

Non-Traditional Laboratory Animal Skills List

*A minimum of 80% (74 of 92 skills) of the skills must be mastered.
Mastery is defined as to be able to perform a task consistently and competently
without being coached or directed no less than 4 times.*

Mastery requires having performed the task in a wide variety of patients and situations.

Husbandry Requirements

	Skill	Case Log Number(s)	DVM or VTS Signature
1.	Ability to recognize and identify different species of birds, reptiles, amphibians and fish.		
2.	Mastery of husbandry requirements for the most common avian, reptile, amphibian and fish species including, but not limited to nutritional requirements, caging/housing, substrate, temperatures, humidity, lighting, grooming, bathing, foraging, enrichment, etc.		
3.	Expertise in the application of husbandry requirements in the research setting to maximize patient care, disease control and comfort.		
4.	Proficiency in the education of research staff in the proper care of individual species.		

General Nursing

	Skill	Case Log Number(s)	DVM or VTS Signature
5.	Perform a comprehensive physical exam: identify normal/abnormal eyes/ears/nares/oral/vent/choana, heart/lung sounds, pain assessment, body condition score, hydration status		
6.	Recognize signs of respiratory failure, shock		
7.	Accurately and efficiently triage patients presenting for emergent conditions		
8.	In association with other medical team members, administer CPR (following VECCS RECOVER guidelines), evaluate effectiveness, and troubleshoot therapy		
9.	Thorough knowledge of substances that are being used in research protocols and their potential negative side-effects		
10.	Efficient and accurate calculation of drug doses, solutions, and IV fluid rates		
11.	Demonstrate thorough knowledge of metric conversions		
12.	Mastery of venipuncture in healthy, sick, and/or debilitated animals. (i.e. peripheral limb, jugular, ventral tail vein, abdominal vein or subcarapacial sinus)		
13.	Mastery of jugular and peripheral IV catheter placement in a variety of sites in healthy sick, and/or debilitated animals		
14.	Mastery of intraosseous catheterization in a variety of sites in healthy, sick, and/or debilitated animals.		
15.	Set up and maintain an IV fluid pump and syringe pump and be able to troubleshoot equipment malfunction		
16.	Mastery of various methods of centesis (cysto, percutaneous, and abdominal/coelomic)		
17.	General knowledge of the reproduction system and cycles of various species		

18.	Proper placement and/or maintenance of at least two (2) of the following types of enteral feeding tubes: nasogastric, esophageal, gastric, jejunal, crop/proventricular		
19.	Ability to safely gavage multiple species		
20.	Set up and perform non-invasive blood pressure monitoring, evaluate blood pressure status, and troubleshoot equipment malfunction		
21.	Set up and monitor heart rate and rhythm with ECG monitoring, recognize normal and abnormal tracings, and troubleshoot equipment malfunction		
22.	Set up a pulse oximeter, evaluate oxygen status, and troubleshoot equipment malfunction		
23.	Administration of fluids and medications via various parenteral administration sites (IM, SC, ICoe, IV, IO)		

Anesthesia/Analgesia

	SKILL	Case Log Number(s)	DVM or VTS Signature
24.	Assign appropriate ASA status after reviewing patient history, PE, and diagnostic results in collaboration with a veterinarian		
25.	In collaboration with a veterinarian, determine appropriate anesthetic and peri-anesthetic protocols to provide effective pain management and maximum anesthetic safety and effectiveness		
26.	Perform local and regional nerve blocks		
27.	Evaluate the effects of common pre-anesthetic, induction, and maintenance drugs		
28.	Evaluate and respond to adverse reactions to and/or complications from pre-anesthetic, induction, and maintenance drugs		
29.	Implement appropriate pre-oxygenation technique and know rationale with regards to species, anemia, etc...		
30.	Mastery of endotracheal intubation and tube placement with regards to size, length, safe technique, and when to use cuffed vs. non-cuffed tubes in routine and emergent situations with various species		
31.	Thorough knowledge of the risks associated with intubation and the appropriate steps to avoid these risks		
32.	Set up a capnograph end-tidal CO2 monitor, evaluate ventilation status, and troubleshoot equipment malfunction		
33.	Set up a continuous respiratory rate monitor, evaluate respiratory rate status, and troubleshoot equipment malfunction		
34.	Perform manual intermittent positive pressure ventilation with an anesthesia breathing bag and evaluate it's effectiveness		
35.	Set up ventilator, calculate appropriate tidal volume and respiratory rate, and troubleshoot machine as needed		
36.	Set up and monitor temperature (esophageal, rectal, external), evaluate patient status, and troubleshoot machine malfunction		
37.	Implement techniques to prevent hypothermia/hyperthermia and resolve these issues by safely and effectively using devices such as warm air blankets, circulating water blankets, IV fluid warmers, radiant heating devices, and incubators pre and post surgically		
38.	Monitor and evaluate patient status and anesthetic depth using established parameters such as outward involuntary physical response (i.e. jaw tone, palpebral reflex, eye position), blood pressure, ECG, pulse oximetry, heart rate, respiratory rate, and ventilation status		

39.	Administer and evaluate the effects of IV fluid (crystalloid and colloid) and blood component therapy during anesthesia		
40.	Ability to assess appropriate extubation time with regard to various species, (such as reptiles versus ferrets), regurgitation/aspiration, and emergence from anesthesia		
41.	Set up, maintain, and troubleshoot a non-rebreathing system		
42.	Set up, maintain, and troubleshoot a rebreathing system		
43.	Set up, maintain, and troubleshoot an anesthesia machine (oxygen tank, vaporizer, CO2 absorbent, scavenger system)		
44.	Set up, maintain, and troubleshoot an anesthetic induction chamber		
45.	Set up, maintain, and troubleshoot a waste gas scavenging system		
46.	Ability to appropriately mix anesthetic solutions for amphibian and fish species		
47.	Ability to monitor amphibian and fish species during anesthesia		

Surgical Nursing

	Skill	Case Log Number(s)	DVM or VTS Signature
48.	Mastery of the unique and varied individual surgical nursing requirements of various species (birds, reptiles, amphibians and fish)		
49.	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, rigid and flexible endoscopy, laparoscopy/coeleoscopy) for each species		
50.	Coordinate the process of preparation, safe use, and maintenance of suction equipment, radiosurgery, electrocautery, and laser units		
51.	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, rigid and flexible endoscopy, laparoscopy/coeleoscopy) for each species		
52.	Coordinate pre and post operative care of surgical patients		
53.	Supervise staff in the care of surgical instruments		
54.	Supervise research staff in proper surgical sterilization procedures (autoclave, ethylene oxide, glutaraldehyde, etc.)		

Laboratory

	Skill	Case Log Number(s)	DVM or VTS Signature
55.	Mastery of all basic laboratory testing: PCV, TP, UA, fecal analysis (direct smears, floats, gram stains, acid fast stains), external parasite analysis, basic cytology, blood smear evaluation, and estimated WBC count		
56.	Utilize, maintain, and troubleshoot in-house hematology and clinical chemistry analyzers and evaluate results		
57.	Demonstrate the ability to perform at least 2 different in-house clotting tests (BMBT, ACT, Platelet evaluation, PT, APTT)		

58.	Demonstrate the ability to obtain samples for tests such as, but not limited to, CBC, clinical chemistries, PCR, serology, and virology. This includes: appropriate fasting protocols, correct timing of sample collection, and correct sample collection and handling		
59.	Properly collect, handle, and store samples of excretion, secretion, and effusion for laboratory evaluation		
60.	Properly collect, handle, and submit cytology and samples for laboratory evaluation		
61.	Properly collect, handle, and submit samples for bacterial and fungal culturing		
62.	Properly collect, handle, and submit samples for histopathology		
63.	Ability to perform a gross necropsy for a minimum of two species		

Diagnostic Imaging

	Skill	Case Log Number(s)	DVM or VTS Signature
64.	Coordinate the radiographic process by directing team members to consistently and efficiently produce radiographs of diagnostic quality		
65.	Proficiency in evaluating the patient's condition (medical, surgical, behavioral) and adapting the radiographic procedures to those conditions		
66.	Demonstrate accuracy and efficiency in positioning patients for a variety of radiographic studies (thorax, abdomen, spine, skull, extremity, pelvis, dental)		
67.	Accurate and consistent evaluation and modification of radiographic technique		
68.	Perform and/or demonstrate the ability to set up and assist in contrast studies (i.e. GI studies, double contrast, cystograms, myelograms) including the set up of necessary equipment, patient preparation, and administration of contrast media		
69.	Ability to maintain radiograph cassettes, radiology processor and develop radiographs properly		
70.	Ability to utilize, troubleshoot, and manipulate technique using digital radiology		
71.	Demonstrate the ability to set up, maintain equipment, and assist with or perform ultrasonography		

Dentistry

	Skill	Case Log Number(s)	DVM or VTS Signature
72.	Thorough knowledge of dental anatomy for all species covered in the non-traditional species list		
73.	Efficiently perform a comprehensive oral exam		

74.	Readily identify oral pathology and anatomic abnormalities		
75.	Ability to perform and/or assist with beak trimming		

Pharmacology

	Skill	Case Log Number(s)	DVM or VTS Signature
76.	Extensive knowledge of groups of drugs, their mechanisms, clinically relevant side effects, and accurate evaluation of therapeutic responses		
77.	Extensive knowledge of pain medications and their application in non-traditional species		

Behavior

	Skill	Case Log Number(s)	DVM or VTS Signature
78.	Knowledge of basic behavioral learning concepts (i.e. punishment, positive reinforcement, rewards, operant conditioning)		
79.	Ability to recognize appropriate and inappropriate behaviors in several species and provide information to research staff regarding current scientifically based techniques of training, management, and behavior modification		
80.	Familiarity with a variety of training tools and their uses		
81.	Train research staff in recognizing and managing aggressive and stereotypic behavior in the research setting (i.e. use of proper restraint techniques, muzzles, sedation, etc.)		

Leadership Roles

	Skill	Case Log Number(s)	DVM or VTS Signature
82.	Supervise or assist with the creation and/or maintenance of all appropriate facility records and logs in compliance with regulatory guidelines (e.g. radiology, surgery, anesthesia, laboratory, controlled substances)		
83.	Instruct and supervise staff in the accurate recording of medical information		
84.	Manage inventory control		
85.	Establish and supervise the maintenance of appropriate sanitation and nosocomial protocols for a research veterinary facility including patient and laboratory areas		
86.	Educate research staff in the recognition and proper handling and housing of patients with potentially infectious diseases		
87.	Proficient at developing and providing continuing education in a clear and accurate manner at the level research staff understands (i.e. oral and		

