African Painted Dog SSP Necropsy Protocol

I. Basic Procedure

The necropsy of an African painted dog is nearly identical to that of a domestic dog. Thus, the standard dog necropsy can serve as a model and a guide. Please obtain body weight at necropsy and include Studbook number if known. The fetus post mortem, however, does have special considerations, which are discussed in Section III and should be referred to if applicable. The SSP Pathologist can be contacted before, during or after the necropsy if any questions should arise. Please note on the submission form whether or not the SSP Pathologist will be the primary pathologist on the case (see also Section IV).

A. Tissue Checklists:

1. Frozen tissues: □ Brain □ Liver □ Kidney □ Heart □ Spleen

Freeze 10-100 gm portions at -80°C; but if unavoidable, a standard freezer can be used. Hold frozen tissues on premises for possible additional diagnostic tests or future studies.

2. Fixed tissues:

- Skin (include any masses; indicate location)
- Skeletal muscle (hindlimb)
- Tongue (cross section including both mucosal surfaces)
- Salivary gland
- Peripheral lymph node (popliteal, axillary, or prescapular)
- Bone marrow (2 cm of opened rib or femur – marrow must be exposed)
- Thyroids/parathyroids
- Trachea
- Lung (several sections including a large airway)
- Pulmonary/Hilar lymph node
- Heart (left and right ventricle, septum & atrium (if history of heart disease, weigh heart; measure wall thicknesses and valve diameters in centimeters - see in form below)
- Aorta
- Thymus (collect mediastinal fat)
- Esophagus (2 cm long cross section)
- Stomach (2 cm long portion of cardia, fundus, and pylorus)
- Duodenum, jejunum, & ileum (2 cm long cross section)
- Cecum
- Colon (2 cm long cross section)
- Rectum
- Liver
- Spleen
- Mesenteric lymph node
- Kidneys (cortex and medulla in section)
- Adrenal (cross section with cortex and medulla)
- Urinary bladder
- Prostate
- Testes (with epididymis)
- Prepuce*
- Female reproductive tract (fix whole - leave ovaries attached to uterus, longitudinal incisions in horns)
- Brain (whole – retain portion of cortex frozen)
- Pituitary
- Both eyes

PLEASE COLLECT ALL TISSUES ON THE CHECK LIST. Also sample ALL LESIONS, being certain to include the lesion AND the junction/interface with surrounding normal tissue. Tissues should be fixed in 10% neutral buffered formalin in a ratio of 1 part tissue to 10 parts formalin. Samples should be no thicker than 1 cm. (Note: it is not necessary to identify and keep separate each type of tissue but please indicate location of skin masses, e.g. apocrine gland tumors)

*Prepuce is a recently added (2015) request. Please collect the entire prepuce from the anterior end to junction with the penis and fix whole. Please indicate on form if the male was dominant/alpha or subordinate.
II. Special Procedure for Neonates/Fetuses
   A. Additional fixed tissues:
      - placenta and fetal membranes
      - umbilicus/umbilical area
   B. Additional frozen tissue to save:
      - placenta
      - For aborted fetuses and still births, freeze stomach contents & lung
   C. Necropsy Exam:
      1. Estimate stage of gestation.
      2. Measure the Crown to Rump Length: from the highest point on the skull (external occipital protuberance) to the base of the tail.
      3. Note gross appearance of placenta and if it's complete.
      4. Examine for congenital abnormalities: limb deformities, cleft palate, hernias, hydrocephalus, etc.
      5. Check if lungs were inflated: pink or dark red color; sink or float in formalin.
      6. Observe if the ductus arteriosus is contracted and if the foramen ovale is closed.
      7. Determine if suckling has occurred: check stomach for milk curds; and note amount, viscosity and color of upper and lower GI tract contents.

III. Shipping & Contact Information
After 72 hrs fixation, tissues can be packaged in a leak-proof container in enough formalin to keep tissues moist. If frozen tissues are also to be shipped, please send overnight with ice (dry ice preferred if available) and contact Dr. Delaney with shipping/tracking info. Please remember to include the SSP necropsy form. Tissues should be shipped to:

Dr. Martha Delaney
Zoological Pathology Program
c/o Chicago Zoological Society
3300 Golf Road
Brookfield, IL 60513

If you have any questions, please contact Dr. Delaney:
Office: 312-585-9050
Cell: 508-596-5221
delane10@illinois.edu

IV. Other considerations:
   A. If the SSP pathologist will be the primary pathologist, the submission will also be treated as a regular diagnostic case, with a histopathology report forwarded to the submitting institution. Please note on the submission form if this is to be the case.
   B. If in-house or other regularly retained pathology services are available, please request a duplicate set of slides for the SSP pathologist. Final pathology reports and/or duplicate slides can be forwarded to the SSP pathologist (along with duplicate set of tissues if collected). Duplicate tissues in such cases will be archived for potential use in future studies (e.g. as controls should epidemics occur in the future). * If your pathologist performed the necropsy, then only the first page of the SSP Necropsy Form (institution\animal identification and historical data sections) need be completed: Attach copies of pertinent medical history and the final pathology report (gross and histopathology) to the SSP Necropsy Form.
I. Historical Data (Attach additional sheets as needed & attach pertinent medical records.)

<table>
<thead>
<tr>
<th>Species: African Painted Dog</th>
<th>Stud Book#</th>
<th>ISIS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age/Birth date: (Circle) Actual or Estimated</td>
<td>Sex (Circle) M F</td>
<td>Weight: (Circle) Actual or Estimated Kg</td>
</tr>
<tr>
<td>Date &amp; Time of Death</td>
<td>Death Site/Enclosure</td>
<td></td>
</tr>
</tbody>
</table>

1. Was animal euthanized? (Circle) Y or N. If so, what method? 

3. Member of Group? (Circle) Y or N. Number in Group # Sick # Dead 

4. Vaccinations: 

Additional History: (Signs, stress factors, previous disease, treatments, pertinent feed or feed additives, time period animal was on premises, clinical lab results).

II. Gross Necropsy Examination

If no abnormalities are present or tissue is not examined, please mark "NA" or "NE", respectively, under appropriate sections.

A. External & General Exam (postmortem condition, nutritional status, muscling, subcutaneous fat, skin, eyes, ears, nose, body orifices). If skin masses are present, please indicate location(s) and approximate size(s).

B. Musculoskeletal Systems (bones, joints, muscling, bone marrow).

C. Body Cavities (thoracic/abdominal cavities, amount of adipose, presence of fluids/exudates, negative pressure in chest).
D. **Respiratory System** (pharynx, larynx, nasal passages, trachea, bronchi, lungs, hilar lymph nodes).

E. **Hemic-Lymphatic System** (spleen, lymph nodes, thymus)

F. **Cardiovascular System** (pericardium, heart: valves & chambers, aorta, large vessels). **Heart weight (g) =**
   
   Right ventricular free wall (cm) =  
   Aortic valve (cm) =  
   Pulmonic valve =  
   Left ventricular free wall (cm) =  
   Mitral valve (cm) =  
   Tricuspid valve (cm) =  
   Interventricular septum (cm) =

G. **Digestive System** (Mouth, teeth, esophagus, stomach, intestines, liver, pancreas, mesenteric lymph nodes).
   **Neonates**: is milk present in the stomach?)

H. **Urinary System** (kidneys, ureters, bladder, urethra).

I. **Reproductive System** (ovaries, oviducts, uterus, cervix, vagina, mammary glands, placenta/fetuses, testes, penis, accessory sex glands).

J. **Endocrine System** (thyroids, parathyroids, adrenals, pituitary, pineal gland-if found).

K. **Nervous System** (brain, meninges/dura mater, spinal cord, peripheral nerves).

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**III. Summary/Gross Diagnoses**

**IV. Ancillary Laboratory Test Results** (cytology, urinalysis, fluid/serum analysis, microbiology, parasitology, serology, toxicology, virology, or others; attach reports as necessary).