

# **The Academy of Veterinary Technicians in Clinical Practice**



## **Feline Application Packet 2021 Case Year**

# **SUBMISSION GUIDELINES**

The application year begins January 1, 2021 and ends at 11:59pm December 31, 2021. All skills, logs, reports, reference, and signatures must be obtained during the application year.

Part 1 of the application process must be submitted no later than 11:59pm PST, Wednesday, March 31<sup>st</sup>, 2021. All of Part 1 is to be completed on the “Application Information” page our website via the links provided.

Once Part 1 has been accepted, applicants will receive an invitation to place their Part 2 documents in the secure AVTCP DropBox. Case logs must be submitted sequentially in 1 MS Word document. Reports must be submitted sequentially as 1 MS Word document. PDF scans of logs and reports will not be accepted. Other documents may be submitted as PDFs or MS Word documents.

Part 2 submissions, including all applicable documents, attachments, and letters of recommendation, will be accepted up to 11:59pm PST, Friday, December 31, 2021. No Part 2 applications will be accepted beyond the due date and time.

The application fee of \$50 is required upon submission of Part 1 of the application using the Paypal link provided. Please allow enough time to set up your Paypal account in order for AVTCP to receive payment by the due date and time.

**International applicants must ensure their fee is paid in US dollars.**

## **APPLICATION PART 1**

**Due March 31**

Please go to the AVTCP Website’s “Application Information” page to access all of the elements required of Part 1 of the application. The elements include:

- Waiver, Release, and Indemnity Agreement
- Professional History
- Veterinary Technician Employment History
- Continuing Education Log
- Knowledge List
- Proposed Recommendation Letter Writers
- Payment of \$50

## **APPLICATION PART 2**

### **Due December 31**

Part 2 elements include:

- Exam Questions
- Case Logs
- Case Reports

### Instructions for writing exam questions

Stem - introductory statement (information required) and the question itself that elicits the correct answer.

#### **DO THIS**

- 1) Develop patient based questions but don't present a real case. Present a scenario.
- 2) Stems should be complete and as succinct as possible. Avoid adding unnecessary or misleading information.
- 3) The stem should be clear enough to provide the examinee with sufficient information to anticipate the type of answer before looking at the responses.
- 4) Items should be written to assess knowledge of meaningful facts and concepts, not trivial information. Avoid tricks.
- 5) Include in the stem all words that would otherwise have to be repeated in each of the responses.

#### **DON'T DO THIS**

- 6) Don't test more than one point
- 7) Avoid using "What would you do?" or "What do you believe?" as these statements cannot be tested
- 8) Avoid the use of gender pronouns
- 9) Avoid ambiguous terms such as rarely, commonly, frequently, generally, sometimes and usually. Avoid jargon
- 10) Never use flawed question formats – negative question, true/false, least likely, none of the above, all of the above

Responses or Options – 1 correct “answer” plus 3 incorrect “distractors”.

- a) Always list the correct answer first.
- b) Always start with a capital letter unless part of a sentence.
- c) The correct answer must be absolutely correct. Pitfall: Lack of one clearly best answer
- d) Incorrect answers should be realistic and plausible. No nonsense distractors
- e) Make sure you aren't including unintentional clues to the correct answer
- f) Distractors should represent unsafe practices or commonly held misconceptions and should be plausible.
- g) All responses should be grammatically consistent with the item stem, and all responses should be parallel.
- h) Do not make the correct answer substantially longer or more detailed than the distractors
- i) Do not use non-homogenous options, don't make the candidate choose between apples and oranges

Rationale – Brief statement explaining the testing point, be sure to describe

- (1) the testing point
- (2) why you picked the different options
- (3) why the indicated answer is best.

References – Author, Title, Publisher, year, page

References should be current, ideally less than 10 years and on the reading list of the specialty.

Avoid proceedings or journal articles as not every candidate will have access to these documents.

References must agree. For example, normal heart rate of a dog differs slightly depending on the text. There is no one answer.

## AVTCP EXAM QUESTION FORM

- Please submit 5 exam questions specific to your practice category for committee review for possible use on future AVTCP examinations.
- These questions must be advanced in nature and follow the AVTCP format using the instruction provided.
- Questions must be submitted in a WORD document only.

Question # \_\_\_\_\_

**Question:** (Stem)

**Responses:** (Please list the correct response **first**, capitalize first letter of each response)

- A.
- B.
- C.
- D.

**Reference:** (Source you would quote to prove the correct answer is in fact correct)

Author:

Title:

Publisher:

Year:

Page(s):

**Rationale:** (A short statement explaining the testing point)

**Name:**

**Contact information:**

**E-mail address:**

### Practice Category

- Canine/Feline     Feline     Exotic Companion Animal     Production  
Medicine

### Domain

- |   |   |
|---|---|
| <input type="checkbox"/> Anesthesia and Analgesia | <input type="checkbox"/> Body Mechanics & Systems |
| <input type="checkbox"/> Diagnostic & Laboratory  | <input type="checkbox"/> Diseases                 |
| <input type="checkbox"/> Pharmacology             | <input type="checkbox"/> Animal Care & Treatment  |
| <input type="checkbox"/> Surgical Nursing         | <input type="checkbox"/> Dentistry                |
| <input type="checkbox"/> Behavior                 | <input type="checkbox"/> Practice Management      |

## AVTCP CASE LOGS – Instructions/Guidelines

- A *minimum* of 50 cases (maximum of 75) reflecting the mastery of advanced clinical practice knowledge and skills are required. Applicants are encouraged to submit > 50 cases as cases may be rejected.
- Logs must be submitted in 1 complete WORD document, not multiple separately saved documents or as PDFs.
- Acceptable case logs in clinical practice must be taken from experience obtained while practicing with companion animals or production animals relevant to your specialty category. Case logs taken from zoo medicine, laboratory medicine, shelter medicine, or wildlife medicine will not be accepted.
- Case logs will not be accepted from patients belonging to the applicant.
- Cases submitted must take place between January 1<sup>st</sup> to December 31<sup>st</sup> of the application year, and should be listed in sequential order from oldest to newest.
- A *minimum* of 80% of the skills list must be cross-referenced in the case logs. Please indicate the skill number in parentheses after citation. You are encouraged to select cases that demonstrate more than one advanced skill. Submission of multiple similar/repetitive cases is discouraged.
- Skills list items should be referenced by skill number and description of skill performed.
- Please be sure to specify details, such as sites/locations for skills list items such as IV catheter placement, venipuncture, drug administration sites, etc.
- The AVTCP case log outline should be utilized. Each case log should be numbered individually and no case log should be longer than one page in length.
- Each case log should only include details for a single patient visit. Multiple visits by the same patient count as only one case unless presented for an entirely new problem. Multiple patient visits can be utilized to demonstrate advanced nursing skills but they will not count towards your total case count after the initial entry.
- Abbreviations should be expanded on first mention if not on AVTCP's acceptable abbreviation list.
- A body condition score (BCS) is required in each case log entry. A 9-point BCS scale is recommended, but 5-point is acceptable.
- A numerical pain score is required in each case log entry. The use of the Glasgow Pain Scoring Chart for Felines is strongly recommended.
- Logs should be written in 3<sup>rd</sup> person with perfect spelling and grammar.
- Logs should be written in Times New Roman 10pt with 1" margins.
- Medications should be referred to by drug name, not brand or trade name.
- Drug dosages must be expressed in metric units with specific dosage, time intervals, and route of administration.
  - *Correct – enrofloxacin (10mg/kg) 200 mg IV q12h ; Incorrect – Baytril<sup>®</sup> 8.8 mL bid.*
- *Please see any additional case log requirements in your specific practice category application.*

### AVTCP CASE LOG - Format

Applicant's name: \_\_\_\_\_

**Case log #** \_\_\_\_\_ **Date** \_\_\_\_\_ **Patient ID** \_\_\_\_\_

**Species/Breed** \_\_\_\_\_ **Age** \_\_\_\_\_ **Sex** \_\_\_\_\_ **Wt** \_\_\_\_\_ (kg) **BCS** \_\_\_\_\_ **Pain Score** \_\_\_\_\_

**Diagnosis** \_\_\_\_\_

**Treatment Plan** \_\_\_\_\_

**Advanced skills & procedures performed** \_\_\_\_\_

**Outcome** \_\_\_\_\_

## AVTCP CASE REPORTS – Instructions/Guidelines

- Four (4) complete case reports are required.
- Only cases that take place after the applicant reaches the employment history requirements will be accepted.
- Acceptable case reports in clinical practice must be taken from experience obtained while practicing with companion animals or production animals relevant to your specialty category. Case reports taken from zoo medicine, laboratory medicine, shelter medicine, or wildlife medicine will not be accepted.
- Case reports will not be accepted from patients belonging to the applicant.
- Reports must be no more than five(5) pages each, 1” margins, Times New Roman 10pt., and double-spaced. References and any appendices (e.g. laboratory and/or diagnostic imaging reports, etc.) are not included as part of the five-page maximum.
- The case report must be taken from the case logs. The case log # must be included in the case report.
- Abbreviations should be expanded on first mention if not on AVTCP’s acceptable abbreviation list.
- Reports must demonstrate expertise in the management and treatment of clinical cases and will be reviewed for overall quality of nursing care, therapy instituted by the technician, goals of care and therapy, and the technician’s role in the management as it relates to the case.
- All case reports involving procedures with animals that are heavily sedated or anesthetized must include an anesthetic monitoring log. This report is not included as part of the 5-page maximum.
- Case reports will be scored on writing (style, grammar, syntax, ability to communicate clearly, concisely yet thoroughly), disease/condition (demonstrating a clear understanding of the disease/condition and explaining the relevant anatomy, pathology and pathophysiology), diagnostics (explanation of diagnostics including reason for test, role in performing test, both normal & abnormal results and nursing response to test), and nursing care and therapy (explanation of goals of nursing care and therapy and role in care).
- A body condition score (BCS) is required in each case report. A 9-point BCS scale is recommended, but 5-point is acceptable.
- A numerical pain score is required in each case report. The use of the Glasgow Pain Scoring Chart for Felines is strongly recommended.
- The appropriate use of pictures to complement your case report is encouraged, but not required. If images are included, they are considered supplementary material and are not to be included as part of the five-page maximum.
- Appendices may be included if necessary/desired (ECG tracings, chemotherapy protocols, radiology reports, etc.).
- Reports should be written in 3<sup>rd</sup> person with perfect spelling and grammar.
- The use of references is encouraged. Plagiarism will not be tolerated.
- Medications should be referred to by drug name, not brand or trade name.
- Drug dosages must be expressed in metric units with specific dosage, time intervals, and route of administration.
  - *Correct – enrofloxacin (10mg/kg) 200 mg IV q12h ; Incorrect – Baytril<sup>®</sup> 8.8 mL bid.*
- Any attached laboratory reports should be reported in Conventional Units. The following internet conversion page is acceptable to use: [AMA Manual of Style Conversion Calculator](#)
- ***Please see any additional case report requirements in your specific practice category application.***

# AVTCP CASE REPORTS - Format

**AVTCP Case Report #**

**Case Log#**

**Title**

**Author**

Signalment

*Age, weight, species, breed, gender, BCS, pain score*

Presenting Complaint

History

Physical Exam Findings/Observations (admit/first contact)

Problem List/Differential Diagnosis

Diagnostic Approach

*State whether lab work was performed in-house or at an outside laboratory.*

Treatment Plan

Final Diagnosis

Outcome

*Necropsy and postmortem testing is included here if appropriate.*

Conclusion/Case Summary

*Include information on the disease/condition, the typical history and presentation, the diagnostic approach, treatment and management options, expected outcome and prognosis, and any other pertinent information. Information should be current and high quality; standard textbooks and peer-reviewed journal articles are preferred. All researched information is to be cited.*

Discussion

*The Discussion section is used to evaluate and critique the case. Unlike the actual Case Report, which is an objective recording of the facts of the case, the Discussion is a subjective analysis of the case management. Explain any deficiencies or potential errors in the case, and justify any steps taken or choices made that differ from case management.*



## AVTCP ACCEPTABLE ABBREVIATIONS

**These abbreviations may be used without expansion in AVTCP applications:**

Ab	antibody	FeLV	feline leukemia virus
ACT	activated clotting time	FIP	feline infectious peritonitis
aPTT	activated partial	FIV	feline immunodeficiency
thromboplastin time		virus	
ASA	American Society of	g	gram(s)
Anesthesiologists		g	gauge
AS	left ear	gr	grain(s)
AD	right ear	h/hr	hour(s)
AU	both ears	Hct	hematocrit
BAR	bright, alert, and responsive	Hgb	hemoglobin
BMBT	buccal mucosal bleeding time	hpf	high power field
BP	blood pressure	HR	heart rate
bpm	beats per minute	IFA	indirect fluorescent antibody
BUN	blood urea nitrogen	IT	intratracheal
°C	degree Celsius	IM	intramuscular
Ca	Calcium	IN	intranasal
C1, C2...	cervical vertebrae	IO	intraosseous
C/M	castrated male	IP	intraperitoneal
CBC	complete blood count	ICe	intracoelomic
cc	cubic centimeter	IV	intravenous
cm	centimeter	kg	kilogram
CNS	central nervous system	kVp	peak kilovoltage
CO <sub>2</sub>	carbon dioxide	L1, L2...	lumbar vertebrae
CPK	creatinine phosphokinase	L	liter
CPR	cardiopulmonary	lpf	low power field
resuscitation		m	meter
CRI	constant rate infusion	mAs	milliampere per second
CRT	capillary refill time	MM	mucus membranes
CSF	cerebrospinal fluid	M/N	male/neutered
CT	computed tomography	MCH	mean corpuscular
d	day	hemoglobin	
dl	deciliter	MCHC	mean corpuscular
DNA	deoxyribonucleic acid	hemoglobin concentration	
ECG/EKG	electrocardiogram or	MCV	mean corpuscular volume
electrocardiograph		min	minute
EDTA	ethylenediaminetetraacetic	mg	milligrams
acid		mL	milliliter
ELISA	enzyme-linked	MMOL/L	millimole per liter
immunosorbent assay		MRI	magnetic resonance imaging
ET	endotracheal	NPO	nothing by mouth (nil per os)
ETCO <sub>2</sub>	end-tidal carbon dioxide	NIBP	non-invasive blood pressure
EO	Ethelene Oxide	NSAID	non-steroidal anti-
°F	degree Fahrenheit	inflammatory drug	
F/S	female/spayed	NSF	no significant findings

O <sub>2</sub>	oxygen	rDVM	referring doctor of veterinary
OD	right eye (oculus dexter)	medicine	
OS	left eye (oculus sinister)	RER	resting energy requirement
OU	both eyes	RNA	ribonucleic acid
PCV	packed cell volume	RR	respiration rate
PE	physical exam	Rx	take, receive – used to
pH	measure of the acidity of a	indicate a prescription or treatment	
solution		SC	subcutaneous
PO	per os	sec	second
POTZ	preferred optimal temperature	SpO <sub>2</sub>	peripheral capillary oxygen
zone		saturation	
PT	prothrombin time	T <sub>1</sub> , T <sub>2</sub> ...	thoracic vertebrae
Q	every	T <sub>4</sub>	thyroxine
QAR	quiet, alert, and responsive	T <sub>3</sub>	triiodothyronine
QD	once daily	TP	total proteins
Q72H	every 72 hours	TS	total solids
Q48H	every 48 hours	TSH	thyroid stimulating hormone
Q24H	every 24 hours	UA	urine analysis
Q12H	every 12 hours	WBC	white blood cell
Q8H	every 8 hours	wk	week
Q4H	every 4 hours	WNL	within normal limits
RBC	red blood cell	wt	weight
		yr	year

## AVTCP Small Animal (FELINE) Skills List

A minimum of 80% of the skills must be mastered. Skills **must** be demonstrated and cross referenced in your case logs.

Items denoted with an \*\* are considered mandatory skills and must be completed.

- Mastery is defined as being able to perform the task safely, with a high degree of success, and without being coached or prompted. Mastery requires having performed the task in a wide variety of patients and situations.
- The use of cadavers, clinic animals, or personal pets is **unacceptable**.

Skill	Case Log Number(s)	Signature of Veterinarian or VTS
<b>General Nursing</b>		
1. Perform a comprehensive physical exam on at least on FOUR cats. One of each life stage (Kitten <12 weeks, Young adult 9m-6 years, Senior 7-14 years, Geriatric >14 years). Assess and document findings including weight, temperature, heart rate, pulse rate, respiratory rate, heart/lung sounds, BCS, numerical pain score, hydration status, and any abnormal findings. **		
2. Recognize and document signs of respiratory failure and/or shock.		
3. Accurately and efficiently triage patients presenting for emergent conditions. Document presenting condition, observations, vitals, and steps taken in response in patient status.		
4. In association with other medical team members, administer CPR, evaluate effectiveness, and institute therapy. <i>Adherence to current RECOVER CPR guidelines is strongly encouraged.</i>		
5. Demonstrate knowledge of substances/items that, when ingested, result in toxicity/foreign body and appropriate interventions.		
6. Demonstrate efficient and accurate calculation of drug doses, IV fluid rates, and constant rate infusions (CRIs). Calculations must be included in log. **		
7. Demonstrate thorough knowledge of metric conversions using both kg and m <sup>2</sup> . Calculations must be included in log.		
8. Demonstrate mastery of venipuncture in healthy, sick and/or debilitated feline patients in a variety of locations. Log location.		
9. Demonstrate mastery of peripheral IV catheter placement in a variety of sites in healthy, sick and/or debilitated feline patients and demonstrate proper care and use of the catheter and IV line. Log at least two different locations.		
10. Demonstrate central line, PICC, and/or jugular catheter placement in a feline patient and demonstrate proper care and use of the catheter and IV line.		
11. Demonstrate arterial catheter placement in a feline patient and demonstrate proper care and use of the catheter and IV line.		
12. Demonstrate through the needle catheter placement in a feline patient and demonstrate proper care and use of the catheter and IV line.		
13. Demonstrate intraosseous catheter placement in a feline patient and demonstrate proper care and use of the catheter and IV line.		
14. Set up and maintain an IV fluid pump, be able to troubleshoot equipment malfunction, note administration problems, and take corrective measures. Log details.		
15. Set up and maintain a syringe pump, be able to troubleshoot equipment malfunction, note administration problems, and take corrective measures. Log details.		
16. Administer crystalloids and/or colloids, monitor administration, and adjust administration in response to therapy and patient status.		

17. Administer blood or blood products, monitor administration and adjust administration as required. Log component used, monitoring, and any intervention required.		
18. Demonstrate mastery of cystocentesis in the feline patient, either blind or ultrasound guided. Log any adverse events if indicated (e.g. vagal response, hemorrhage, uroabdomen).		
19. Demonstrate proficiency in urinary catheter placement in a male and female feline patient.		
20. Demonstrate proficiency in urinary catheter maintenance in the feline patient.		
21. Set up and perform diagnostic non-invasive blood pressure measurement in a feline patient. Specify the method used (oscillometric, Doppler, etc.) and log values.		
22. Set up and perform diagnostic invasive blood pressure measurement via pressure transducer or aneroid manometer in a feline patient. Specify the steps performed and log values. **		
23. Set up and perform a diagnostic ECG. Log heart rate and rhythm.		
24. Recognize normal and abnormal ECG tracings. Log observed arrhythmia.		
25. Demonstrate mastery of proper wound management techniques and/or bandage placement. Log at least TWO different wounds/bandages - specifying location and bandage type (supportive, protective, wet to dry, etc.).		
26. Demonstrate mastery of proper application of splints. Log location and type.		
27. Accurately and efficiently perform ocular diagnostic tests (including tonometry, fluorescein staining and/or Schirmer tear test). Log at least TWO tests.		
28. Determine nutritional requirements for different life stages, life styles, and disease processes in the feline patient. Log calculations.		
29. Calculate and administer nutritional support through a variety of techniques (assisted feeding, feeding tubes, parenteral nutrition, etc.). Log calculations.		
30. Demonstrate proper placement and/or maintenance of at least TWO of the following types of enteral feeding tubes: nasogastric, nasoesophageal, orogastric, esophagostomy, or PEG. Include feeding tube maintenance and tube feeding protocols.		
31. Administer thoracic physiotherapy to a feline patient (nebulization, coupage, etc.).		
32. Demonstrate proficiency in appropriately performing in TWO rehabilitation techniques including massage therapy, cryo/heat therapy, range of motion, low level laser therapy, etc. Specify laser class and appropriate PPE if indicated.		
33. Demonstrate proper nursing care techniques for the recumbent patient including passive range of motion, urinary bladder care, proper bedding, safe manipulation of position, etc.		
34. Demonstrate proper isolation procedures, care of isolation suite, and isolation protocols.		
35. Demonstrate proper nursing care of neonates in the hospital setting. Log all nutritional interventions and techniques.		
<b>Anesthesia/ Analgesia</b>		
36. Assign appropriate ASA status after reviewing patient history, PE, and diagnostic results in collaboration with a veterinarian. Log the justification for your choice.		
37. Assign appropriate numerical pain score after reviewing patient history and physical examination in conjunction with evaluation of any prescribed analgesic plans to provide effective pain management. Log the justification for your choices. <i>The Glasgow Pain Scoring Chart for Felines is strongly recommended.</i> **		

38. Develop anesthetic and peri-anesthetic protocols for veterinarian review and implementation to provide effective pain management and maximum anesthetic safety and effectiveness. Log the justification for your choices. BOXING or TANKING is UNACCEPTABLE as an anesthetic protocol for the feline patient.		
39. Perform regional nerve blocks (dental, biopsy site, testicular, or linea). Perform at least FOUR. <i>Local blocks for declaws will only be accepted for the removal of a diseased/compromised digit. Elective declaw procedures are not accepted.</i>		
40. Evaluate the effects of common pre-anesthetic, induction, and maintenance drugs. Describe evaluation and results in log.		
41. Evaluate and respond to adverse reactions to and/or complications from pre-anesthetic, induction, and anesthesia maintenance drugs.		
42. Implement appropriate pre-oxygenation technique and state rationale for need.		
43. Demonstrate mastery of endotracheal intubation and tube placement noting selection process in regard to length and size, and safe technique for sealing cuff.		
44. Set up a pulse oximeter, evaluate oxygen status, and if applicable note any abnormalities and corrective actions taken in log.		
45. Set up a capnograph end-tidal CO <sub>2</sub> monitor, evaluate ventilation status, and troubleshoot equipment malfunction. Log any abnormalities and appropriate interventions.		
46. Set up a continuous respiratory rate monitor, evaluate respiratory rate status, and troubleshoot equipment malfunction. Log any abnormalities and appropriate interventions.		
47. Set up and monitor core body temperature (esophageal or rectal), evaluate patient status, and troubleshoot equipment malfunction. Log any abnormalities and appropriate interventions.		
48. Implement techniques to prevent hypothermia/hyperthermia and resolve these issues by safely and effectively using devices such as warm air blankets, circulating water blankets, and IV fluid warmers. Log type of warming device used.		
49. Monitor and evaluate patient status and anesthetic depth using established parameters such as outward involuntary physical responses (i.e., jaw tone, palpebral reflex, eye position), blood pressure, ECG, pulse oximetry, heart rate, respiratory rate, and ventilation status.		
50. Administer and evaluate the effects of IV crystalloid and/or colloid therapy during anesthesia. Log any changes made to fluid therapy administration including rationale.		
51. Perform manual intermittent positive pressure ventilation with an ambu or anesthesia reservoir bag and evaluate its effectiveness.		
52. Demonstrate proficiency in the use of a mechanical anesthetic ventilator. Log technique and rationale for use, and troubleshoot equipment.		
53. Assess appropriate extubation time with regard to brachycephalics, regurgitation/aspiration, and emergence from anesthesia. Log any complications and appropriate interventions.		
54. Set up, test, and/or troubleshoot a rebreathing system. Log testing steps.		
55. Set up, test, and/or troubleshoot a non-rebreathing system. Log testing steps.		
56. Set up, test, and/or troubleshoot an anesthesia machine (oxygen tank/compressor, vaporizer, CO <sub>2</sub> absorbent canister). Log testing steps.		
57. Set up, test, and/or troubleshoot a waste gas scavenging system. Log testing steps.		
<b>Surgical Nursing</b>		
58. Demonstrate extensive knowledge of and ability to set up necessary equipment and supplies for a variety of surgeries (i.e., reproductive tract, GI tract, ophthalmic, orthopedic, soft tissue, endoscopy, laparoscopy). Log at least FIVE different surgical procedures.		

59. Coordinate the process of preparation and positioning of patients for a variety of surgical procedures (i.e., reproductive tract, GI tract, ophthalmic, orthopedic, soft tissue, endoscopy, laparoscopy). Log at least FIVE different surgical procedures.		
60. Coordinate the process of preparation, safe use, and maintenance of suction equipment, electrocautery, smoke evacuator, and/or surgical laser units. <i>The use of laser/electrocautery for declaws will only be accepted for the removal of a diseased/compromised digit. Elective declaw procedures are not accepted.</i>		
61. Demonstrate proper pre-operative nursing care of surgical patients. Log any abnormalities that may cause anesthetic complications.		
62. Demonstrate proper post-operative nursing care of surgical patients. Log any complications.		
63. Demonstrate the proper care of surgical instruments. Log instrument processing details.		
64. Demonstrate proper sterilization procedures (autoclave, ethylene oxide). Log instrument processing details.		
<b>Laboratory</b>		
65. Mastery of all basic laboratory testing (PCV, TP, UA, fecal analysis, external parasite analysis, basic cytology, blood smear evaluation) and evaluation of results. All skills must be logged. **		
66. Utilize, run quality control (QC), and troubleshoot in-house hematology and clinical chemistry analyzers and evaluate results. Log equipment maintenance and QC.		
67. Demonstrate the ability to perform at least TWO different in-house clotting tests (BMBT, ACT, Platelet evaluation, PT, APTT).		
68. Demonstrate mastery of in-house blood typing and crossmatching.		
69. Demonstrate the ability to obtain samples for tests such as, but not limited to: ACTH stimulation test, HDDST, LDDST, thyroid testing, bile acids, cobalamin/folate, tli, pli, and therapeutic drug monitoring. Note appropriate fasting protocols, correct timing of sample collection, and correct sample collection and handling. Log at least THREE different tests.		
70. Properly collect and/or handle and process an arterial blood gas sample. Log details.		
71. Properly collect and/or handle, store, and submit samples of an excretion, secretion, or effusion for laboratory evaluation.		
72. Properly collect and/or handle, store, and submit cytology samples for laboratory evaluation. Log type of sample (i.e. FNA, direct, impression).		
73. Properly collect and/or handle, store, and submit samples for bacterial and/or fungal cultures. Log source and culture medium.		
74. Properly collect and/or handle, store, and submit samples for histopathology.		
<b>Diagnostic Imaging (Digital/machine or hand processing)</b>		
75. Safely coordinate the radiographic process by directing team members to consistently and efficiently produce radiographs of diagnostic quality.		
76. Demonstrate proficiency in evaluating the patient's condition (medical, surgical, behavioral) and adapting the radiographic procedures to those conditions. Log any adaptations. **		
77. Demonstrate accuracy, efficiency, and safety in positioning patients for a variety of radiographic studies (thorax, abdomen, spine, skull, extremity, shoulder, pelvis). Log at least FIVE different studies.		
78. Demonstrate accurate and consistent evaluation and modification of radiographic technique or positioning. Log results of evaluation and modification.		

79. Perform and/or demonstrate the ability to set up and assist in contrast studies (i.e. GI studies, cystograms, myleograms) including the set up of necessary equipment, patient preparation, and administration of contrast media. Log any abnormalities.		
80. Demonstrate the ability to set up, maintain equipment, and assist with or perform ultrasonography.		
<b>Radioactive Iodine</b>		
81. Demonstrate proper radioactive iodine related techniques. Using proper protocols, perform and/or assist in the administration of radioactive iodine and provide appropriate inpatient care with established safety procedures. Log steps taken.		
82. Demonstrate radioactive iodine knowledge regarding pre- and post-administration client education and the maintenance of all appropriate facility records and logs to remain compliance with regulatory guidelines.		
<b>Dentistry</b>		
83. Demonstrate thorough knowledge of dental anatomy abnormalities including periodontal disease/oral resorptive lesions and accurate dental charting. Log abnormalities and the type of dental chart used. **		
84. Efficiently perform a comprehensive oral exam demonstrated in proper dental charting and notes.		
85. Readily identify oral pathology and anatomic abnormalities.		
86. Demonstrate proper use and care of dental hand instruments (including sharpening and instrument processing protocols) and power instruments.		
87. Perform thorough and efficient dental prophylaxis.		
88. Efficiently and consistently produce full mouth dental radiographs of diagnostic quality. Log techniques and machine type (i.e. wall mount or handheld).		
89. Set up, maintain and troubleshoot all dental equipment for prophylaxis and oral surgery.		
<b>Pharmacology</b>		
90. Demonstrate extensive knowledge of groups of drugs, their mechanisms of action, clinically relevant side effects, and evaluation of therapeutic responses. Log drugs from at least THREE categories noting drug category, side effects, and therapeutic effect. **		
91. Demonstrate extensive knowledge of types of vaccines (core and non-core), their immunological mechanisms, current recommendations, and administration schedules. Log future vaccine recommendations.		
92. Recognize adverse vaccine reactions and demonstrate proper response and interventions.		
93. Demonstrate proper handling, preparation, and administration of chemotherapeutics with appropriate safety protocols. Log specific administration protocols and PPE.		
<b>Behavior</b>		
94. Demonstrate knowledge of feline behavior including head and body language. **		
95. Recognize appropriate and inappropriate elimination behaviors in the feline patient and provide client counseling regarding current scientifically based techniques of training, management, and behavior modification. Log observations and recommendations.		
96. Demonstrate feline friendly/minimal effective safe restraint while doing a variety of procedures (physical exam, blood draw, cystocentesis etc.). Log method of restraint.		
97. Recognize signs/symptoms of pain/discomfort in the feline patient in the home setting (from client history) and in the hospital (head pressing, hiding, sudden aggression etc.) Log pain scale used and interventions to address pain management..		

98. Recognize stress when handling a patient and implement protocols that are feline friendly (i.e. AAFP guidelines). This may include necessary and appropriate sedation/chemical restraint. Log protocols and any administered medications including dose and calculation. **		
99. Recognize and troubleshoot redirected aggression behavior. Log diagnostics performed, final diagnosis, and protocol for necessary behavior modification.		
<b>Practice Management</b>		
100. Participate in the development and/or maintenance of all appropriate facility records and logs in compliance with regulatory guidelines (x-ray, surgery, anesthesia, laboratory, controlled substance).		
101. Participate in the development and/or maintenance of appropriate sanitation and hospital-acquired infection protocols for a veterinary facility, including patient and laboratory areas.		
102. Participate in the development and/or maintenance of infectious disease protocols and staff education including the recognition of potentially infectious cases and the proper handling and housing of those patients.		
103. Demonstrate proficiency at developing and providing client education in a clear and accurate manner at a level the client understands (i.e., oral and written, including educational handouts).		
<b>Euthanasia</b>		
104. Demonstrate skilled application of crisis intervention/grief management skills with clients.		
105. Assist with and document ONE euthanasia protocol including sedatives, catheter placement, administration, and euthanasia solution used. Include doses and calculations of all sedatives and euthanasia solution. Document client counseling for euthanasia, method of body disposal, and any referral for grief counseling. Document proper/respectful care and handling of deceased patient.		

**The AVTCP reserves the right to verify any information that the candidate provides in the application packet**

The AVTCP requires that a licensed veterinarian or a Veterinary Technician Specialist who has mastered the skill, attest to your ability to perform the task.

Mastery is defined as being able to perform the task safely, with a high degree of success, and without being coached or prompted. Mastery requires having performed the task in a wide variety of patients and situations. The applicant must have mastered a minimum of 80% of the skills listed.

All skills mastered **must** be demonstrated in the case logs and reports. The use of cadavers, clinic animals, or personal pets is **unacceptable**.



***I, the undersigned, declare that I have read the entire AVTCP application packet.  
I further attest that the above-named applicant has achieved the AVTCP definition of mastery for the above skills that are  
marked with my signature.***

Name \_\_\_\_\_ / \_\_\_\_\_ Degree \_\_\_\_\_  
Printed Name Signature

Name \_\_\_\_\_ / \_\_\_\_\_ Degree \_\_\_\_\_  
Printed Name Signature

Name \_\_\_\_\_ / \_\_\_\_\_ Degree \_\_\_\_\_  
Printed Name Signature

Name \_\_\_\_\_ / \_\_\_\_\_ Degree \_\_\_\_\_  
Printed Name Signature

Name \_\_\_\_\_ / \_\_\_\_\_ Degree \_\_\_\_\_  
Printed Name Signature

Please provide the names and credentials of all persons who have signed this form  
attesting to your mastery of advanced skills in clinical practice.

## AVTCP Small Animal (FELINE) KNOWLEDGE LIST

*Knowledge of disease processes should include: causes, symptoms, modes of transmission, proper diagnosis, treatment options and prognosis.*

*Hospital Management skills not pertaining to practice management.*

### **THE HOSPITAL**

#### **Hospital/Office Procedures**

*A limited role in many hospitals may occur due to practice management. One should be familiar with the process but not necessarily oversee the following:*

- Controlled substance documentation and proper disposal
- Equipment care/management
- Disinfectants/OSHA Regulations
- Legal documentation/record keeping
- Hazardous material disposal
- Familiar with local state Veterinary Law, regulation and ethics.
- Familiar with Inventory control/ordering
- Excels in interpersonal and public relations

#### **Infectious Disease**

*The technician must be familiar with zoonotic diseases specifically pertaining to the cat. If a technician is employed within a mixed practice, it is essential to know what diseases can cross species within the hospital.*

<http://www.catvets.com/guidelines/practice-guidelines/zoonoses-guidelines>

- Bacterial
- Fungal
- Viral
- Proper sanitation protocols and isolation/quarantine of animal if necessary.

#### **Pharmacology**

*The technician must have the ability to recognize pharmacological groups, mechanisms, and relevant side effects.*

- Antibiotics  
(<https://www.catvets.com/guidelines/practice-guidelines/antimicrobial-in-cats>)
- Feline approved anti-inflammatories (NSAIDS)
- Anthelmintics
  - Injectable
  - Oral
- Antifungals
  - Oral
  - Topical
- Anticonvulsants
- Antiseptics
- Anti-parasitic
  - Oral
  - Topical
- Chemotherapeutics routinely used in private practice

- Controlled Substances
  - Injectable
  - Oral
  - Topical
- Fluid Therapy
  - Calculations
  - Isotonic Crystalloids, Colloids, Hypertonic Saline, Blood Products
  - Delivery systems
- Medication Calculations
  - Injectable
  - Oral
- Monitor Therapeutic Response/documentation
- Pain Management (non NSAID)
  - Injectable
  - Oral
  - Topical
- Proper Administration
  - Injectable
  - Oral
  - Topical
- Vaccines (AAFP GUIDELINES)
  - Core and non-core

<http://jfm.sagepub.com/content/15/9/785.full.pdf+html>

## **Toxins**

*The technician must be knowledgeable regarding common toxins found within or around the home pertaining to the feline species.*

- Alcohol, nicotine, illicit drugs
- Ethylene glycol
- Food toxins (chocolate, onion, garlic, green tomato, grapes/raisins, avocado etc.)
- Household plants (<https://www.asPCA.org/pet-care/animal-poison-control/cats-plant-list>)
- NSAIDS/Cold Medication/drugs that treat mental illnesses (<http://www.catvets.com/guidelines/practice-guidelines/nsaids-in-cats>)
- Rodenticides
- Topical pesticides (Organophosphates, pyrethrins, etc.. anything that your veterinary office would not carry!)
- Envenomations

## **THE BODY MECHANICS:**

### **Cardiovascular**

- Anatomy and physiology
- Arrhythmias
- Cardiac tamponade
- Chronic Heart Failure
- Congenital defects found in the cat
  - VSD/ASD (ventral septal defect/atrial septal defect)

- Tetralogy of Fallot
- Patent Ductus Arteriosus (PDA)
- Aortic Stenosis
- Pulmonic Stenosis
- Mitral and Tricuspid Valve Dysplasia
- Endocardial Fibroelastosis
- Cor Triatriatum Sinister
- Heartworm disease
  - HARD (Heartworm Associated Respiratory Disease)
- Murmurs/Heart Sounds
  - Innocent
  - Normal Sounds
- Pericardial Effusion

### **Dermatology**

- Anatomy and physiology
- Allergy Testing
- Anal gland abscesses/disease/fistula
- Atopy
- Dermatophytosis (ringworm/fungal infection)
- Ectoparasites
  - Fleas
  - Lice
  - Mange (demodex, cheyletiellosis, otodectic, sarcoptic, notodectic, trombiculiasis)
- Eosinophilia (skin plaques)
- Food Hypersensitivity
- Neoplasia (mast cell, basal cell, cutaneous lymphoma, squamous cell carcinoma, fibrosarcoma, ceruminous gland tumors, melanoma, cysts, cutaneous metastases adenocarcinoma)
- Pyoderma
- Urticaria (hives)

### **Ear**

- Anatomy
- Congenital defects
- Common diseases/infections
- Ectoparasites
- Blood glucose monitoring
- Ear tipping
- Aural hematoma

### **Endocrine/exocrine**

- Anatomy and physiology
- Acromegaly
- Cushing's Disease
- Diabetes (Insipidus and Mellitus)
- Diabetic Ketoacidosis
- Euthyroid
- Insulinoma

- Hyperthyroidism
- Hypothyroidism (after treatment)
- Pancreatitis (acute, chronic, neoplasia)
- Pancreatic Insufficiency
- Thyroid Neoplasia

### **Fluid and electrolyte disorders**

- Acid-base abnormalities
- Dehydration/overhydration
- Electrolyte abnormalities  
(<http://www.catvets.com/guidelines/practice-guidelines/fluid-therapy-guidelines>)

### **Gastrointestinal**

- Anatomy and physiology
- Bacterial disease
- Constipation/obstipation (acute, chronic)
- Diarrhea (acute, chronic, infectious, colitis)
- Esophageal Stricture
- Foreign body/obstruction
- Gastric Ulcers
- Gastritis
- Ileus
- Intussusception
- Infiltrative disease
- Inflammatory Bowel Disease
- Malabsorption
- Megacolon
- Megaesophagus
- Neoplasia (GI and Oral)
- Parasites (common in cats)
- Pyloric Outflow Obstruction
- Large bowel disease
- Refeeding syndrome
- Small bowel disease
- Stomatitis (lymphocytic/plasmacytic)
- Triaditis in cats
- Vomiting vs regurgitation

### **Hematologic**

- Anatomy and physiology
- Anemia (regenerative/non-regenerative)
- Blood Transfusions (include common blood types for cats)
- Coagulopathies
- DIC (Disseminated Intravascular Coagulation)
- Leukocyte disorders (leukemia, lymphoma, leukocytosis, leukopenia)
- Platelet disorders
- Polycythemia

### **Hepatobiliary**

- Anatomy and physiology
- Biliary cysts
- Bile duct obstruction (neoplasia, stones)

- Cholecystic disease
- Cholangiohepatitis
- Gallbladder mucocele
- Hepatitis (acute/chronic)
- Neoplasia (adenoma, adenocarcinoma, sarcoma, mast cell, lymphoma, carcinoma)
- Portosystemic shunt (congenital vascular anomaly)
- Toxic hepatopathy

### **Immunological**

<http://www.catvets.com/guidelines/practice-guidelines/retrovirus-management-guidelines>

- Anatomy and physiology
- Feline Leukemia
- Feline Infectious Peritonitis (dry and effusive)
- Feline Immunodeficiency Virus
- Immune Mediated Hemolytic Anemia
- Immune Mediated Thrombocytopenia
- Vaccine related adverse events

### **Musculoskeletal**

- Anatomy and physiology
- Achondroplasia
- Arthropathies in the cat
- Avascular necrosis of the femoral head (Leggs Perthes Disease)
- Degenerative joint disease (DJD)
- Immune mediated arthritis/vaccine related arthritis symptoms
- Joint trauma (ligament damage/luxation)
- Nutritional Osteodystrophies in the cat
- Osteoarthritis
- Osteosarcoma
- Spondylosis

### **Neurogenic**

- Anatomy and physiology
- Cerebellar Hypoplasia in cats
- Congenital (Hypokalemic myopathy of Burmese cats, Nemaline rod myopathy, Devon Rex cat hereditary myopathy)
- Diabetic Neuropathy
- Epilepsy
- Granulomatous meningoencephalitis (GME)
- Hydrocephalus
- Horner's Disease
- Intervertebral disc disease
- Laryngeal Paralysis
- Myasthenia Gravis
- Neoplasia
- Seizure disorders common in the cat
- Vestibular disease (polyps, infection etc.)

### **Ophthalmology**

- Anatomy and physiology of the feline eye
- Cataracts
- Conformational abnormalities seen in the cat (e.g.- entropion)

- Conjunctivitis
- Corneal ulcers
- Glaucoma
- Keratoconjunctivitis Sicca in cats (KCS-dry eye)
- Lens luxation
- Neoplasia (melanoma)
- Nuclear sclerosis
- Progressive Retinal Atrophy (seen in Abyssinian and other purebred cats)
- Retinal detachment (high blood pressure, taurine deficiency.)
- Uveitis

### **Dentistry/oral cavity**

AVDC.org, AVDS-online.org

- Anatomy and physiology
- Disease grading system
- Fistulas
- Tooth Resorption
- Stomatitis (lymphocytic/plasmacytic)
- Malocclusion
- Neoplasia of the oral cavity (malignant and non-malignant)
- Full Mouth radiograph techniques in the cat
- Root abscess
- Periodontal Disease grading
- Triadan numbering system/dental formula
- Supernumerary teeth
- Retained deciduous teeth

### **Reproduction**

- Anatomy and physiology
- Breeding/prevention
- Dystocia
- Eclampsia
- False pregnancy
- Mammary tumors
- Mastitis
- Neonatal care
- Pyometra/metritis
- Uterine prolapse

### **Respiratory**

- Anatomy and physiology
- Asthma
- Brachiocephalic problems in cats
- Diaphragmatic hernia
- Epistaxis
- Feline Calicivirus
- Feline Viral Rhinotracheitis (feline herpes/URI diseases)
- Laryngeal Paralysis
- Nasal polyps/neoplasia/fungal infections common in cats
- Neoplasia
- Pleuritis/pleural effusions

- Pneumo/hemo/chylo/pyothorax
- Pneumonia (viral, bacterial, fungal)
- Pulmonary edema
- Pulmonary thromboembolism
- Tracheal bronchitis/collapse/stenosis

### **Urinary Tract**

- IRIS Kidney Stages <http://www.iris-kidney.com/guidelines/staging.html>
- AKI <http://www.iris-kidney.com/guidelines/grading.html>
- Urinalysis
- Ureterolithiasis, renaliths, uroliths
- Crystaluria
- Sterile Cystitis
- FLUTD -Feline Lower Urinary Tract Disease
- Urinary blockage
- Urinary tract neoplasia
- Renal lymphoma
- Pyelonephritis

### **THE MIND PROCESS**

#### **Behavior in cats**

<http://www.catvets.com/guidelines/practice-guidelines/house-soiling>

<http://www.catvets.com/guidelines/practice-guidelines/environmental-needs-guidelines>

<https://www.catvets.com/guidelines/practice-guidelines/behavior-guidelines>

\*Declawing is not an option for any behavior modification.

\*Defanging cats is not an option for any behavior modification.

- Anxiety related disorders
- Aggression
- Body language
- Verbal language
- Destruction: alternatives
- Environmental enrichment
- House soiling/spraying/trouble shooting
- Kitten aggression/play
- Litterbox training
- Self-destruction
- Carrier Acclimation

### **NUTRITION IN CATS**

*Nutrition plays a vital role in a healthy cat. There are many opinions of type of the types of diets available. The Feline Technician should be familiar with conventional and non-conventional diets.*

- Calculating RER and disease state requirements
- Prevention and treatment of disease states
- Proper nutrition for life stages/lifestyle
- Proper use and recommendation
- Parental/non-parental nutrition
- Obesity management
- RAW DIET and Homemade diet



- Taurine deficiency

## AVTCP Small Animal (FELINE)

### SUGGESTED READING LIST

#### Website References:

##### **AAFP Practice Guidelines and Endorsements by the AAFP**

<http://www.catvets.com/guidelines/practice-guidelines>

##### **Cat Friendly GOLD Standard of Practice**

<http://www.catvets.com/cfp/veterinary-professionals>

##### **WINN Feline Foundation Journal Articles**

<http://www.winnfelinefoundation.org/education/journal-articles>

##### **Dr. Sophia Yin & Low Stress Handling**

<https://drsophiayin.com/>

##### **Fear Free Pets**

<https://fearfreepets.com/>

##### **Occupational Safety and Health Administration (OSHA)**

<https://www.osha.gov/>

#### Books:

**THE CAT, Clinical Medicine and Management.** Susan Little. Elsevier. 2012. ISBN: 1437706606

*\*This book is the current 'ultimate guide' to the feline patient and is HIGHLY recommended to have in your library for study.*

**August's Consultations in Feline Internal Medicine, Volume 7.** 1<sup>st</sup> ed. Susan Little. Elsevier. 2016. ISBN: 9780323226523

**Feline Internal Medicine Secrets:** Michael Lappin. Elsevier. 2001. ISBN: 9781560534617

**Canine and Feline Endocrinology.** 4<sup>th</sup> ed. Edward C. Feldman, Richard W. Nelson, Claudia Reusch, J. Catherine Scott-Moncrieff. Elsevier. 2014. ISBN: 9781455744565

**Small Animal Pediatrics: The First Twelve Months of Life:** Michael Peterson & Michelle Kutlzer. Saunders. 2011. ISBN: 1416048898

**Feline Emergency and Critical Care.** Kenneth J. Drobatz, Merilee F. Costello. Wiley-Blackwell. 2010. ISBN: 978-0-8138-2311-9

**Emergency Procedures for the Small Animal Veterinarian.** 3<sup>rd</sup> ed. Signe Plunkett. Saunders. 2012. ISBN: 9780702027680

**Manual of Small Animal Emergency and Critical Care Medicine.** MacIntire et al. Wiley-Blackwell. 2012. ISBN: 978-0-8138-2473-4

**Veterinary Technician's Manual for Small Animal Emergency and Critical Care.** Christopher Norkus. Wiley-Blackwell. 2011. ISBN: 0813810574

**Advanced Monitoring and Procedures for Small Animal Emergency and Critical Care.** Jamie Burkitt-Creedon and Harold Davis. Wiley-Blackwell. 2012. ISBN: 978-0-8138-1337-0

**ECG For the Small Animal Practitioner.** Larry Tilley, Naomi Burtnick. Teton NewMedia. 2009. ISBN: 9781893441002.

**ECG Interpretation in the Critically Ill Dog and Cat.** Thomas Day. Wiley-Blackwell. 2005. ISBN: 978-0-8138-0901-4

**Manual of Canine and Feline Cardiology.** 5<sup>th</sup> ed. Francis W. K. Smith et al. Elsevier. 2016. ISBN: 9780323188029

**A Practical Guide to Canine & Feline Neurology.** 3<sup>rd</sup> ed. Curtis W. Dewey & Ronaldo C. da Costa. Wiley-Blackwell. 2008. ISBN: 978-1-119-94611-3

**Fluid Therapy for Veterinary Technicians and Nurses.** Charlotte Donohoe. Wiley. 2012. ISBN: 978-0-8138-1484-1

**Fluid, Electrolyte and Acid-Base Disorders in Small Animal Practice.** 4<sup>th</sup> ed. Stephen DiBartola. Saunders. 2012. ISBN: 978-1-4377-0654-3

**Feline Behavioral Health and Welfare:** Ilona Rodan & Sarah Heath. Saunders. 2016. ISBN: 9781455774012

**Nursing the Feline Patient.** Linda Schmeltzer & Gary D. Noseworthy. Wiley-Blackwell. 2010. ISBN: 978-0-470-95901-5

*\*Any references to scruffing, face cones, muzzles and other unsafe anesthetic procedures (tanking/boxing) are an unacceptable form of restraint for the feline patient. Please do not refer to any guidelines in the book suggesting the use of those techniques.*

**Feline Dentistry: Oral Assessment, Treatment, and Preventative Care.** Jan Bellows. Wiley-Blackwell. 2010. ISBN: 978-0-8138-1613-5

**Small Animal Dental Procedures for Veterinary Technicians and Nurses.** Jeanna R. Perrone. Wiley. 2012. ISBN: 978-0-8138-2075-0

**A Practical Guide to Feline Dermatology.** Eric Gauguere & Pascal Prelaud. Translated by M. Craig Merial. 1999.

**Small Animal Clinical Nutrition Quick Consult.** Michael S. Hand, Steven C. Zinker, Bruce J. Novotny. Mark Morris Institute. 2011. ISBN: 0945837038

**Canine and Feline Nutrition: A Resource for Companion Animal Professionals.** 3<sup>rd</sup> ed. Linda P. Case, et. al. Mosby. 2011. ISBN: 978-0-323-06619-8

**Small Animal Regional Anesthesia and Analgesia.** Luis Campoy, Matt Read. Wiley-Blackwell. 2013. ISBN: 978-0-8138-1994-5

*\*Any references to unsafe anesthetic procedures(tanking/boxing) are an unacceptable form of restraint for the feline patient. Please do not refer to any guidelines in the book suggesting the use of those techniques.*

**Handbook Veterinary Pain Management.** 3<sup>rd</sup> ed. James S. Gaynor and William W. Muir. Mosby. 2015. ISBN: 9780323089357

**Target, The Antimicrobial Reference Guide to Effective Treatment.** 5<sup>th</sup> ed. David Aucoin. North American Compendiums, Inc. 2015. ISBN: 1934880132

**Boothe's Small Animal Formulary.** 7<sup>th</sup> ed. Dawn Merton Boothe. AAHA Press. 2015. ISBN: 978-1-58326-206-1

**Plumb's Veterinary Drug Handbook,** Donald C. Plumb, 8<sup>th</sup> Ed. Wiley-Blackwell. 2015. ISBN: 978-1-118-91193-8

**Merck Veterinary Manual.** Cynthia M. Kahn and Scott Line. 11<sup>th</sup> ed. Wiley. 2016. ISBN: 978-0911910612  
**The Art of Veterinary Practice Management.** 2<sup>nd</sup> ed. Mark Opperman & Sheila Grosdidier. Advanstar Communications. 2014. ISBN: 1607592827