/agent education.	3.26
173.	Knowledge of techniques to avoid operator exposure to infectious agents during dental prophylaxis.	3.24
84.	Knowledge of relationship of kVp and mAs to produce diagnostic radiographs.	3.23
163.	Knowledge of procedures for dental prophylaxis and polishing.	3.23
174.	Knowledge of techniques to avoid patient cross-contamination from dental procedures.	3.23
215.	Knowledge of normal and abnormal ear anatomy.	3.23
118.	Knowledge of blood composition (e.g., plasma, serum, cell morphology).	3.22
97.	Knowledge of gross and microscopic identification of ectoparasites and endoparasites.	3.21
104.	Knowledge of various staining techniques for samples.	3.21
256.	Knowledge of importance of immunology and vaccine mechanisms.	3.21
110.	Knowledge of procedures, equipment, and normal values for electrolytes.	3.20
9.	Knowledge of patient's reproductive history and status and potential effect on present condition.	3.18
162.	Knowledge of indications for tooth extraction.	3.18
212.	Knowledge of location and appearance of normal and abnormal anal sacs.	3.18
271.	Knowledge of the various types of husbandry for various species and breeds.	3.18
262.	Knowledge of first aid techniques to be implemented by owner/agent.	3.17
30.	Knowledge of normal growth and development of young animals.	3.16
109.	Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).	3.15
164.	Knowledge of techniques for tooth extraction.	3.14
171.	Knowledge of common dental terminology.	3.14
66.	Knowledge of techniques for stabilizing orthopedic conditions.	3.13
12.	Knowledge of effect of patient's travel and/or disease exposure on health status.	3.12
209.	Knowledge of treatments for common skin problems.	3.12

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
117.	Knowledge of possible ramifications of improper sampling and handling procedures on clotting/coagulation disorders.	3.11
182.	Knowledge of proper patient positioning techniques for dental procedures.	3.11
44.	Knowledge of the relationship between dentition, dental health, and patient age.	3.10
102.	Knowledge of techniques to obtain, prepare, and analyze skin scrapings.	3.10
179.	Knowledge of oral and facial anatomy of different species and breeds.	3.10
68.	Knowledge of signs for potential adverse transfusion reaction.	3.09
161.	Knowledge of purposes of common dental instruments.	3.09
176.	Knowledge of hemostatic agents for the control of bleeding.	3.07
210.	Knowledge of various types of ocular diagnostics.	3.05
213.	Knowledge of methods to express and infuse anal sacs.	3.05
222.	Knowledge of techniques and equipment to trim nails of different species.	3.05
22.	Knowledge of normal and abnormal gastrointestinal sounds.	3.04
115.	Knowledge of procedures and equipment for urinalysis.	3.04
172.	Knowledge of procedures to maintain dental instruments and equipment.	3.04
258.	Knowledge of therapeutic diets for disease management.	3.04
203.	Knowledge of the methods used to manage urinary collection systems and calculate urine output.	3.03
37.	Knowledge of techniques for locating identification products and/or markings.	3.02
112.	Knowledge of procedures and equipment for in-house serological testing.	3.01
218.	Knowledge of procedures to implant microchips.	3.01
254.	Knowledge of anal sac expression techniques.	3.01
35.	Knowledge of proper methods for obtaining body condition score.	3.00
178.	Knowledge of the tooth anatomy of various species and breeds.	2.99
257.	Knowledge of nutritional and exercise requirements for patient health.	2.99

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
7.	Knowledge of potential effect of alternative therapies on patient's present condition.	2.97
197.	Knowledge of prescription and nonprescription diets.	2.97
92.	Knowledge of laws and regulations regarding labeling and storage of radiographs.	2.94
253.	Knowledge of oral hygiene for various species and breeds.	2.92
58.	Knowledge of techniques and dressings for managing burns.	2.91
170.	Knowledge of dental charting techniques.	2.89
85.	Knowledge of techniques to prepare and position patients for ultrasonography.	2.87
90.	Knowledge of anatomy for patient preparation, positioning, and sample collection for ultrasonography.	2.86
194.	Knowledge of the protocol for applying topical insecticidal solutions.	2.86
177.	Knowledge of the complications related to oral surgery in various species and breeds.	2.82
3.	Knowledge of the relationship between patient lifestyle (e.g., breeding, companion, work, export) and recommended health requirements (e.g., diet, husbandry, exercise).	2.81
185.	Knowledge of procedures to administer enemas.	2.80
220.	Knowledge of techniques, materials, and equipment for administration of blood products.	2.80
175.	Knowledge of pain control methods (e.g., nerve blocks) for dental procedures.	2.79
274.	Knowledge of grooming techniques (e.g., eyes, ears, nails, coat).	2.77
147.	Knowledge of the different types of drains.	2.76
221.	Knowledge of adverse reactions and contraindications for transfusion of blood products.	2.76
227.	Knowledge of common sites and handling techniques for transdermal medications.	2.74
191.	Knowledge of protocol regarding the placement, use, and maintenance of tubes (e.g., nasogastric, gastrointestinal).	2.72
116.	Knowledge of procedures and equipment for coagulation studies.	2.71
88.	Knowledge of techniques to obtain laboratory samples using ultrasound.	2.69
153.	Knowledge of different suture patterns.	2.64

<b>Knowledge #</b>	<b>KNOWLEDGE STATEMENT</b>	<b>Importance*</b>
181.	Knowledge of suturing techniques for dental procedures.	2.63
86.	Knowledge of care and maintenance procedures for ultrasound equipment.	2.58
114.	Knowledge of procedures and equipment for fecal analysis.	2.58
184.	Knowledge of different types and applications of enemas.	2.58
263.	Knowledge of reproductive cycles and complications of various species and breeds.	2.58
93.	Knowledge of methods and media for contrast radiography.	2.56
91.	Knowledge of manual and automatic radiographic film processing techniques.	2.55
160.	Knowledge of methods, procedures, and equipment for dental radiology.	2.55
<del>239.</del>	<del>Knowledge of nutraceutical products.</del>	<del>2.45</del>
<del>236.</del>	<del>Knowledge of methods to calculate body mass.</del>	<del>2.40</del>
<del>148.</del>	<del>Knowledge of techniques to place drains.</del>	<del>2.33</del>
<del>214.</del>	<del>Knowledge of equipment and techniques to administer drugs via nebulization.</del>	<del>2.29</del>
<del>87.</del>	<del>Knowledge of techniques to obtain diagnostic ultrasound images.</del>	<del>2.27</del>
<del>205.</del>	<del>Knowledge of physical therapy protocols for various species and breeds.</del>	<del>2.18</del>
<del>113.</del>	<del>Knowledge of procedures, equipment, and normal values for blood gases.</del>	<del>2.16</del>
<del>167.</del>	<del>Knowledge of methods to develop dental radiographs.</del>	<del>2.08</del>
<del>119.</del>	<del>Knowledge of the techniques for blood typing and crossmatching.</del>	<del>2.02</del>
<del>105.</del>	<del>Knowledge of techniques to incubate cultures.</del>	<del>1.88</del>
<del>95.</del>	<del>Knowledge of the techniques for preparing a patient for endoscopic evaluation.</del>	<del>1.80</del>
<del>159.</del>	<del>Knowledge of the techniques for endoscopic procedures.</del>	<del>1.73</del>
<del>106.</del>	<del>Knowledge of identifying characteristics of common microorganisms and their antibiotic sensitivities.</del>	<del>1.71</del>
<del>168.</del>	<del>Knowledge of techniques to trim teeth/beaks.</del>	<del>1.41</del>
<del>225.</del>	<del>Knowledge of feather anatomy and the techniques and equipment used to clip wings.</del>	<del>1.09</del>
<del>224.</del>	<del>Knowledge of techniques and equipment to trim beaks.</del>	<del>1.06</del>
<del>169.</del>	<del>Knowledge of techniques to float teeth.</del>	<del>0.86</del>



Knowledge #	KNOWLEDGE STATEMENT	Importance*
223.	<del>Knowledge of techniques and equipment to trim hooves of different species.</del>	0.79

*\*NOTE: The knowledge statements have been sorted in descending order of importance. Knowledge statements in strikethrough font did not meet the importance cutoff determined by SMEs (see Chapter 4).*

## APPENDIX E. CRITICAL INDICES BY TREATMENT FOCUS FOR TASKS

In the following table, the critical task indices are presented for the four primary treatment focus categories identified by the OA questionnaire data:

1. Animal Nursing was identified as the primary treatment focus for 93 respondents out of 349 total respondents.
2. Anesthesia was identified as the primary treatment focus for 62 respondents out of 349 total respondents.
3. Dental Procedures was identified as the primary treatment focus for 34 respondents out of 349 total respondents.
4. Owner Education was identified as the primary treatment focus for 30 respondents out of 349 total respondents.

Highlighted values indicate the highest criticality index for each task when the data was analyzed by primary treatment focus.

### I. Patient Examination (14%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
1.	Scan patient to determine the presence of identification products and/or markings (e.g., microchip, band, tattoo).	10.54	10.12	10.24	11.41	8.63
2.	Interview owner/agent regarding household environment (e.g., multiple pet, smoking, children, noise level) that may affect patient condition.	10.36	10.70	9.23	11.65	13.73
3.	Interview owner/agent regarding household exposures (e.g., chemicals, toxins, recreational drugs, plants) that may affect patient condition.	12.22	13.37	12.23	12.65	12.67
4.	Interview owner/agent regarding patient lifestyle (e.g., companion, competition, breeding, work, export) to focus methodology for examination.	8.64	8.80	8.48	8.21	15.00
5.	Obtain baseline information from owner/agent about chief complaint, signs and symptoms (e.g., sneezing, coughing, diarrhea, vomiting), and overall health status of the patient.	18.66	19.99	19.53	19.15	19.97
6.	Obtain and/or review information regarding patient medical history and current medications and supplements.	18.66	19.41	19.44	19.38	19.67
7.	Obtain information about patient's general husbandry, including diet and eating/drinking habits.	15.64	16.56	15.89	17.79	18.37
8.	Obtain information about patient's preventive health history (e.g., vaccines, heartworm, fecal).	14.46	15.58	15.69	17.38	18.07
9.	Obtain information about patient's travel history (e.g., local, domestic, international) and/or disease exposure (e.g., camping, boating, park, kennel, groomer).	10.72	11.84	11.47	11.03	13.03
10.	Obtain information about patient's signalment (e.g., name, species, color, breed, sex, weight, reproductive status, age).	18.19	19.20	18.68	19.03	18.80
11.	Assess patient's demeanor (e.g., bright, alert, responsive, lethargic) to establish/update patient health record.	20.19	21.09	19.94	19.82	19.73

### I. Patient Examination (14%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
12.	Identify patient's behavioral issues (e.g., aggressive, pacing, anxious, agitated, fearful) to establish/update patient health record.	17.06	17.83	17.06	15.91	17.63
13.	Assess patient pain score to determine need for further evaluation.	16.05	16.90	15.97	16.32	11.60
14.	Perform oral examination (e.g., gingivitis, tartar, halitosis, abnormalities) to establish baseline for patient.	12.74	13.76	13.42	18.65	11.87
15.	Assess skin turgor to establish/update patient health record.	12.51	14.19	11.06	15.32	9.70
16.	Assess patient's overall body condition (e.g., coat, skin, nasal, eye) to establish/update health record.	14.63	15.77	13.71	16.15	13.37
17.	Auscultate patient to evaluate heart, lung, respiration, and gastrointestinal sounds to establish/update patient health record.	16.07	17.54	16.63	17.29	13.40
18.	Assess mucous membrane (e.g., capillary refill time [CRT], color, moisture) to establish a baseline and/or update for patient medical record.	17.97	19.69	19.56	20.03	12.13
19.	Obtain vital signs (e.g., temperature, pulse, respiration) to establish/update patient health record.	19.80	21.13	22.16	21.06	15.97
20.	Assess body score for patient utilizing body conditioning system (e.g., observation and palpation of ribs, lumbar vertebrae, pelvic bones, fat deposits) to establish/update health record.	11.27	11.13	11.58	13.18	11.07
21.	Palpate patient to determine the presence of physical abnormalities (e.g., masses, enlarged lymph nodes, swelling) and deformities (e.g., eye, ear, limbs).	13.70	15.38	13.39	14.26	12.37
22.	Assess patient to determine presence of parasites (e.g., fleas, worms, ticks).	13.03	13.63	13.08	14.59	15.80
23.	Assess patient's skin to determine abnormalities (e.g., fungal, yeast, bacteria, hair loss, allergies).	12.14	12.25	12.26	13.50	14.07

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.

## II. Emergency and Critical Care (10%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
24.	Determine treatment order (e.g., triage) for various patients exhibiting varying levels of distress.	15.29	16.38	15.65	16.76	11.30
25.	Perform initial intake procedures to determine vitals, weight, and signalment.	17.73	18.98	19.40	17.32	16.13
26.	Initiate emesis induction on patient to treat ingestion of toxic materials.	11.03	12.84	11.08	14.29	8.00
27.	Perform intravenous catheter placement in order to administer blood products, medications, or fluid therapy to stabilize/treat patient.	18.93	20.37	22.21	21.74	14.63
28.	Monitor patient for overhydration symptoms.	13.00	14.17	14.60	14.26	8.33
29.	Collect sample (e.g., blood, urine) for initial diagnostics.	19.86	21.69	21.37	21.65	18.37
30.	Perform radiographs for initial diagnostics.	17.11	18.87	19.45	18.09	14.57
31.	Provide supportive treatment for patient exhibiting signs of shock.	13.49	14.88	14.03	15.53	9.30
32.	Provide supportive treatment for patient exhibiting signs of hyperthermia (e.g., seizures, heat prostration).	12.49	13.58	11.60	14.94	9.87
33.	Provide supportive treatment for patient exhibiting signs of hypothermia.	13.14	13.75	13.92	15.68	10.60
34.	Apply wound dressings to burned tissue.	6.56	6.59	6.69	9.24	4.67
35.	Apply bandages to stabilize hemorrhagic patients.	8.79	9.33	8.69	10.50	7.47
36.	Apply bandages/splints to stabilize orthopedic conditions.	9.25	9.04	9.69	11.09	7.37
37.	Apply tourniquet to control blood flow.	6.45	6.68	6.76	8.50	6.43
38.	Establish patent airway (e.g., intubate, clear obstruction) to stabilize patient condition.	14.60	15.01	15.47	15.97	11.87
39.	Perform cardiopulmonary cerebral resuscitation (CPCR) to revive and stabilize patient in cardiac arrest.	8.94	10.08	9.24	8.91	6.47
40.	Provide protective restraint and environment for seizing patient to prevent/minimize trauma.	9.18	10.11	9.87	8.38	6.10
41.	Administer oxygen to stabilize patient exhibiting respiratory distress.	14.32	16.15	15.06	14.21	11.03

## II. Emergency and Critical Care (10%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
42.	Utilize various methods to decompress stomach and stabilize patient.	6.19	7.63	5.73	6.53	4.00
43.	Utilize personal protective equipment and safe handling techniques for suspected rabies and other zoonotic/infectious disease exposed patients.	12.74	13.48	11.08	11.15	11.13
44.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	18.96	20.54	19.92	18.76	13.13
45.	Interview owner/agent regarding critical incident and history of patient.	14.82	16.30	15.74	16.38	12.93

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.

### III. Diagnostic Imaging (6%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
46.	Adhere with radiation protocol (e.g., personal protective equipment placement, distance from exposure, equipment settings) to ensure safety of staff and patients.	18.68	19.90	20.11	21.62	15.67
47.	Restrain patient utilizing various techniques (e.g., manual, mechanical, and chemical) for radiographic imaging.	17.43	18.62	19.34	20.76	15.43
48.	Obtain diagnostic radiographs on patient for veterinarian review.	17.50	18.51	19.23	20.44	14.90
49.	Process diagnostic radiographs (e.g., digital, film) for veterinarian review.	15.21	16.74	17.79	18.18	11.87
50.	Position patient for radiography (e.g., general, specialized) to maximize imaging results and ensure staff and patient safety.	17.48	18.91	19.32	21.06	14.37
51.	Perform contrast radiology studies for veterinarian review.	6.74	7.33	8.23	6.74	5.07
52.	Adhere with state regulations regarding radiograph equipment maintenance to ensure staff and patient safety.	15.71	16.41	16.76	20.26	13.13
53.	Prepare and position patient for ultrasonography to maximize procedural results.	11.35	12.70	10.47	13.12	9.90
54.	Obtain diagnostic ultrasound images for veterinarian review.	5.06	5.38	4.85	6.88	4.40
55.	Maintain radiographic image bank for further diagnostic purposes and/or to monitor disease progression.	10.66	11.06	12.58	12.71	10.00
56.	Assist with ultrasonography for a variety of veterinary medical procedures (e.g., biopsy, organ location, cystocentesis, injections, fluid drainage) to facilitate the process.	11.01	11.98	10.18	13.03	9.30
57.	Prepare patient for endoscopic exams of various types.	4.38	4.54	4.45	3.74	3.50

### III. Diagnostic Imaging (6%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
58.	Label diagnostic images in accordance with State regulation.	14.67	15.83	15.58	17.74	13.13

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.



#### IV. Laboratory and Diagnostic Procedures (8%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
59.	Obtain a diagnostic electrocardiogram (ECG) to establish patient condition.	11.61	12.24	14.11	14.79	8.97
60.	Obtain patient blood pressure to establish patient condition.	15.02	16.10	17.58	17.76	12.27
61.	Determine patient blood clotting times for diagnostic purposes.	9.44	10.44	10.89	9.47	5.73
62.	Obtain patient blood samples for coagulation values.	10.80	11.72	11.89	12.79	7.50
63.	Collect and prepare fecal samples from patient for analysis and review by the veterinarian.	9.81	10.10	11.23	13.44	10.53
64.	Prepare tissue samples obtained from patient for analysis and review by the veterinarian.	8.99	9.62	10.42	10.65	8.27
65.	Collect ectoparasites from patient for identification purposes.	7.14	7.30	7.52	9.74	8.67
66.	Obtain and prepare various samples (e.g., otic, facial fold) for cytology evaluation.	10.19	11.12	10.31	13.09	13.30
67.	Obtain and prepare skin scrapings and/or impressions from patient for analysis and review by the veterinarian.	9.84	9.92	9.98	13.59	13.23
68.	Obtain and prepare diagnostic samples from patient for bacterial (e.g., urinary, aural, skin) and fungal cultures.	10.45	10.99	10.94	13.47	12.53
69.	Perform bacterial sensitivity testing for analysis and review by the veterinarian.	3.86	3.38	4.32	5.82	4.33
70.	Determine patient packed-cell volume (PCV) and total protein for analysis and review by the veterinarian.	14.97	17.29	16.35	16.18	10.30
71.	Collect and prepare blood samples for analysis and review by the veterinarian.	18.26	20.40	20.90	19.50	15.27
72.	Perform routine blood chemistries for analysis and review by the veterinarian.	17.86	20.52	20.05	20.09	16.30
73.	Perform serological testing for analysis and review by the veterinarian.	11.61	13.67	12.34	14.71	9.23
74.	Collect and prepare patient urine samples for analysis of patient condition.	14.43	16.16	16.19	17.56	13.40

**IV. Laboratory and Diagnostic Procedures (8%)**

<b>TASK #</b>	<b>TASK STATEMENT</b>	<b>Overall</b>	<b>Animal Nursing (N = 93)</b>	<b>Anesthesia (N = 62)</b>	<b>Dental Procedures (N = 34)</b>	<b>Owner Education (N = 30)</b>
75.	Collect and prepare blood samples to perform blood typing and crossmatching.	5.86	7.03	4.98	4.24	2.63
76.	Collect and prepare blood samples to perform cytological evaluation (e.g., red blood cell count, white blood cell count, differential count) of patient.	11.96	13.49	12.61	12.50	9.43

*\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.*

### V. Anesthesia and Surgical Assistance (19%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
77.	Induce anesthesia on patient utilizing various methods (e.g., intravenously, inhalation, intramuscularly) to prepare patient for veterinary surgical procedures.	20.33	20.42	23.32	23.59	17.17
78.	Monitor patient (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.	21.24	22.18	23.92	23.91	18.73
79.	Administer local analgesia to manage pain.	15.60	16.30	16.24	20.68	11.80
80.	Administer pre-operative and post-operative analgesics to manage pain.	19.91	20.89	21.98	22.62	15.60
81.	Perform endotracheal intubation on patient to establish airway for surgical procedures.	20.22	20.87	23.52	23.88	17.53
82.	Extubate patient following surgical procedure.	20.19	21.26	23.44	23.74	18.90
83.	Place drain(s) in patient wound remove and prevent excess fluid.	5.25	5.54	4.81	5.91	5.23
84.	Prepare surgical instruments and materials for veterinary procedures in adherence with aseptic techniques.	17.81	17.82	21.05	20.65	17.07
85.	Maintain aseptic environment in surgical suite.	19.64	19.29	22.63	22.65	17.80
86.	Utilize aseptic techniques (e.g., scrubbing in, opening surgical packs) for surgical procedures.	19.44	19.87	22.71	22.03	16.13
87.	Close existing incisions (e.g., aural hematoma, lacerations, gingiva) on patient with sutures, staples, or tissue adhesives to control bleeding and prevent infection.	8.40	8.80	6.69	13.18	6.83
88.	Remove sutures or staples from patient upon completion of healing cycle.	14.32	14.71	16.19	17.00	14.73
89.	Prepare and position patient (e.g., shave, scrub, express bladder) for veterinary surgical procedures.	18.13	18.54	21.69	21.85	16.60
90.	Provide post-surgical patient evaluation and care (e.g., radiographs, bandage maintenance) to optimize recovery.	15.77	16.75	18.68	18.91	14.23

### V. Anesthesia and Surgical Assistance (19%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
91.	Utilize various methods to maintain patient body temperature before, during, and after surgical procedures.	19.58	20.34	22.19	22.85	17.20
92.	Obtain blood pressure to establish and/or maintain baseline for patient.	16.56	18.15	19.50	20.76	13.97
93.	Provide surgical instruments to assist in the completion of surgical tasks.	14.97	15.94	18.00	18.47	12.53
94	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	18.49	20.19	20.24	19.44	11.67
95.	Prepare patient for endoscopic exams of various types (e.g., biopsy, fluid, culture) to facilitate the sampling process.	6.35	5.76	6.92	7.56	5.83
96.	Maintain anesthetic equipment to ensure safety of patients and veterinary staff.	17.86	17.71	20.68	21.74	15.73
97.	Assemble supplies to utilize in the event of an anesthetic emergency.	15.67	16.56	17.05	20.18	13.63
98.	Maintain surgical instrument sterilization and storage protocol in accordance with laws and regulations.	17.54	17.82	20.06	21.15	17.30

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.

## VI. Animal Dentistry (6%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
99.	Perform diagnostic dental radiographs.	9.10	9.65	11.61	15.50	9.13
100.	Prepare instruments for dental procedures.	12.00	12.97	14.34	20.50	13.60
101.	Perform oral examination on patient to identify areas that require further veterinary evaluation.	12.83	13.73	13.84	21.82	12.43
102.	Extract teeth from patient to maintain oral health.	10.88	11.53	11.66	19.91	11.00
103.	Perform dental prophylaxis on patient to maintain oral health.	13.17	14.74	15.81	22.68	14.00
104.	Perform dental charting on patient for further diagnostic purposes and/or to monitor disease progression.	11.76	12.31	13.37	21.65	12.90
105.	Trim patient teeth/beaks to maintain oral health.	2.97	2.70	3.11	4.24	3.70
106.	Float patient teeth to maintain oral health.	1.05	0.57	0.89	3.32	0.67
107.	Maintain dental instruments and equipment in accordance with the standards for a clinical environment.	11.82	12.29	14.13	19.97	12.53
108.	Perform local anesthetic blocks on patient to control pain during procedures.	8.45	9.33	9.31	16.68	6.17
109.	Suture patient gingival tissue to facilitate wound healing.	8.58	8.81	9.90	17.62	6.87
110.	Administer hemostatic agents (e.g., collagen, epinephrine, gel foam) to control bleeding.	6.41	6.84	5.44	13.88	5.33
111.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	15.30	17.60	17.06	20.06	10.33
112.	Position patient to optimize dental cleaning procedures and maintain safety.	13.36	14.42	16.39	22.47	14.33

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.

**VII. Animal Nursing (22%)**

<b>TASK #</b>	<b>TASK STATEMENT</b>	<b>Overall</b>	<b>Animal Nursing (N = 93)</b>	<b>Anesthesia (N = 62)</b>	<b>Dental Procedures (N = 34)</b>	<b>Owner Education (N = 30)</b>
113.	Perform ocular diagnostics to determine possible injuries and abnormalities.	9.63	11.17	9.11	11.24	9.20
114.	Flush lacrimal ducts to alleviate blockage and tear production deficiencies.	3.19	3.02	3.35	5.03	2.83
115.	Provide protective restraint of patient to ensure staff and patient safety.	20.29	21.47	21.63	21.79	18.97
116.	Express and treat anal sacs (e.g., medicating, flushing) to relieve patient discomfort.	11.54	12.46	13.84	17.09	13.13
117.	Administer enemas to stimulate bowel movement and relieve patient discomfort.	9.19	10.18	9.42	13.29	8.33
118.	Administer fluid therapy to manage patient condition.	18.63	20.52	20.15	21.74	14.33
119.	Administer liquid nutrition utilizing gastric tube to manage patient condition.	6.48	6.34	5.87	7.09	3.57
120.	Administer medications (e.g., orally, intramuscularly, intravenously) to treat patient condition in adherence with veterinarian instruction.	20.69	21.97	21.69	21.29	18.20
121.	Assemble nebulizer and administer treatment to improve patient condition.	6.74	7.33	5.31	7.82	4.20
122.	Apply casts and splints to stabilize patient injury.	8.78	8.72	9.10	10.97	6.13
123.	Apply bandages to stabilize patient injury.	11.27	12.26	11.95	13.68	9.13
124.	Provide care for abscesses or wounds on patient to facilitate healing.	12.77	13.68	12.42	16.12	11.33
125.	Perform ear cleaning and flushing to manage patient condition.	12.97	13.65	14.44	16.88	16.47
126.	Place intravenous catheter utilizing aseptic technique to manage patient condition.	19.56	21.08	22.15	22.85	16.90
127.	Monitor intravenous catheter site to maintain patency and prevent infection.	18.17	19.80	20.55	21.62	15.63
128.	Place and maintain indwelling urinary catheter and collection systems to ensure optimum function, comfort, and treatment of patient condition.	8.88	10.44	7.76	10.29	5.40

## VII. Animal Nursing (22%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
129.	Maintain urine collection systems to calculate output and determine hydration level or kidney function.	9.33	10.51	9.79	10.15	6.17
130.	Place and maintain gastric tubes to ensure optimum function and treatment of patient condition.	4.59	5.09	3.61	5.47	2.20
131.	Prepare and position patient for diagnostic procedures.	17.01	17.70	18.69	19.06	16.43
132.	Provide physical therapy in accordance with medical orders from the veterinarian.	6.44	7.63	6.39	6.24	3.97
133.	Observe and evaluate patient for abnormalities in health.	18.82	20.15	18.58	20.12	15.57
134.	Place patient identification products (e.g., microchips, bands).	12.79	12.58	13.18	15.50	13.17
135.	Administer blood products (e.g., plasma, transfusions) in accordance with medical orders from the veterinarian.	7.63	8.45	7.79	7.21	4.07
136.	Collect blood for transfusions.	4.49	4.18	4.55	6.18	3.30
137.	Collect urine samples for various diagnostics.	15.05	16.54	16.21	18.44	14.53
138.	Euthanize animals utilizing humane methodology in accordance with State regulations.	13.61	15.24	10.52	15.12	10.80
139.	Express patient urinary bladder to relieve discomfort and prevent infection.	10.88	12.16	11.60	11.91	9.63
140.	Observe patient gait (e.g., limp, discomfort, nervousness, pain) to determine behavioral or physical conditions.	13.92	15.31	13.56	14.94	11.23
141.	Observe patient behavior to determine need for further diagnostics.	14.94	16.52	14.69	16.29	11.80
142.	Collect blood for diagnostics.	20.28	21.81	22.32	21.56	18.57
143.	Dispose of biohazardous material in accordance with State and local laws.	18.00	18.12	17.71	20.15	16.03
144.	Maintain surgical and diagnostic equipment in accordance with the standards for a clinical environment.	17.66	17.80	20.18	21.24	14.83



## VII. Animal Nursing (22%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
145.	Provide medical grooming services (e.g., bathing, trimming, clipping, clipping) for a variety of breeds and species to maintain hygiene standards.	7.76	7.84	8.69	9.29	8.87
146.	Perform infection and pathogen control in accordance with State and federal law regarding an aseptic clinical environment.	16.55	17.85	15.42	19.62	15.47
147.	Monitor hospitalized patient to maintain stability and/or determine need for adjustments to treatment and husbandry.	17.49	19.47	18.23	19.53	14.67
148.	Obtain blood pressure to establish baseline for patient.	13.90	14.72	16.52	18.53	10.67
149.	Provide nutritional support (e.g., tube feeding) for hospitalized and/or incapacitated patients to boost/optimize treatment outcome.	9.72	10.69	8.76	11.94	5.67
150.	Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	18.31	20.16	19.21	20.76	11.43
151.	Interpret patient behavior of various breeds and species to determine interactive effects with condition.	12.83	15.29	12.81	13.38	10.10

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.



### VIII. Pharmacology (8%)

TASK #	TASK STATEMENT	Overall	Animal Nursing (N = 93)	Anesthesia (N = 62)	Dental Procedures (N = 34)	Owner Education (N = 30)
152.	Maintain controlled substances logs in accordance with State and federal requirements.	19.03	19.37	19.98	21.15	17.40
153.	Store and maintain controlled substances in accordance with State and federal requirements.	19.57	19.78	20.81	21.41	17.83
154.	Administer medications utilizing various routes (e.g., injectable, oral, topical) to stabilize/treat patient condition.	21.32	22.60	21.98	22.62	18.83
155.	Administer medications by nonroutine routes (e.g., intranasal, sublingual, rectal, transtracheal, transdermal) to treat patient condition.	12.28	12.49	13.48	14.38	10.33
156.	Administer medication utilizing tank immersion to stabilize/treat aquatic patients.	1.33	0.81	1.58	2.56	0.67
157.	Administer vaccinations in accordance with State regulations.	15.70	16.27	17.74	20.59	17.83
158.	Calculate dosages, dilutions, constant rate infusions, and volumes of prescribed patient medications.	18.98	20.19	19.74	20.88	13.53
159.	Prepare additives for fluid therapy.	14.01	16.32	13.50	16.21	9.57
160.	Calculate flow rates and volumes for fluid therapy.	15.62	17.61	17.90	18.94	11.47
161.	Fill prescription for patient under direction of veterinarian.	18.46	19.99	18.97	21.85	19.67
162.	Administer topical medications to treat patient condition.	15.12	15.33	15.15	19.24	14.30
163.	Assess patient for adverse reactions to medications.	16.21	18.04	16.11	18.97	13.13
164.	Store pharmacological agents in accordance with manufacturer's recommendations and State and federal requirements.	19.00	20.08	19.37	21.18	18.07

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.

**IX. Owner/Agent Communication (7%)**

<b>TASK #</b>	<b>TASK STATEMENT</b>	<b>Overall</b>	<b>Animal Nursing (N = 93)</b>	<b>Anesthesia (N = 62)</b>	<b>Dental Procedures (N = 34)</b>	<b>Owner Education (N = 30)</b>
165.	Educate owner/agent on the identification of conditions that require urgent care for various species and breeds.	13.82	15.28	14.03	15.12	15.60
166.	Educate owner/agent regarding reproduction cycles for various species and breeds.	6.54	6.99	6.40	9.74	7.27
167.	Educate owner/agent regarding dental care for various species and breeds.	11.33	12.48	13.05	18.74	13.50
168.	Educate owner/agent regarding ectoparasite and endoparasite control for patient.	12.57	13.99	13.50	15.71	17.00
169.	Educate owner/agent regarding patient diet, nutrition, and exercise.	11.59	13.28	11.82	14.59	13.30
170.	Educate owner/agent regarding pre-surgical and post-surgical care (e.g., bandage, infection) for patient.	17.40	17.38	20.26	21.53	15.27
171.	Educate owner/agent regarding prevention and/or recognition of the signs of contagious animal diseases.	12.59	14.00	12.58	14.82	13.77
172.	Educate owner/agent regarding prevention and/or recognition of the signs of zoonotic diseases in patient.	11.70	12.13	11.85	14.65	12.70
173.	Educate owner/agent regarding how to administer and store medications for patient.	16.02	17.26	16.40	18.24	15.87
174.	Educate owner/agent regarding recommended vaccination schedules for patient.	12.89	14.39	14.55	16.47	16.97
175.	Educate owner/agent regarding animal behavior and training.	9.27	10.29	9.44	12.26	11.30
176.	Educate owner/agent regarding spay and neuter procedures for various species and breeds.	12.18	12.83	14.27	15.56	14.17
177.	Educate owner/agent regarding patient anal sacs.	8.52	9.48	10.60	10.94	10.30
178.	Educate owner/agent regarding husbandry for various species and breeds.	9.13	10.19	9.15	10.68	10.03
179.	Educate owner/agent regarding pain management for patient.	15.57	16.12	16.97	18.65	12.27
180.	Educate owner/agent regarding first aid for patient.	8.09	9.04	8.89	9.26	6.87
181.	Educate owner/agent regarding grooming techniques (e.g., eyes, ears, nails, coat).	7.63	8.16	8.47	10.68	9.93

**IX. Owner/Agent Communication (7%)**

<b>TASK #</b>	<b>TASK STATEMENT</b>	<b>Overall</b>	<b>Animal Nursing (N = 93)</b>	<b>Anesthesia (N = 62)</b>	<b>Dental Procedures (N = 34)</b>	<b>Owner Education (N = 30)</b>
182.	Educate owner/agent regarding breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.	9.43	9.88	9.50	12.82	9.80
183.	Educate owner/agent regarding environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.	9.96	10.67	9.48	12.26	11.67

\*NOTE: Values highlighted in yellow indicate highest critical indices when data was analyzed by primary treatment focus.

APPENDIX F. QUESTIONNAIRE INVITATION LETTER



**VETERINARY MEDICAL BOARD**  
1747 North Market Boulevard, Suite 230, Sacramento, CA 95834  
(916) 515-5200 FAX (916) 928-6849 [www.vmb.ca.gov](http://www.vmb.ca.gov)

August 1, 2016

Dear California Registered Veterinary Technician:

The California Veterinary Medical Board is in the process of conducting an occupational analysis of the California Registered Veterinary Technician (CRVT) profession. The purpose of the occupational analysis is to identify the tasks performed by CRVTs in the current practice and the knowledge required to perform those tasks. Results of the occupational analysis will be used to update and improve the CRVT licensing program examinations.

The Board requests your assistance in this process. You have been selected, as a CRVT licensee in California, to complete an online questionnaire regarding the CRVT profession as it relates to you. Your participation is important to ensure that all aspects of the profession are included. Your individual responses will be kept confidential.

The online questionnaire will be available from **August 1, 2016 to September 26, 2016**, 24 hours a day, 7 days a week. It will take approximately three to four hours to complete the questionnaire\*.

For the completion of the questionnaire, you will receive **4 Continuing Education (CE) Credits**.

If you are interested in participating in this very important process, please use the following link to access the survey:

[https://www.surveymonkey.com/r/OA\\_CRVT](https://www.surveymonkey.com/r/OA_CRVT)

Again, the Board sincerely appreciates your dedication to your profession and to our mission of protecting the consumers of California by licensing qualified and competent providers.

**\*Important note: For your convenience, you may begin the survey questionnaire and exit to return to it at a later time as long as it is from the same computer and your computer settings allow saving of data (i.e. cookies) from websites.**

Sincerely,

**THE CALIFORNIA VETERINARY MEDICAL BOARD**

## APPENDIX G. QUESTIONNAIRE

### 1. COVER LETTER

**Dear Licensee:**

The California Veterinary Medical Board (VMB) is conducting an occupational analysis of the California Registered Veterinary Technician (CRVT) profession. The purpose of the occupational analysis is to identify the important tasks performed by CRVTs in current practice and the knowledge required to perform those tasks. Results of the occupational analysis will be used to update and improve the CRVT Examination.

The Board requests your assistance in this process. Please take the time to complete the survey questionnaire as it relates to your current practice. Your participation ensures that all aspects of the profession are covered and is essential to the success of this project.

Your individual responses will be kept confidential. Your responses will be combined with responses of other CRVTs and only group trends will be reported. Your personal information will not be tied to your responses.

In order to progress through this survey, please use the following navigation buttons:

- Click the Next button to continue to the next page.
- Click the Prev button to return to the previous page.
- Click the Done/Submit button to submit your survey as completed.

Any questions marked with an asterisk (\*) require an answer in order to progress through the survey questionnaire.

**Please Note:** This survey can take between 3-4 hours to complete. However, once you have started the survey, you can exit at any time and return to it later without losing your responses as long as you are accessing the survey from the same computer. The survey automatically saves fully-completed pages, but will not save responses to questions on pages that were partially completed when the survey was exited. This means that in order for a page to save, you must have completed that page and selected the "next" button. For your convenience, the weblink is available 24 hours a day 7 days a week.

Please submit the completed survey questionnaire by **September 30, 2016**.

For the completion of this questionnaire, you will receive **4 Continuing Education (CE) Credits\***

\*CE credits will be issued within 4-8 weeks for completed questionnaires only. You will be asked to submit a current email address so that the Board can issue your CE credits. There are **32 pages** in this questionnaire. The progress bar at the bottom of each page of this questionnaire will alert you to the current percentage of completion.

If you have any questions about completing this survey, please contact Jacqueline French of the VMB at (916) 515-5236 or email her at [jacqueline.french@dca.ca.gov](mailto:jacqueline.french@dca.ca.gov). The Board welcomes your participation in this project and sincerely thanks you for your time.

**2. COVER LETTER (Continued) - Instructions**

**INSTRUCTIONS FOR COMPLETING THE DEMOGRAPHIC QUESTIONS**

**This part of the questionnaire contains an assortment of demographic items, the responses to which will be used to describe California Registered Veterinary Technician (CRVT) practice as represented by the respondents to the questionnaire. Please note the instructions for each item before marking your response as several permit multiple responses.**

**INSTRUCTIONS FOR RATING TASK AND KNOWLEDGE STATEMENTS**

**This part of the questionnaire contains a list of tasks and knowledge descriptive of CRVT practice in a variety of settings. Please note that some of the tasks or knowledge may not apply to your setting.**

**For each task, you will be asked to answer two questions: 1) how important the task is in the performance of your current practice (importance)?, and 2) how often you perform the task (frequency)?**

**For each knowledge, you will be asked to answer one question: how important the knowledge is in the performance of your current practice (importance)?**

**Please rate each task and knowledge as it relates to your current practice as a CRVT. Do not respond based on what you believe all CRVTs should be expected to know or be able to do.**



**3. OCCUPATIONAL ANALYSIS OF THE  
CALIFORNIA REGISTERED VETERINARY  
TECHNICIAN**

**The Veterinary Medical Board recognizes that every California Registered Veterinary Technician may not perform all of the tasks and use all of the knowledge contained in this questionnaire. However, your participation is essential to the success of this project, and your contributions will help establish standards for safe and effective Registered Veterinary Technician practice in the state of California.**

**Complete this questionnaire only if you are currently licensed and practicing as an Registered Veterinary Technician in California.**

4. Verification

\* 1. Are you currently practicing in California as a licensed Registered Veterinary Technician?

Yes

No

\* 2. Please enter your California Registered Veterinary Technician license number:

California Registered  
Veterinary Technician  
License #:

3. Please enter a current email address to which you would like CE credits and future correspondence from the Veterinary Medical Board delivered.

5. PART I - Demographic Questions

1. How many years have you been practicing in California as a Registered Veterinary Technician?

- 0 to 5 years
- 6 to 10 years
- 11 to 20 years
- More than 20 years

2. How many hours per week do you work as a licensed California Registered Veterinary Technician?

- 0 - 10 hours
- 11 - 20 hours
- 21 to 39 hours
- 40 or more hours

3. How would you describe the current primary practice setting within which you perform your job duties as a California Registered Veterinary Technician?

- Fixed Veterinary Premise (e.g., Small, Large)
- Small Animal Mobile Clinic
- Small Animal Vaccination Clinic
- Animal Shelter/Animal Control
- Pet Store Veterinary Clinic
- Emergency Veterinary Hospital
- Laboratory
- Educator/Trainer/School Premises
- House Calls/Home Visits
- Boarding Facility/Kennel

4. What primary category of animals do you treat as a California Registered Veterinary Technician?

- Small
- Large
- Laboratory
- Food/Farm
- Exotic (e.g., snake, turtle, fish, chinchilla)
- Zoo/Wildlife

5. Which one of the following treatment categories is the primary focus of your duties as a California Registered Veterinary Technician?

(Only one choice is allowed for this question; you will have an opportunity to select additional categories in a following question)

- Spay/Neuter
- Emergency Treatment (e.g., splints, bandages, suture)
- Laboratory
- Owner Education (e.g., husbandry, preventatives, medication)
- Anesthesia
- Dental Procedures
- Diagnostic procedures (e.g., imaging, samples)
- Surgical Assistance
- Animal Nursing
- Patient Intake

Other (please specify)

6. Assign a percentage of total practice time spent treating conditions in the category you selected as the primary focus of your duties as a California Registered Veterinary Technician:

Percentage of time spent

Primary focus

7. For which of the following categories do you provide treatment within your practice as a California Registered Veterinary Technician in addition to the primary focus you chose?

(Please choose/state no more than 3 conditions)

- Spay/Neuter
- Emergency Treatment (e.g., splints, bandages, suture)
- Laboratory
- Owner Education (e.g., husbandry, preventatives, medication)
- Anesthesia
- Dental Procedures
- Diagnostic procedures (e.g., imaging, samples)
- Surgical Assistance
- Animal Nursing
- Patient Intake

Other (please specify)

6. Demographic Questions (Continued)

1. What location describes your primary work setting?

- Urban (greater than 100,000 people), highly dense population within city limits
- Suburban, less densely populated areas (typically bordering the city)
- Rural (less than 10,000 people) sparsely populated areas further outside of city (e.g., countryside, farmlands)

Other (please specify)

7. Demographic Questions (Continued)

1.

What is the highest level of education you have achieved? (Please specify the degree in the box provided)

- Certificate (please specify in the field provided below)
- Some college (please specify in the field provided below)
- Associates degree (please specify in the field provided below)
- Bachelor's degree (please specify in the field provided below)
- Master's degree (please specify in the field provided below)
- Doctorate degree (please specify in the field provided below)
- Other formal education (please specify in the field provided below)

Degree:

2. Do you hold any other California professional licenses?

- Yes (please specify what other license you hold in the field provided below)
- No

CA Professional License:

3. Do you feel that the Registered Veterinary Technician training program that you attended adequately prepared you for your first year in practice?

- Yes
- No

4. During training, what other subjects would have been beneficial to adequately prepare you for your first year in practice? (please specify)

5. What reference materials are most useful to you during your daily activities as a California Registered Veterinary Technician? (please specify)

6. What is the approximate gross annual income you earn as a California Registered Veterinary Technician?

- Up to \$20,000
- \$21,000 - \$39,000
- \$40,000 - \$59,000
- \$60,000 - \$79,000
- \$80,000 - \$100,000
- more than \$100,000



7. In what California county is your primary practice located?

- |                                    |                                       |                                     |
|------------------------------------|---------------------------------------|-------------------------------------|
| <input type="radio"/> Alameda      | <input type="radio"/> Marin           | <input type="radio"/> San Mateo     |
| <input type="radio"/> Alpine       | <input type="radio"/> Mariposa        | <input type="radio"/> Santa Barbara |
| <input type="radio"/> Amador       | <input type="radio"/> Mendocino       | <input type="radio"/> Santa Clara   |
| <input type="radio"/> Butte        | <input type="radio"/> Merced          | <input type="radio"/> Santa Cruz    |
| <input type="radio"/> Calaveras    | <input type="radio"/> Modoc           | <input type="radio"/> Shasta        |
| <input type="radio"/> Colusa       | <input type="radio"/> Mono            | <input type="radio"/> Sierra        |
| <input type="radio"/> Contra Costa | <input type="radio"/> Monterey        | <input type="radio"/> Siskiyou      |
| <input type="radio"/> Del Norte    | <input type="radio"/> Napa            | <input type="radio"/> Solano        |
| <input type="radio"/> El Dorado    | <input type="radio"/> Nevada          | <input type="radio"/> Sonoma        |
| <input type="radio"/> Fresno       | <input type="radio"/> Orange          | <input type="radio"/> Stanislaus    |
| <input type="radio"/> Glenn        | <input type="radio"/> Placer          | <input type="radio"/> Sutter        |
| <input type="radio"/> Humboldt     | <input type="radio"/> Plumas          | <input type="radio"/> Tehama        |
| <input type="radio"/> Imperial     | <input type="radio"/> Riverside       | <input type="radio"/> Trinity       |
| <input type="radio"/> Inyo         | <input type="radio"/> Sacramento      | <input type="radio"/> Tulare        |
| <input type="radio"/> Kern         | <input type="radio"/> San Benito      | <input type="radio"/> Tuolumne      |
| <input type="radio"/> Kings        | <input type="radio"/> San Bernardino  | <input type="radio"/> Ventura       |
| <input type="radio"/> Lake         | <input type="radio"/> San Diego       | <input type="radio"/> Yolo          |
| <input type="radio"/> Lassen       | <input type="radio"/> San Francisco   | <input type="radio"/> Yuba          |
| <input type="radio"/> Los Angeles  | <input type="radio"/> San Joaquin     |                                     |
| <input type="radio"/> Madera       | <input type="radio"/> San Luis Obispo |                                     |

**8. PART II RATING JOB TASKS**

In this part of the questionnaire, please rate each task as it relates to your current practice as a California Registered Veterinary Technician. Please rate each statement using the importance and frequency scale provided. Frequency and importance ratings should be separate and independent ratings. Therefore, the rating you assign to a statement on the importance scale should not influence the rating you assign to that same statement on the frequency scale. For example, a task you perform may be critical to your practice, but you may not perform that task very often.

If the task is NOT part of your current practice, rate the task "0" (zero) Importance and "0" (zero) Frequency.

The boxes for rating the Importance and Frequency of each task have drop-down lists. Click on the "down" arrow for each list to see the ratings and then select the option based on your current practice.

**IMPORTANCE RATING**

**HOW IMPORTANT is performance of this task in your current practice?**

**0 - NOT IMPORTANT; DOES NOT APPLY TO MY PRACTICE.** This task is not important and/or I do not perform this task in my practice.

**1 - OF MINOR IMPORTANCE.** This task has the lowest priority of all the tasks that I perform in my practice.

**2 - FAIRLY IMPORTANT.** This task is fairly important relative to other tasks; however, it does not have the priority of most other tasks that I perform in my practice.

**3 - MODERATELY IMPORTANT.** This task has about average priority among all tasks that I perform in my practice.

**4 - VERY IMPORTANT.** This task is very important for my practice; it has a higher degree of importance or priority than most other tasks that I perform in my practice.

**5 - CRITICALLY IMPORTANT.** This task is among the most critical tasks that I perform in my practice.

**FREQUENCY RATING**

**HOW OFTEN do you perform this task to treat patients?**

**0 - DOES NOT APPLY TO MY PRACTICE. I never perform this task in my practice.**

**1 - RARELY. I rarely perform this task in my practice.**

**2 - SELDOM. I seldom perform this task in my practice. The frequency at which I perform this task in my practice is very low.**

**3 - OCCASIONALLY. This task is performed somewhat frequently in my practice.**

**4 - OFTEN. This task is performed more frequently than most other tasks in my practice.**

**5 - VERY OFTEN. I perform this task almost constantly and it is one of the most frequently performed tasks in my practice.**

\* 1. TASK STATEMENTS - Section I: Patient Examination

	Importance	Frequency
1. Scan patient to determine the presence of identification products and/or markings (e.g., microchip, band, tattoo).	<input type="text"/>	<input type="text"/>
2. Interview owner/agent regarding household environment (e.g., multiple pet, smoking, children, noise level) that may affect patient condition.	<input type="text"/>	<input type="text"/>
3. Interview owner/agent regarding household exposures (e.g., chemicals, toxins, recreational drugs, plants) that may affect patient condition.	<input type="text"/>	<input type="text"/>
4. Interview owner/agent regarding patient lifestyle (e.g., companion, competition, breeding, work, export) to focus methodology for examination.	<input type="text"/>	<input type="text"/>
5. Obtain baseline information from owner/agent about chief complaint, signs and symptoms (e.g., sneezing, coughing, diarrhea, vomiting) and overall health status of the patient.	<input type="text"/>	<input type="text"/>
6. Obtain and/or review information regarding patient medical history and current medications and supplements.	<input type="text"/>	<input type="text"/>
7. Obtain information about patient's general husbandry, including diet and eating/drinking habits.	<input type="text"/>	<input type="text"/>
8. Obtain information about patient's preventive health history (e.g., vaccines, heartworm, fecal).	<input type="text"/>	<input type="text"/>
9. Obtain information about patient's travel history (e.g., local, domestic, international) and/or disease exposure (e.g., camping, boating, park, kennel, groomer).	<input type="text"/>	<input type="text"/>

	Importance	Frequency
10. Obtain information about patient's signalment (e.g., name, species, color, breed, sex, weight, reproductive status, age).	<input type="text"/>	<input type="text"/>
11. Assess patient's demeanor (e.g., bright, alert, responsive, lethargic) to establish/update patient health record.	<input type="text"/>	<input type="text"/>
12. Identify patient's behavioral issues (e.g., aggressive, pacing, anxious, agitated, fearful) to establish/update patient health record.	<input type="text"/>	<input type="text"/>
13. Assess patient pain score to determine need for further evaluation.	<input type="text"/>	<input type="text"/>
14. Perform oral examination (e.g., gingivitis, tartar, halitosis, abnormalities) to establish baseline for patient.	<input type="text"/>	<input type="text"/>
15. Assess skin turgor to establish/update patient health record.	<input type="text"/>	<input type="text"/>
16. Assess patient's overall body condition (e.g., coat, skin, nasal, eye) to establish/update health record.	<input type="text"/>	<input type="text"/>
17. Auscultate patient to evaluate heart, lung, respiration, and gastrointestinal sounds to establish/update patient health record.	<input type="text"/>	<input type="text"/>
18. Assess mucous membrane [e.g., capillary refill time (CRT), color, moisture] to establish a baseline and/or update for patient medical record.	<input type="text"/>	<input type="text"/>
19. Obtain vital signs (e.g., temperature, pulse, respiration) to establish/update patient health record.	<input type="text"/>	<input type="text"/>
20. Assess body score for patient utilizing body conditioning system (e.g., observation and palpation of ribs, lumbar vertebrae, pelvic bones, fat deposits) to establish/update health record.	<input type="text"/>	<input type="text"/>
21. Palpate patient to determine the presence of physical abnormalities (e.g., masses, enlarged lymph nodes, swelling) and deformities (e.g., eyes, ears, limbs).	<input type="text"/>	<input type="text"/>
22. Assess patient to determine presence of parasites (e.g., fleas, worms, ticks).	<input type="text"/>	<input type="text"/>
23. Assess patient's skin to determine abnormalities (e.g., fungal, yeast, bacteria, hair loss, allergies).	<input type="text"/>	<input type="text"/>

9.

\* 1. TASK STATEMENTS - Section II: Emergency Care and Critical Care

	Importance	Frequency
24. Determine treatment order (e.g., triage) for patients exhibiting varying levels of distress.	<input type="text"/>	<input type="text"/>
25. Perform initial intake procedures to determine vitals, weight, and signalment.	<input type="text"/>	<input type="text"/>
26. Initiate emesis induction on patient to treat ingestion of toxic materials.	<input type="text"/>	<input type="text"/>
27. Perform intravenous catheter placement in order to administer blood products, medications, or fluid therapy to stabilize/treat patient.	<input type="text"/>	<input type="text"/>
28. Monitor patient for overhydration symptoms.	<input type="text"/>	<input type="text"/>
29. Collect samples (e.g., blood, urine) for initial diagnostics.	<input type="text"/>	<input type="text"/>
30. Perform radiographs for initial diagnostics.	<input type="text"/>	<input type="text"/>
31. Provide supportive treatment for patient exhibiting signs of shock.	<input type="text"/>	<input type="text"/>
32. Provide supportive treatment for patient exhibiting signs of hyperthermia (e.g., seizures, heat prostration).	<input type="text"/>	<input type="text"/>
33. Provide supportive treatment for patient exhibiting signs of hypothermia.	<input type="text"/>	<input type="text"/>
34. Apply wound dressings to burned tissue.	<input type="text"/>	<input type="text"/>
35. Apply bandages to stabilize hemorrhagic patients.	<input type="text"/>	<input type="text"/>
36. Apply bandages/splints to stabilize orthopedic conditions.	<input type="text"/>	<input type="text"/>
37. Apply tourniquet to control blood flow.	<input type="text"/>	<input type="text"/>
38. Establish patent airway (e.g., intubate, clear obstruction) to stabilize patient condition.	<input type="text"/>	<input type="text"/>
39. Perform cardiopulmonary cerebral resuscitation (CPCR) to revive and stabilize patient in cardiac arrest.	<input type="text"/>	<input type="text"/>
40. Provide protective restraint and environment for seizing patient to prevent/minimize trauma.	<input type="text"/>	<input type="text"/>

	Importance	Frequency
41. Administer oxygen to stabilize patient exhibiting respiratory distress.	<input type="text"/>	<input type="text"/>
42. Utilize various methods to decompress stomach and stabilize patient.	<input type="text"/>	<input type="text"/>
43. Utilize personal protective equipment and safe handling techniques for suspected rabies and other zoonotic/infectious disease-exposed patients.	<input type="text"/>	<input type="text"/>
44. Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	<input type="text"/>	<input type="text"/>
45. Interview owner/agent regarding critical incident and history of patient.	<input type="text"/>	<input type="text"/>

10.

\* 1. TASK STATEMENTS - Section III: Diagnostic Imaging

	Importance	Frequency
46. Adhere to radiation protocol (e.g., personal protective equipment placement, distance from exposure, equipment settings) to ensure safety of staff and patients.	<input type="text"/>	<input type="text"/>
47. Restrain patient utilizing various techniques (e.g. manual, mechanical and chemical ) for radiographic imaging.	<input type="text"/>	<input type="text"/>
48. Obtain diagnostic radiographs on patient for veterinarian review.	<input type="text"/>	<input type="text"/>
49. Process diagnostic radiographs (e.g., digital, film) for veterinarian review.	<input type="text"/>	<input type="text"/>
50. Position patient for radiography (e.g., general, specialized) to maximize imaging results and ensure staff and patient safety.	<input type="text"/>	<input type="text"/>
51. Perform contrast radiology studies for veterinarian review.	<input type="text"/>	<input type="text"/>
52. Adhere to state regulations regarding radiograph equipment maintenance to ensure staff and patient safety.	<input type="text"/>	<input type="text"/>
53. Prepare and position patient for ultrasonography to maximize procedural results.	<input type="text"/>	<input type="text"/>
54. Obtain diagnostic ultrasound images for veterinarian review.	<input type="text"/>	<input type="text"/>
55. Maintain radiographic image bank for further diagnostic purposes and/or to monitor disease progression.	<input type="text"/>	<input type="text"/>
56. Assist with ultrasonography for a variety of veterinary medical procedures (e.g., biopsy, organ location, cystocentesis, injections, fluid drainage) to facilitate the process.	<input type="text"/>	<input type="text"/>
57. Prepare patient for endoscopic exams of various types.	<input type="text"/>	<input type="text"/>
58. Label diagnostic images in accordance with State regulation.	<input type="text"/>	<input type="text"/>

11.



\* 1. TASK STATEMENTS - Section IV: Laboratory and Diagnostic Procedures

	Importance	Frequency
59. Obtain a diagnostic electrocardiogram (ECG) to establish patient condition.	<input type="text"/>	<input type="text"/>
60. Obtain patient blood pressure to establish patient condition.	<input type="text"/>	<input type="text"/>
61. Determine patient blood clotting times for diagnostic purposes.	<input type="text"/>	<input type="text"/>
62. Obtain patient blood samples for coagulation values.	<input type="text"/>	<input type="text"/>
63. Collect and prepare fecal samples from patient for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
64. Prepare tissue samples obtained from patient for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
65. Collect ectoparasites from patient for identification purposes.	<input type="text"/>	<input type="text"/>
66. Obtain and prepare various samples (e.g., otic, facial fold) for cytology evaluation.	<input type="text"/>	<input type="text"/>
67. Obtain and prepare skin scrapings and/or impressions from patient for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
68. Obtain and prepare diagnostic samples from patient for bacterial (e.g., urinary, aural, skin) and fungal cultures.	<input type="text"/>	<input type="text"/>
69. Perform bacterial sensitivity testing for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
70. Determine patient packed-cell volume (PCV) and total protein for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
71. Collect and prepare blood samples for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
72. Perform routine blood chemistries for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
73. Perform serological testing for analysis and review by the veterinarian.	<input type="text"/>	<input type="text"/>
74. Collect and prepare patient urine samples for analysis of patient condition.	<input type="text"/>	<input type="text"/>
75. Collect and prepare blood samples to perform blood typing and cross matching.	<input type="text"/>	<input type="text"/>
76. Collect and prepare blood samples to perform cytological evaluation (e.g., red blood cell count, white blood cell count, differential count) of patient.	<input type="text"/>	<input type="text"/>

12.

\* 1. TASK STATEMENTS - Section V: Anesthesia and Surgical Assistance

	Importance	Frequency
77. Induce anesthesia on patient utilizing various methods (e.g., intravenously, inhalation, intramuscularly) to prepare patient for veterinary surgical procedures.	<input type="text"/>	<input type="text"/>
78. Monitor patient (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.	<input type="text"/>	<input type="text"/>
79. Administer local analgesia to manage pain.	<input type="text"/>	<input type="text"/>
80. Administer pre operative and post operative analgesics to manage pain.	<input type="text"/>	<input type="text"/>
81. Perform endotracheal intubation on patient to establish airway for surgical procedures.	<input type="text"/>	<input type="text"/>
82. Extubate patient following surgical procedure.	<input type="text"/>	<input type="text"/>
83. Place drain(s) in patient wound to remove and prevent excess fluid.	<input type="text"/>	<input type="text"/>
84. Prepare surgical instruments and materials for veterinary procedures in adherence with aseptic techniques.	<input type="text"/>	<input type="text"/>
85. Maintain an aseptic environment in surgical suite.	<input type="text"/>	<input type="text"/>
86. Utilize aseptic techniques (e.g., scrubbing in, opening surgical packs) for surgical procedures.	<input type="text"/>	<input type="text"/>
87. Close existing incisions (e.g., aural hematoma, lacerations, gingiva) on patient with sutures, staples, or tissue adhesives to control bleeding and prevent infection.	<input type="text"/>	<input type="text"/>
88. Remove sutures or staples from patient upon completion of the healing cycle.	<input type="text"/>	<input type="text"/>
89. Prepare and position patient (e.g., shave, scrub, express bladder) for veterinary surgical procedures.	<input type="text"/>	<input type="text"/>
90. Provide post surgical patient evaluation and care (e.g., radiographs, bandage maintenance) to optimize recovery.	<input type="text"/>	<input type="text"/>

	Importance	Frequency
91. Utilize various methods to maintain patient body temperature before, during, and after surgical procedures.	<input type="text"/>	<input type="text"/>
92. Obtain blood pressure to establish and/or maintain baseline for patient.	<input type="text"/>	<input type="text"/>
93. Provide surgical instruments to assist in the completion of surgical tasks.	<input type="text"/>	<input type="text"/>
94. Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	<input type="text"/>	<input type="text"/>
95. Prepare patient for endoscopic exams of various types (e.g., biopsy, fluid, culture) to facilitate the sampling process.	<input type="text"/>	<input type="text"/>
96. Maintain anesthetic equipment to ensure safety of patients and veterinary staff.	<input type="text"/>	<input type="text"/>
97. Assemble supplies to utilize in the event of an anesthetic emergency.	<input type="text"/>	<input type="text"/>
98. Maintain surgical instrument sterilization and storage protocol in accordance with State laws and regulations.	<input type="text"/>	<input type="text"/>

13.

\* 1. TASK STATEMENTS - Section VI: Animal Dentistry

	Importance	Frequency
99. Perform diagnostic dental radiographs.	<input type="text"/>	<input type="text"/>
100. Prepare instruments for dental procedures.	<input type="text"/>	<input type="text"/>
101. Perform oral examination on patient to identify areas that require further veterinary evaluation.	<input type="text"/>	<input type="text"/>
102. Extract teeth from patient to maintain oral health.	<input type="text"/>	<input type="text"/>
103. Perform dental prophylaxis on patient to maintain oral health.	<input type="text"/>	<input type="text"/>
104. Perform dental charting on patient for further diagnostic purposes and/or to monitor disease progression.	<input type="text"/>	<input type="text"/>
105. Trim patient teeth/beaks to maintain oral health.	<input type="text"/>	<input type="text"/>
106. Float patient teeth to maintain oral health.	<input type="text"/>	<input type="text"/>
107. Maintain dental instruments and equipment in accordance with the standards for a clinical environment.	<input type="text"/>	<input type="text"/>
108. Perform local anesthetic blocks on patient to control pain during procedures.	<input type="text"/>	<input type="text"/>
109. Suture patient gingival tissue to facilitate wound healing.	<input type="text"/>	<input type="text"/>
110. Administer hemostatic agents (e.g., collagen, epinephrine, gel foam) to control bleeding.	<input type="text"/>	<input type="text"/>
111. Calculate dosages, dilutions, constant rate infusions, and conversions of medications.	<input type="text"/>	<input type="text"/>
112. Position patient to optimize dental cleaning procedures and maintain safety.	<input type="text"/>	<input type="text"/>

14.

\* 1. TASK STATEMENTS - Section VII: Animal Nursing

	Importance	Frequency
113. Perform ocular diagnostics to determine possible injuries and abnormalities.	<input type="text"/>	<input type="text"/>
114. Flush lacrimal ducts to alleviate blockage and tear production deficiencies.	<input type="text"/>	<input type="text"/>
115. Provide protective restraint of patient to ensure staff and patient safety.	<input type="text"/>	<input type="text"/>
116. Express and treat anal sacs (e.g., medicating, flushing) to relieve patient discomfort.	<input type="text"/>	<input type="text"/>
117. Administer enemas to stimulate bowel movement and relieve patient discomfort.	<input type="text"/>	<input type="text"/>
118. Administer fluid therapy to manage patient condition.	<input type="text"/>	<input type="text"/>
119. Administer liquid nutrition utilizing a gastric tube to manage patient condition.	<input type="text"/>	<input type="text"/>
120. Administer medications (e.g., orally, intramuscularly, intravenously) to treat patient condition in adherence with veterinarian instruction.	<input type="text"/>	<input type="text"/>
121. Assemble nebulizer and administer treatment to improve patient condition.	<input type="text"/>	<input type="text"/>
122. Apply casts and splints to stabilize patient injury.	<input type="text"/>	<input type="text"/>
123. Apply bandages to stabilize patient injury.	<input type="text"/>	<input type="text"/>
124. Provide care for abscesses or wounds on patient to facilitate healing.	<input type="text"/>	<input type="text"/>
125. Perform ear cleaning and flushing to manage patient condition.	<input type="text"/>	<input type="text"/>
126. Place intravenous catheter utilizing aseptic techniques to manage patient condition.	<input type="text"/>	<input type="text"/>
127. Monitor intravenous catheter site to maintain patency and prevent infection.	<input type="text"/>	<input type="text"/>
128. Place and maintain indwelling urinary catheter and collection systems to ensure optimum function, comfort, and treatment of patient condition.	<input type="text"/>	<input type="text"/>

Importance

Frequency

129. Maintain urine collection systems to calculate output and determine hydration level or kidney function.

130. Place and maintain gastric tubes to ensure optimum function and treatment of patient condition.

131. Prepare and position patient for diagnostic procedures.

132. Provide physical therapy in accordance with medical orders from the veterinarian.

133. Observe and evaluate patient for abnormalities in health.

15.

\* 1. TASK STATEMENTS - Section VII: Animal Nursing (Continued)

	Importance	Frequency
134. Place patient identification products (e.g., microchips, bands).	<input type="text"/>	<input type="text"/>
135. Administer blood products (e.g., plasma, transfusions) in accordance with medical orders from the veterinarian.	<input type="text"/>	<input type="text"/>
136. Collect blood for transfusions.	<input type="text"/>	<input type="text"/>
137. Collect urine samples for various diagnostics.	<input type="text"/>	<input type="text"/>
138. Euthanize animals utilizing humane methodologies in accordance with State regulations.	<input type="text"/>	<input type="text"/>
139. Express patient urinary bladder to relieve discomfort and prevent infection.	<input type="text"/>	<input type="text"/>
140. Observe patient gait (e.g., limp, discomfort, nervousness, pain) to determine behavioral or physical conditions.	<input type="text"/>	<input type="text"/>
141. Observe patient behavior to determine need for further diagnostics.	<input type="text"/>	<input type="text"/>
142. Collect blood for diagnostics.	<input type="text"/>	<input type="text"/>
143. Dispose of biohazard material in accordance with State and local laws.	<input type="text"/>	<input type="text"/>
144. Maintain surgical and diagnostic equipment in accordance with the standards for a clinical environment.	<input type="text"/>	<input type="text"/>
145. Provide medical grooming services (e.g., bathing, trimming, dipping, clipping) for a variety of breeds and species to maintain hygiene standards.	<input type="text"/>	<input type="text"/>
146. Perform infection and pathogen control in accordance with State and federal law regarding an aseptic clinical environment.	<input type="text"/>	<input type="text"/>
147. Monitor hospitalized patient to maintain stability and/or determine need for adjustments to treatment and husbandry.	<input type="text"/>	<input type="text"/>
148. Obtain blood pressure to establish baseline for patient.	<input type="text"/>	<input type="text"/>

Importance

Frequency

149. Provide nutritional support (e.g., tube feeding) for hospitalized and/or incapacitated patients to boost/optimize treatment outcome.

150. Calculate dosages, dilutions, constant rate infusions, and conversions of medications.

151. Interpret patient behavior of various breeds and species to determine interactive effects with condition.



16.

\* 1. TASK STATEMENTS - Section VIII: Pharmacology

	Importance	Frequency
152. Maintain controlled substances logs in accordance with State and federal requirements.	<input type="text"/>	<input type="text"/>
153. Store and maintain controlled substances in accordance with State and federal requirements.	<input type="text"/>	<input type="text"/>
154. Administer medications utilizing various routes (e.g., injectable, oral, topical) to stabilize/treat patient condition.	<input type="text"/>	<input type="text"/>
155. Administer medications using non-routine routes (intranasal, sublingual, rectal, transtracheal, transdermal) to treat patient condition.	<input type="text"/>	<input type="text"/>
156. Administer medication utilizing tank immersion to stabilize/treat aquatic patients.	<input type="text"/>	<input type="text"/>
157. Administer vaccinations in accordance with State regulations.	<input type="text"/>	<input type="text"/>
158. Calculate dosages, dilutions, constant rate infusions, and volumes of prescribed patient medications.	<input type="text"/>	<input type="text"/>
159. Prepare additives for fluid therapy.	<input type="text"/>	<input type="text"/>
160. Calculate flow rates and volumes for fluid therapy.	<input type="text"/>	<input type="text"/>
161. Fill patient prescriptions under direction of veterinarian.	<input type="text"/>	<input type="text"/>
162. Administer topical medications to treat patient condition.	<input type="text"/>	<input type="text"/>
163. Assess patient for adverse reactions to medications.	<input type="text"/>	<input type="text"/>
164. Store pharmacological agents in accordance with manufacturer's recommendations and State and federal requirements.	<input type="text"/>	<input type="text"/>

17.

\* 1. TASK STATEMENTS - Section IX: Owner/Agent Communication

	Importance	Frequency
165. Educate owner/agent on the identification of conditions that require urgent care for various species and breeds.	<input type="text"/>	<input type="text"/>
166. Educate owner/agent regarding reproduction cycles for various species and breeds.	<input type="text"/>	<input type="text"/>
167. Educate owner/agent regarding dental care for various species and breeds.	<input type="text"/>	<input type="text"/>
168. Educate owner/agent regarding ectoparasite and endoparasite control for patient.	<input type="text"/>	<input type="text"/>
169. Educate owner/agent regarding patient diet, nutrition, and exercise.	<input type="text"/>	<input type="text"/>
170. Educate owner/agent regarding pre surgical and post surgical care (e.g., bandage, infection) for patient.	<input type="text"/>	<input type="text"/>
171. Educate owner/agent regarding prevention and/or recognition of the signs of contagious animal diseases.	<input type="text"/>	<input type="text"/>
172. Educate owner/agent regarding prevention and/or recognition of the signs of zoonotic diseases in patient.	<input type="text"/>	<input type="text"/>
173. Educate owner/agent regarding how to administer and store medications for patient.	<input type="text"/>	<input type="text"/>
174. Educate owner/agent regarding recommended vaccination schedules for patient.	<input type="text"/>	<input type="text"/>
175. Educate owner/agent regarding animal behavior and training.	<input type="text"/>	<input type="text"/>
176. Educate owner/agent regarding spay and neuter procedures for various species and breeds.	<input type="text"/>	<input type="text"/>
177. Educate owner/agent regarding patient anal sacs.	<input type="text"/>	<input type="text"/>
178. Educate owner/agent regarding husbandry for various species and breeds.	<input type="text"/>	<input type="text"/>
179. Educate owner/agent regarding pain management for patient.	<input type="text"/>	<input type="text"/>
180. Educate owner/agent regarding first aid for patient.	<input type="text"/>	<input type="text"/>

Importance

Frequency

181. Educate owner/agent regarding grooming techniques (e.g., eyes, ears, nails, coat).

182. Educate owner/agent regarding breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.

183. Educate owner/agent regarding environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.

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## 18. PART III. RATING PRACTICE KNOWLEDGE

In this part of the questionnaire, rate each of the knowledge statements based on how important the knowledge is to successful performance in your practice. If a knowledge statement is NOT utilized in the performance of tasks for your practice, rate it “0” (zero) for Importance.

The boxes for rating the Importance of each knowledge statement have a drop-down list. Click on the “down” arrow for each list to see the ratings. Then select the rating based on your current practice.

### IMPORTANCE RATING

HOW IMPORTANT is this knowledge in the performance of your current practice?

Use the following scale to select your ratings.

**0 - NOT IMPORTANT and/or NOT REQUIRED.** This knowledge does not apply to my practice; it is not required for performance of tasks.

**1 - OF MINOR IMPORTANCE.** Possession of this knowledge is of minor importance for performance of tasks.

**2 - FAIRLY IMPORTANT.** Possession of this knowledge is fairly important for performance of tasks.

**3 - MODERATELY IMPORTANT.** Possession of this knowledge is moderately important for performance of tasks.

**4 - VERY IMPORTANT.** Possession of this knowledge is very important for performance in a significant part of my practice.

**5 - CRITICALLY IMPORTANT.** Possession of this knowledge is of critical to the performance of tasks.

\* 1. KNOWLEDGE STATEMENTS - Section I: Patient Examination

Importance

1. Knowledge of factors that affect patient’s attitude, behavior, and overall health status.

2. Knowledge of inappropriate and appropriate diets for various conditions (e.g., species, breeds, age, health status).

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Importance

3. Knowledge of the relationship between patient lifestyle (e.g., breeding, companion, work, export) and recommended health requirements (e.g., diet, husbandry, exercise).

4. Knowledge of normal eating and elimination patterns.

5. Knowledge of appropriate housing and environmental conditions for patient species.

6. Knowledge of potential effects of medications/supplements on patient's condition.

7. Knowledge of potential effects of alternative therapies on patient's present condition.

8. Knowledge of potential effects of over-the-counter medications on patient's present condition.

9. Knowledge of patient's reproductive history and status and potential effect on present condition.

10. Knowledge of potential effects of patient's preventive health history on present condition.

11. Knowledge of adverse reactions to previous medications or treatments.

12. Knowledge of effects of patient's travel and/or disease exposure on health status.

13. Knowledge of normal and/or abnormal animal behavior for a given species/breeds.

14. Knowledge of methods (e.g., skin turgor, ocular appearance, mucous membrane appearance) for determining hydration status.

15. Knowledge of body posture and body language for different species.

16. Knowledge of normal and abnormal skin conditions.

17. Knowledge of normal and abnormal vital signs.

18. Knowledge of normal and abnormal respiration.

19. Knowledge of normal and abnormal respiratory sounds.

20. Knowledge of normal and abnormal cardiac sounds.

21. Knowledge of common equipment used to conduct physical examinations.

22. Knowledge of normal and abnormal gastrointestinal sounds.

23. Knowledge of normal and abnormal neurological signs.

19.

\* 1. KNOWLEDGE STATEMENTS - Section I: Patient Examination (Continued)

Importance

24. Knowledge of signs of life-threatening conditions.	<input type="text"/>
25. Knowledge of signs of toxicity.	<input type="text"/>
26. Knowledge of normal eye appearance.	<input type="text"/>
27. Knowledge of normal ear appearance.	<input type="text"/>
28. Knowledge of normal nasal appearance.	<input type="text"/>
29. Knowledge of signs of normal and abnormal color, moisture, and capillary refill time of mucous membranes.	<input type="text"/>
30. Knowledge of normal growth and development of young animals.	<input type="text"/>
31. Knowledge of regulations regarding medical recordkeeping.	<input type="text"/>
32. Knowledge of reportable diseases according to federal law.	<input type="text"/>
33. Knowledge of species, breed identification, and sex determination.	<input type="text"/>
34. Knowledge of reportable diseases according to California law.	<input type="text"/>
35. Knowledge of proper methods for obtaining body condition score.	<input type="text"/>
36. Knowledge of zoonotic diseases (e.g., giardia, ringworm, leptospirosis).	<input type="text"/>
37. Knowledge of techniques for locating identification products and/or markings.	<input type="text"/>
38. Knowledge of signs of normal and abnormal dental health and normal dentition.	<input type="text"/>
39. Knowledge of restraint techniques and/or devices for various species/breeds.	<input type="text"/>
40. Knowledge of vaccine protocols and preventative measures and/or schedules.	<input type="text"/>
41. Knowledge of pain indicators (e.g., elevated heart rate, whining, panting, hiding, drooling).	<input type="text"/>
42. Knowledge of common household exposures (e.g., plants, chemicals, pesticides).	<input type="text"/>

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Importance

43. Knowledge of methods for obtaining patient signalment information.

44. Knowledge of the relationship between dentition, dental health, and patient age.

45. Knowledge of the types of physical abnormalities found during palpation.

46. Knowledge of the signs and symptoms of parasitic infestation.

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20.

\* 1. KNOWLEDGE STATEMENTS - Section II: Emergency and Critical Care

Importance

47. Knowledge of methods used to triage patients.	<input type="text"/>
48. Knowledge of clinical signs of shock.	<input type="text"/>
49. Knowledge of methods for stabilizing a patient in shock.	<input type="text"/>
50. Knowledge of clinical signs and effects of trauma.	<input type="text"/>
51. Knowledge of procedures to safely stabilize traumatic injuries.	<input type="text"/>
52. Knowledge of laws and regulations pertaining to reporting animal abuse, neglect, or zoonotic disease exposure.	<input type="text"/>
53. Knowledge of procedures for assisted ventilation.	<input type="text"/>
54. Knowledge of procedures for establishing a patent airway.	<input type="text"/>
55. Knowledge of safe techniques for applying tourniquets and pressure bandages.	<input type="text"/>
56. Knowledge of clinical signs of heat prostration.	<input type="text"/>
57. Knowledge of techniques to regulate body temperature in cases of hyperthermia or hypothermia.	<input type="text"/>
58. Knowledge of techniques and dressings for managing burns.	<input type="text"/>
59. Knowledge of techniques for oxygen administration.	<input type="text"/>
60. Knowledge of precautions for oxygen therapy.	<input type="text"/>
61. Knowledge of methods to perform cardiopulmonary cerebral resuscitation (CPCR).	<input type="text"/>
62. Knowledge of medical conditions that could cause seizures.	<input type="text"/>



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21.

\* 1. KNOWLEDGE STATEMENTS - Section II: Emergency and Critical Care (Continued)

	Importance
63. Knowledge of treatments and protocols to stabilize seizing patients.	<input type="text"/>
64. Knowledge of agents that can cause toxicity.	<input type="text"/>
65. Knowledge of treatments and antidotes for toxicity.	<input type="text"/>
66. Knowledge of techniques for stabilizing orthopedic conditions	<input type="text"/>
67. Knowledge of emergency intravenous techniques to stabilize patient.	<input type="text"/>
68. Knowledge of signs for potential adverse transfusion reaction.	<input type="text"/>
69. Knowledge of methods to obtain different dosages of medications.	<input type="text"/>
70. Knowledge of common signs of over hydration.	<input type="text"/>
71. Knowledge of types and administration of emergency fluid therapy.	<input type="text"/>
72. Knowledge of the types of equipment used for monitoring vitals.	<input type="text"/>
73. Knowledge of metabolic diseases (e.g., hypoglycemia, urethral obstruction, gastric dilatation volvulus) and life-threatening conditions in various breeds/species.	<input type="text"/>
74. Knowledge of pain management protocols.	<input type="text"/>
75. Knowledge of various emesis protocols.	<input type="text"/>
76. Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	<input type="text"/>
77. Knowledge of bandage placement techniques.	<input type="text"/>
78. Knowledge of methods for preventing the spread of zoonotic and infectious diseases.	<input type="text"/>

22.

\* 1. KNOWLEDGE STATEMENTS - Section III: Diagnostic Imaging

Importance

79. Knowledge of laws and regulations regarding radiation safety.	<input type="text"/>
80. Knowledge of methods to limit operator radiation exposure (e.g., collimation and personal protective equipment).	<input type="text"/>
81. Knowledge of techniques of manual, mechanical, and chemical restraint for radiography.	<input type="text"/>
82. Knowledge of methods, procedures, and equipment for radiography.	<input type="text"/>
83. Knowledge of procedures to set equipment according to a radiographic technique chart.	<input type="text"/>
84. Knowledge of relationship between kVp and mAs to produce diagnostic radiographs.	<input type="text"/>
85. Knowledge of techniques to prepare and position patients for ultrasonography.	<input type="text"/>
86. Knowledge of care and maintenance procedures for ultrasound equipment.	<input type="text"/>
87. Knowledge of techniques to obtain diagnostic ultrasound images.	<input type="text"/>
88. Knowledge of techniques to obtain laboratory samples using ultrasound.	<input type="text"/>
89. Knowledge of anatomy for positioning patients for radiography.	<input type="text"/>
90. Knowledge of anatomy for patient preparation, positioning, and sample collection for ultrasonography.	<input type="text"/>
91. Knowledge of manual and automatic radiographic film processing techniques.	<input type="text"/>
92. Knowledge of laws and regulations regarding labeling and storage of radiographs.	<input type="text"/>
93. Knowledge of methods and media for contrast radiography.	<input type="text"/>
94. Knowledge of dangers associated with radiation exposure.	<input type="text"/>
95. Knowledge of techniques for preparing a patient for endoscopic evaluation.	<input type="text"/>
96. Knowledge of the care and maintenance of personal protective equipment.	<input type="text"/>

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23.

\* 1. KNOWLEDGE STATEMENTS - Section IV: Laboratory and Diagnostic Procedures

Importance

97. Knowledge of gross and microscopic identification of ectoparasites and endoparasites.

98. Knowledge of techniques for obtaining electrocardiograms (ECG).

99. Knowledge of equipment and techniques for obtaining blood pressure.

100. Knowledge of techniques of specimen collection, handling, and storage.

101. Knowledge of methods and procedures to obtain tissue samples for histology and microbiology.

102. Knowledge of techniques to obtain, prepare, and analyze skin scrapings.

103. Knowledge of techniques for collecting, handling, reading, and storing samples for culture.

104. Knowledge of various staining techniques for samples.

105. Knowledge of techniques to incubate cultures.

106. Knowledge of identifying characteristics of common microorganisms and their antibiotic sensitivities.

107. Knowledge of errors that can result from improper sample collection, handling, storage, and testing procedures.

108. Knowledge of procedures, equipment, and normal values for hematology.

109. Knowledge of procedures and equipment for cytology (e.g., ear, reproduction, urinary).

110. Knowledge of procedures, equipment, and normal values for electrolytes.

111. Knowledge of procedures, equipment, and normal values for blood chemistries.

112. Knowledge of procedures and equipment for in-house serological testing.

113. Knowledge of procedures, equipment, and normal values for blood gases.

114. Knowledge of procedures and equipment for fecal analysis.

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Importance

115. Knowledge of procedures and equipment for urinalysis.

116. Knowledge of procedures and equipment for coagulation studies.

117. Knowledge of possible ramifications of improper sampling and handling procedures on clotting/coagulation disorders.

118. Knowledge of blood composition (e.g., plasma, serum, cell morphology).

119. Knowledge of techniques for blood typing and cross matching.

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24.

\* 1. KNOWLEDGE STATEMENTS - Section V: Anesthesia and Surgical Assistance

Importance

120. Knowledge of levels and planes of anesthesia.

121. Knowledge of techniques for extubation and/or recovery of various species and breeds from anesthesia.

122. Knowledge of techniques for inducing anesthesia.

123. Knowledge of methods for intubating various species and breeds for anesthesia.

124. Knowledge of various anesthetic agents (e.g., inhalation, injectable).

125. Knowledge of various analgesic agents (e.g., intravenous, intramuscular)

126. Knowledge of effects of patient positioning on efficacy of anesthesia.

127. Knowledge of effects of patient positioning on patient vital signs.

128. Knowledge of physiological effects of anesthesia on patients.

129. Knowledge of contraindications for various anesthetic agents (e.g., intravenous, intramuscular, inhalation).

130. Knowledge of normal values obtained from anesthetic monitoring equipment.

131. Knowledge of actions taken in response to anesthetic emergencies.

132. Knowledge of anesthetic requirements for different species and breeds.

133. Knowledge of anatomical sites for local anesthesia.

134. Knowledge of pharmacologic agents utilized for local analgesia (e.g., nerve blocks).

135. Knowledge of procedures for operating and maintaining anesthetic equipment.

136. Knowledge of methods for preventing anesthetic complications to ensure patient safety.

137. Knowledge of sedation protocols.

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Importance

138. Knowledge of protocol for the management of endotracheal tubes.

139. Knowledge of methods and procedures for performing local analgesia.

140. Knowledge of methods for monitoring and interpreting patient vitals and condition (e.g., heart rate, blood pressure, SPO2 level) during all phases of anesthesia and recovery to ensure patient safety.

25.

\* 1. KNOWLEDGE STATEMENTS - Section V: Anesthesia and Surgical Assistance (Continued)

	Importance
141. Knowledge of methods to prepare surgical and instrument packs.	<input type="text"/>
142. Knowledge of procedures for storing sterile items.	<input type="text"/>
143. Knowledge of procedures for closed, open, or assisted gloving.	<input type="text"/>
144. Knowledge of techniques to prepare patient for sterile procedures.	<input type="text"/>
145. Knowledge of techniques and procedures to suture/staple skin.	<input type="text"/>
146. Knowledge of instruments for different suture and staple materials.	<input type="text"/>
147. Knowledge of different types of drains.	<input type="text"/>
148. Knowledge of techniques to place drains.	<input type="text"/>
149. Knowledge of protocols and techniques to remove sutures and staples.	<input type="text"/>
150. Knowledge of the management and phases of wound healing.	<input type="text"/>
151. Knowledge of surgical instruments and materials.	<input type="text"/>
152. Knowledge of various surgical closure agents.	<input type="text"/>
153. Knowledge of different suture patterns.	<input type="text"/>
154. Knowledge of procedures to maintain an aseptic surgical environment.	<input type="text"/>
155. Knowledge of aseptic techniques (e.g., scrubbing in, opening surgical packs) for surgical procedures.	<input type="text"/>
156. Knowledge of methods for post surgical bandage application and care.	<input type="text"/>
157. Knowledge of procedures for operating and maintaining anesthesia collection systems (e.g., scavenging) to ensure the health and safety of personnel.	<input type="text"/>
158. Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.	<input type="text"/>
159. Knowledge of techniques for endoscopic procedures.	<input type="text"/>

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26.

\* 1. KNOWLEDGE STATEMENTS - Section VI: Animal Dentistry

	Importance
160. Knowledge of methods, procedures, and equipment for dental radiology.	<input type="text"/>
161. Knowledge of purposes of common dental instruments.	<input type="text"/>
162. Knowledge of indications for tooth extraction.	<input type="text"/>
163. Knowledge of procedures for dental prophylaxis and polishing.	<input type="text"/>
164. Knowledge of techniques for tooth extraction.	<input type="text"/>
165. Knowledge of normal and abnormal oral anatomy.	<input type="text"/>
166. Knowledge of signs of oral pathologies.	<input type="text"/>
167. Knowledge of methods to develop dental radiographs.	<input type="text"/>
168. Knowledge of techniques to trim teeth/beaks.	<input type="text"/>
169. Knowledge of techniques to float teeth.	<input type="text"/>
170. Knowledge of dental charting techniques.	<input type="text"/>
171. Knowledge of common dental terminology.	<input type="text"/>
172. Knowledge of procedures to maintain dental instruments and equipment.	<input type="text"/>
173. Knowledge of techniques to avoid operator exposure to infectious agents during dental prophylaxis.	<input type="text"/>
174. Knowledge of techniques to avoid patient cross-contamination from dental procedures.	<input type="text"/>
175. Knowledge of pain control methods (e.g., nerve blocks) for dental procedures.	<input type="text"/>
176. Knowledge of hemostatic agents for the control of bleeding.	<input type="text"/>
177. Knowledge of complications related to oral surgery in various species and breeds.	<input type="text"/>
178. Knowledge of the tooth anatomy of various species and breeds.	<input type="text"/>



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Importance

179. Knowledge of oral and facial anatomy of different species and breeds.

180. Knowledge of the interactive effects of dental health and overall health.

181. Knowledge of suturing techniques for dental procedures.

182. Knowledge of proper patient positioning techniques for dental procedures.

183. Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications for dental procedures.

27.

\* 1. KNOWLEDGE STATEMENTS - Section VII: Animal Nursing

Importance

184. Knowledge of different types and applications of enemas.	<input type="text"/>
185. Knowledge of procedures to administer enemas.	<input type="text"/>
186. Knowledge of fluid therapy protocols.	<input type="text"/>
187. Knowledge of operation and maintenance of fluid administration pumps.	<input type="text"/>
188. Knowledge of different types of intravenous drip sets.	<input type="text"/>
189. Knowledge of administration rates for fluid therapy.	<input type="text"/>
190. Knowledge of possible adverse reactions to incorrect fluid administration.	<input type="text"/>
191. Knowledge of protocol regarding placement, use, and maintenance of tubes (e.g., nasogastric, gastrointestinal).	<input type="text"/>
192. Knowledge of application techniques and problems associated with bandages, casts, and splints.	<input type="text"/>
193. Knowledge of different types of bandages, casts, and splints and their application.	<input type="text"/>
194. Knowledge of protocol for applying topical insecticidal solutions.	<input type="text"/>
195. Knowledge of techniques and protocols for nonsurgical debridement and cleaning of wounds.	<input type="text"/>
196. Knowledge of techniques and protocols for cleaning and flushing abscesses.	<input type="text"/>
197. Knowledge of prescription and nonprescription diets.	<input type="text"/>
198. Knowledge of commonly used methods for obtaining body weights.	<input type="text"/>
199. Knowledge of aseptic techniques for medical procedures.	<input type="text"/>
200. Knowledge of restraint methods for various breeds and species to ensure staff and patient safety.	<input type="text"/>
201. Knowledge of types, placement, and techniques for care of intravenous catheters.	<input type="text"/>
202. Knowledge of types, placement, and care of urinary catheters.	<input type="text"/>

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Importance

203. Knowledge of methods used to manage urinary collection systems and calculate urine output.

204. Knowledge of normal anatomy of various species and breeds.

205. Knowledge of physical therapy protocols for various species and breeds.

206. Knowledge of procedures and acceptable methods for euthanasia of various species and breeds.

207. Knowledge of techniques to manage contagious diseases.

28.

\* 1. KNOWLEDGE STATEMENTS - Section VII: Animal Nursing (Continued)

	Importance
208. Knowledge of treatments for common endoparasites and ectoparasites.	<input type="text"/>
209. Knowledge of treatments for common skin problems.	<input type="text"/>
210. Knowledge of various types of ocular diagnostics.	<input type="text"/>
211. Knowledge of federal and state regulations regarding handling, storage, and disposal of biohazardous waste.	<input type="text"/>
212. Knowledge of location and appearance of normal and abnormal anal sacs.	<input type="text"/>
213. Knowledge of methods to express and infuse anal sacs.	<input type="text"/>
214. Knowledge of equipment and techniques to administer drugs via nebulization.	<input type="text"/>
215. Knowledge of normal and abnormal ear anatomy.	<input type="text"/>
216. Knowledge of techniques for cleaning and flushing ears.	<input type="text"/>
217. Knowledge of techniques to prepare and position patient for diagnostic procedures.	<input type="text"/>
218. Knowledge of procedures to implant microchips.	<input type="text"/>
219. Knowledge of techniques, materials, and equipment for collection and handling of blood products.	<input type="text"/>
220. Knowledge of techniques, materials, and equipment for administration of blood products.	<input type="text"/>
221. Knowledge of adverse reactions and contraindications for transfusion of blood products.	<input type="text"/>
222. Knowledge of techniques and equipment to trim nails of different species.	<input type="text"/>
223. Knowledge of techniques and equipment to trim hooves of different species.	<input type="text"/>
224. Knowledge of techniques and equipment to trim beaks.	<input type="text"/>
225. Knowledge of feather anatomy and the techniques and equipment used to clip wings.	<input type="text"/>

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Importance

226. Knowledge of common sites and techniques for applying topical medications.

227. Knowledge of common sites and handling techniques for transdermal medications.

228. Knowledge of methods to calculate dosages, dilutions, and conversions of medications.

229. Knowledge of assessing pain and pain management protocols.

230. Knowledge of the interpretation of the behavior of various breeds and species to determine interactive effects with condition.

231. Knowledge of methods for administering various medications (e.g., oral, injectable, topical) to treat patient ailment.

232. Knowledge of methods for collecting blood.

233. Knowledge of methods for collecting urine samples.

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29.

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\* 1. KNOWLEDGE STATEMENTS - Section VIII: Pharmacology

Importance

234. Knowledge of pharmacological agents used to treat shock.

235. Knowledge of primary pharmacological agents used to arrest seizure activity.

236. Knowledge of methods to calculate body mass.

237. Knowledge of pharmacological agents used for treatment of various bodily systems (e.g., gastrointestinal, respiratory, urinary) disorders.

238. Knowledge of pharmacologic agents for various conditions (e.g., bacterial, viral, endocrine, immunological).

239. Knowledge of nutraceutical products.

240. Knowledge of methods to obtain different dosages of medications.

241. Knowledge of potential adverse drug reactions of medications.

242. Knowledge of methods for administering medications utilizing various routes (e.g., injectable, oral, topical) for various species and breeds.

243. Knowledge of indications and contraindications of pharmacological agents (e.g., antibiotics, analgesics)

244. Knowledge of methods to calculate dosages, constant rate infusions, dilutions, and conversions of medications.

245. Knowledge of conversion factors for calculating weights and measures.

246. Knowledge of additives and calculations used in fluid therapy.

247. Knowledge of requirements for prescription labels.

248. Knowledge of abbreviations in prescriptions.

249. Knowledge of federal and State regulations (e.g., drug schedule) regarding ordering, handling, and storage of controlled substances.

250. Knowledge of storage requirements of pharmacological agents.

251. Knowledge of methods for maintaining controlled substances records and logs.

252. Knowledge of common vaccination protocols.

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30.

\* 1. KNOWLEDGE STATEMENTS - Section IX: Owner/Agent Communication

Importance

253. Knowledge of oral hygiene for various species and breeds.	<input type="text"/>
254. Knowledge of anal sac expression techniques.	<input type="text"/>
255. Knowledge of procedures for parasite prevention and techniques used for various species and breeds.	<input type="text"/>
256. Knowledge of importance of immunology and vaccine mechanisms.	<input type="text"/>
257. Knowledge of nutritional and exercise requirements for patient health.	<input type="text"/>
258. Knowledge of therapeutic diets for disease management.	<input type="text"/>
259. Knowledge of nutritional requirements and regimens for postsurgical patients.	<input type="text"/>
260. Knowledge of pain management protocols.	<input type="text"/>
261. Knowledge of conditions that require urgent care.	<input type="text"/>
262. Knowledge of first aid techniques to be implemented by owner/agent.	<input type="text"/>
263. Knowledge of reproductive cycles and complications of various species and breeds.	<input type="text"/>
264. Knowledge of pre surgical and post surgical home care protocols.	<input type="text"/>
265. Knowledge of zoonotic diseases.	<input type="text"/>
266. Knowledge of administration and storage techniques for dispensed medications.	<input type="text"/>
267. Knowledge of recommended vaccine protocols for owner/agent education.	<input type="text"/>
268. Knowledge of normal and abnormal animal behaviors for owner/agent education.	<input type="text"/>
269. Knowledge of reasons and techniques for sterilization and neutering.	<input type="text"/>
270. Knowledge of signs of contagious animal diseases.	<input type="text"/>
271. Knowledge of various types of husbandry for various species and breeds.	<input type="text"/>



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Importance

272. Knowledge of environmental conditions (e.g., multiple pet household, chemicals, plants) that affect patient behavior or health.

273. Knowledge of breed-specific conditions (e.g., respiratory, cardiac, hip dysplasia, blood disorders) that affect patient health.

274. Knowledge of grooming techniques (e.g., eyes, ears, nails, coat).

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## 31. COMMENTS

1. Please enter any comments you have regarding this survey. Your comments will not be connected with your demographic information or utilized for anything other than improving the questionnaire process.

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32. FINISHED

**THANK YOU FOR COMPLETING THIS SURVEY QUESTIONNAIRE. BY CLICKING "DONE" AT THE BOTTOM OF THIS PAGE YOUR QUESTIONNAIRE WILL BE SUBMITTED AND YOU WILL NOT BE PERMITTED TO GO BACK TO CHANGE ANY RESPONSES.**

