

Non-Traditional Laboratory Animal Skills List

A minimum of 80% (70 of 88 skills) of the skills must be mastered. A maximum of 5 skills can be referenced in species not covered in this species category. Skills must be cross-referenced in your case logs. Some skills may require more than one corresponding case references. 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 commonly used as research models.		
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.		
5.	Understanding and use of various enrichment techniques for a minimum of two species classified within this skills category.		
6.	Understand the zoonotic disease risks when working with various species within this skills category. A minimum of two species must be described with potential of disease risks.		
7.	Proper storage of animal feed.		

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 for purposes of study candidacy and health evaluation.		
6.	Recognize signs of respiratory failure, shock		
7.	Accurately and efficiently triage patients presenting for emergent conditions. Recognize adverse effects related to a research procedure or chemical catalyst.		
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) *Three sites must be mentioned in case logs		
13.	Mastery of jugular or peripheral IV catheter placement in a variety of sites		

	in healthy sick, and/or debilitated animals.		
14.	Mastery of intraosseous catheterization in a 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 for a minimum of two species for research and breeding purposes.		
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. A minimum of two techniques must be represented.		
19.	Ability to safely gavage at least two 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. Understand the limitations of use with special species.		
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 for at least two different species.		
25.	In collaboration with a veterinarian, determine appropriate anesthetic and peri-anesthetic protocols to provide effective pain management and maximum anesthetic safety and effectiveness for at least two different species.		
26.	Perform local and regional nerve blocks. Describe the type and technique for at least two types of local or regional nerve blocks.		
27.	Evaluate the effects of common pre-anesthetic, induction, and maintenance drugs with protocol rational and potential variables to the research.		
28.	Evaluate and respond to adverse reactions to and/or complications from pre-anesthetic, induction, and maintenance medications.		
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 for at least two different species.		
31.	Thorough knowledge of the risks associated with intubation and the appropriate steps to avoid these risks for at least two different species.		
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 for air-sac lung anatomy. *An alternative species can be made for maintenance of gilled species.		
35.	Describe technique for continuous manual ventilation or mechanical ventilation for species with air-sac lung anatomy. *An alternative species can be made for maintenance of gilled species using water pumps.		
36.	Set up and monitor temperature (esophageal, cloacal, 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 for at least two different species.		
38.	Monitor and evaluate patient status and anesthetic depth using established protocol 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 for at least two different species.		
39.	Administer and evaluate the effects of IV fluid or other means of parenteral fluid(crystalloid and colloid) therapy during anesthesia for at least two different species.		
40.	Ability to assess appropriate extubation time with regard to various species, (such as reptiles versus ferrets), regurgitation/aspiration, and emergence from anesthesia for at least two different species.		
41.	Set up, maintain, and troubleshoot a non-rebreathing system		
42.	Ability to monitor reptile or avian species during anesthesia.		
43.	Set up, maintain, and troubleshoot an anesthesia machine (oxygen tank, vaporizer, CO2 absorbent, scavenger system) or anesthetic water and pump system.		
44.	Set up, maintain, and troubleshoot an anesthetic induction chamber or bath.		
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), describe for at least two different species, such as positioning with special holding devices and protocol requirements.		
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 at least two different species.		
50.	Coordinate the process of preparation, safe use, and maintenance of suction equipment and electrocautery.		
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 at least two different species.		
52.	Coordinate pre and post operative care of surgical patients.		
53.	Mastery of the care and maintenance of surgical instruments.		
54.	Mastery of proper surgical sterilization procedures (autoclave, ethylene oxide, gluteraldehyde, etc.).		

Laboratory

	Skill	Case Log Number(s)	DVM or VTS Signature
55.	Ability to perform a PCV and TP for at least two different species.		
56.	Ability to work with micro volumes of blood for research samples or health status of animal. This includes: appropriate fasting protocols, correct timing of sample collection, and correct sample collection and handling.		
57.	Ability to collect and submit in the correct anticoagulant or preservatives blood samples for at two different species.		
58.	Ability to assess best euthanasia technique for preservation of tissues for research samples and understand the AVMA recognized methods of humane euthanasia for at least two different species.		
59.	Properly collect, handle, and submit cytology and samples for laboratory evaluation		
60.	Properly collect, handle, and submit samples for bacterial and fungal culturing		
61.	Properly collect, handle, and submit samples for histopathology		
62.	Ability to perform a gross necropsy for a minimum of two species		

Diagnostic Imaging

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

Dentistry

	Skill	Case Log Number(s)	DVM or VTS Signature
71.	Thorough knowledge of dental or beak anatomy for all species covered in the non-traditional species list.		
72.	Efficiently perform a comprehensive oral exam.		
73.	Readily identify oral pathology and anatomic abnormalities.		
74.	Ability to perform and/or assist with beak trimming or oral care in non-beaked species.		

Pharmacology

	Skill	Case Log Number(s)	DVM or VTS Signature
75.	Extensive knowledge of groups of antibiotics, their mechanisms, clinically relevant side effects, and accurate evaluation of therapeutic responses.		
76.	Extensive knowledge of pain medications and their application in non-traditional species, including but not limited to opioids, NSAIDS, local anesthetics.		

Behavior

	Skill	Case Log Number(s)	DVM or VTS Signature
77.	Knowledge of basic behavioral learning concepts (i.e. punishment, positive reinforcement, rewards, operant conditioning).		
78.	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.		
79.	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
80.	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)		
81.	Instruct and supervise staff in the accurate recording of medical information for GLP or GLP like studies.		
82.	Manage inventory control		

