

# AVCPT Skills List

Candidate: \_\_\_\_\_

Understanding of test methodology, techniques and ability to perform testing must be applied to each skill. The overall goal is to provide accurate and valid results to assist in the appropriate diagnosis and monitoring of the patient by the veterinarian thus minimizing negative effects to the patient and promoting the rapid recovery and overall health of the patient.

**Core Clinical Pathology Skills – 100% of the skills must be mastered. Skills must be cross referenced in the case logs.**

**General**

Date Mastered		Case Log Number(s)	Signature or Initials of Veterinarian or VTS
	Accurately report test results, using appropriate units of measurement		

**Quality Control/Assurance**

Date Mastered		Case Log Number(s)	Signature or Initials of Veterinarian or VTS
	Set up, run and evaluate quality control/assurance on <b>all</b> testing methods		

**Hematology – Manual Procedures (Mammalian and non-mammalian, various species and pathologies)**

Date Mastered		Case Log Number(s)	Signature or Initials of Veterinarian or VTS
	Measure and report total plasma protein using a refractometer		
	Measure and report packed cell volume using manual methods		
	Perform estimated hemoglobin measurement		
	Perform leukocyte estimates on peripheral blood films		
	Perform platelet estimates on peripheral blood films		
	Perform manual reticulocyte count (percentage)		
	Perform differential count on peripheral blood films		
	Calculate relative leukocyte counts		
	Calculate absolute leukocyte counts		
	Evaluate leukocyte morphology on peripheral blood films		
	Evaluate erythrocyte morphology on peripheral blood films		
	Evaluate platelet morphology on peripheral blood films		
	Calculate red blood cells indices (MCV, MCH and MCHC)		
	Calculate corrected white blood cell counts (CWBC)		
	Calculate reticulocyte percentages, absolute reticulocyte counts and reticulocyte production index (RPI – canine only)		

**Hematology – Automated Procedures (Mammalian, various species and pathologies)**

Date Mastered		Case Log Number(s)	Signature or Initials of Veterinarian or VTS
	Perform erythrocyte count		
	Perform hematocrit measurement		
	Perform hemoglobin measurement		

	Perform red blood cell indices: mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), mean corpuscular hemoglobin concentration (MCHC)		
	Perform leukocyte count/corrected leukocyte count		
	Perform platelet count		
	Evaluate differential count (manual confirmatory evaluation with peripheral blood film)		
	Report relative leukocyte counts		
	Report absolute leukocyte counts		
	Evaluate/validate erythrocyte morphology on peripheral blood films		
	Evaluate/validate leukocyte morphology on peripheral blood films		
	Evaluate/validate leukocyte estimates on peripheral blood films		
	Evaluate/validate platelet morphology on peripheral blood films		
	Perform/validate platelet estimates on peripheral blood films		
<b>Clinical Chemistry</b> (Mammalian and non-mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform automated clinical chemistry tests		
<b>Urinalysis</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Measure and report specific gravity using a refractometer		
	Perform physical evaluation (color and clarity) of urine samples		
	Perform chemical evaluation (commercial reagent strip, manual method)		
	Perform sulfosalicylic acid testing (SSA) on urine samples		
	Microscopically evaluate urine sediments (using both stained and unstained methods) and accurately report findings		
	Accurately identify cells found in urine sediments		
	Accurately identify casts found in urine sediments		
	Accurately identify crystals found in urine sediments		
	Accurately identify microorganisms found in urine sediments		
	Accurately identify artifacts/contaminants/parasites found in urine sediments		
<b>Cytology</b> (Mammalian and non-mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Identify basic cell types		
	Collect, process and evaluate ear cytology samples		
	Collect, process and evaluate vaginal cytology samples		
	Perform (or assist with) skin scrapings and process the samples for evaluation		

	Perform (or assist with) collection of impression smears and process the samples for evaluation		
	Perform (or assist with) fine needle aspirations and process the samples for evaluation		
	Perform (or assist with) joint taps and process the samples for evaluation		
	Perform (or assist with) bone marrow aspirations and process the samples for evaluation		
	Perform (or assist with) transtracheal wash aspirations and process the samples for evaluation		
	Properly stain cytology samples using a variety of staining techniques (including rapid stain, New Methylene Blue and Lactophenol Cotton Blue)		
	Properly handle, prepare and submit samples for histopathology, biopsy, and necropsy		
<b>Coagulation</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform activated partial thromboplastin time (aPTT) testing (indicate manual or automated method)		
	Perform prothrombin time (PT) testing (indicate manual or automated method)		
	Perform activated coagulation time (ACT) testing (indicate manual or automated method)		
	Perform buccal bleeding time (BMBT) testing		
<b>Immuno-Hematology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform blood typing (tube or card method)		
	Perform crossmatching (evaluation of both major and minor portions)		
<b>Serology/Immunology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform enzyme-linked immunosorbent assays		
<b>Acid-Base Evaluation</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Properly, handle and analyze blood gas samples		

<b>Microbiology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Identify organisms with various testing methods, such as plating, gram stain, and other methods of staining		
	Identify organisms microscopically, including fungal spores, bacteria, and yeast		
	Perform fungal cultures		
	Perform environmental microbial monitoring		
<b>Parasitology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform macroscopic external parasite exams		
	Collect, process and evaluate skin scrapings		
	Perform fecal testing for internal intestinal parasites using centrifugal methods		
	Perform fecal testing for internal intestinal parasites using standing floatation methods		
	Perform fecal testing for internal intestinal parasites using sedimentation methods		
	Perform fecal testing for internal intestinal parasites using direct smear methods		
	Perform egg counts for intestinal parasites		
	Perform testing for internal circulatory parasites using direct smear (wet prep) and peripheral blood film methods		
<b>Miscellaneous Testing and Technical Skills</b> (Mammalian and non-mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform fecal occult blood testing		
	Calibrate ("zero") refractometers		
	Demonstrate ability to properly dilute samples		
	Demonstrate proper use of pipettes		

<b>Supplemental Clinical Pathology Skills – any 25 of the following supplemental skills must be mastered. Skills must be cross referenced in the case logs.</b>			
<b>Hematology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform leukocyte count using manual methodology		
	Perform platelet counts using manual methodology		
	Perform red cell distribution width (RDW) measurement		
	Perform mean platelet volume (MPV)		
	Perform platelet PCT		
	Perform automated absolute reticulocyte		
	Perform fibrinogen testing (indicate heat precipitation or automated method)		
<b>Clinical Chemistry</b> (Mammalian and non-mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform ketone testing on milk, blood or urine ketosis testing (bovine only) Indicate sample type(s) used:		
<b>Urinalysis</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform chemical evaluation (commercial reagent strip, automated method)		
	Perform bilirubin confirmatory testing (Ex: Ictotest®) on urine samples		
	Perform glucose confirmatory testing (Ex: Clinitest®) on urine samples		
	Perform ketone confirmatory testing (Ex: Acetest®) on urine samples		
	Perform urine protein-creatinine testing on urine samples		
	Perform microalbuminuria testing		
	Measure osmolarity of urine samples		
	Ability to perform manual and/or automated tests related to urinalysis.		
<b>Cytology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Process and evaluate semen samples		
	Process and evaluate rumen fluid		
	Process and evaluate pleural fluid		
	Process and evaluate peritoneal fluid		
	Process and evaluate cerebral spinal fluid (CSF)		
	Evaluate skin scrapings		
	Evaluate impression smears		
	Evaluate fine needle aspirates		

	Evaluate joint fluid		
<b>Coagulation</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform fibrin degradation products (FDP) testing		
	Perform antithrombin III (AT-III) testing		
	Perform D-dimer testing		
<b>Immuno-Hematology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform jaundice foal agglutination testing (Colostrum Crossmatch/JFA)		
	Perform neonatal isoerythrolysis (NI) screening for pregnant mares (serum or colostrum)		
	Perform Coombs testing		
<b>Serology/Immunology</b>			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform agglutination type assay (Ex: Brucellosis)		
	Perform immunodiffusion (Agar Gel, Ex: EIA, Johne's Disease)		
	Perform rapid immunomigration (Immunochromatography, lateral flow immunoassay)		
	Perform cardiac troponin		
	Perform intradermal testing		
	Perform IgG passive transfer testing (serum or colostrum)		
	Perform titer testing		
<b>Toxicology</b>			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform ethylene glycol testing		
<b>Endocrinology</b>			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform insulin testing		
	Perform cortisol testing		
	Perform T3 testing		
	Perform T4 testing		
	Perform TSH testing		
	Perform LH testing		
	Perform progesterone testing		
	Perform testosterone testing		

<b>Microbiology</b>			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform L.A.S.T. (Live Animal Swab Test) for antibiotic residue in meat		
	Perform California Mastitis Testing (CMT)		
	Collect milk samples and perform culture testing		
	Collect milk samples and perform antibiotic residue testing		
	Perform urine sample culture testing		
	Perform blood cultures		
	Perform fecal cultures		
	Perform antimicrobial sensitivity testing		
<b>Parasitology</b> (Mammalian, various species and pathologies)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>
	Perform fecal testing for respiratory parasites using Baermann technique		
	Perform fecal testing for intestinal parasites using "tape" testing methods		
<b>Other Testing</b> (Up to ten tests may be mastered – acceptability is subject to AVCPT approval)			
<b>Date Mastered</b>		<b>Case Log Number(s)</b>	<b>Signature or Initials of Veterinarian or VTS</b>

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