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On-Farm Necropsies – Who, What, Where, When and Why

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Who?
Veterinarians
Caretakers
Other Health Professionals............ even Nutritionists?!?!?!

Where: On-Farm
Faster
Improves biocontainment
Requires the right tools
Necropsy knives are not prybars or screwdrivers!

When?
A soon as possible after death
When monitoring for treatment success or failure
When mortality or clinical signs change from historical presentations
Documentation of critical events
**Why**
A lot of information for very little investment
Conserves resources
Helps care for the living pigs

**What**
Use images to review step-by-step procedures for necropsy procedure
Identify gross abnormalities of respiratory (lungs) and enteric systems (digestive track)
Understand the collection of appropriate tissue specimens for diagnostic investigation
Provide diagnostic tips and comments for achieving maximum value from diagnostic lab submissions

1. Reflect front and rear legs
2. Pull up on the tab and reflect skin while cutting through the sternum.
3. Make a tab of skin beginning under the mandibles
4. Reflect front and rear legs
If the necropsy occurs immediately after death, it is possible to collect a blood sample during the necropsy.

Reflect front and rear legs.

Make a tab of skin beginning under the mandibles. Pull up on the tab and reflect skin while cutting through the sternum.

Locate ileocecal junction.
Identify the ileoceocolic junction

String out the small intestine by cutting the mesentery

The knife points to the ileum

‘Large intestine on the Left’

Ulcers

Stricture from a healed ulcer

Ulcers

Ulcers

Ulcers

Ulcers
Fibrinous clot in the intestinal tract consistent with ileitis.

Normal thickened, irritated small intestine “hose pipe gut.”

Black, necrotic intestines consistent with an intestinal twist.
Porcine Enteritis
Nursery and Grow-Finish

- **Ileum**: Two 10 cm sections fresh/chilled, four 1 cm sections fixed
- **Jejunum**: Two 10 cm sections fresh/chilled, four 1 cm sections fixed
- **Cecum and colon**: Entire organ or two 10 cm segments of the spiral colon fresh/chilled, four 1 cm pieces fixed
- **Lesions**: 10 cm segment fresh, several pieces fixed
- **Feces**: 10 ml chilled
- **Mesenteric lymph node**: Fresh and fixed
- **Liver**: ¼ of organ fresh, 3 slices fixed
- **Stomach**: Examine for and submit lesions

Nursery-Finisher Enteritis
Sampling Tips and Comments

- Collect intestines after all other organ samples are collected to avoid fecal contamination
- Package small intestines separate from large, package GI tissues separate from all other tissues
- Samples must be taken within minutes of death to minimize autolysis of villi
- Flush intestinal contents out of histopath sections and expose mucosa to formalin
- In cases of necrotic enteritis, submit necrotic segments and adjacent non-necrotic segments

Porcine Pneumonia

- **Brain**: ½ fresh/chilled and ½ fixed
- **Upper respiratory tract**
  - Swab of turbinate
  - Swab of bronchus
  - Turbinate scroll fixed
- **Lung**
  - Bronchoalveolar lavage fluid if PRRSV VI requested
  - Entire side with no holes or generous portion (10 cm cube) with lesion submitted fresh
  - Five 1 cm slices formalin-fixed...see map
- **Tracheobronchial lymph node**: ½ fresh, ½ fixed
- **Tonsil**: ½ fresh and ½ fixed
Nasal swabs can be taken from live or euthanized pigs. Use appropriate swabs (viral or bacterial) and get sample from the middle region of the nasal turbinate.

A hack saw is used to cut the snout for a transverse view.

Necropsy approach in a finisher pig with respiratory disease

View of the carcass after removal of sternum and ventral abdominal skin and cracking the ribs back.

View of the carcass on which a lateral approach was used and sets of 2-3 ribs were cracked back.
Remove larynx with the pulmonary tract pluck.

Location for collection of 5 slices of lung for histopath.

Include affected and adjacent unaffected tissue.

Include airway cross sections.

Trachea and lymph nodes.

Lung from a pig experimentally infected with porcine circovirus type 2.

Collect tracheobronchial lymph nodes for microbiology and histopath.

Normal Lung

Diseased Lung
Normal Lung

Diseased Lung

Black, hardened, hemorrhagic, infected areas of lung.
1. Carefully cut through the skin and just into the joint capsule

2. Using torque, pop open the joint and collect joint fluid on a swab or in a syringe

Collect synovium for histopath exam

Collect lymph nodes for microbiological testing and histopath exam

Fibrin coated organs
Examine skin and collect lesions in different stages of progression

Erysipelas
Salmonellosis
Porcine dermatitis and nephropathy syndrome
Parvovirus and Staphylococcus aureus

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