Objectives for this session

- 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

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.
Identify the ileocecal junction

String out the small intestine by cutting the mesentery

Locate ileocecal junction

Ileum

Large on the left

Normal

Ulcerated

Severe stomach ulcers
Healed ulcer with stricture at esophagus entrance

Blood clot with fibrin in ileum – severe ileitis

Normal

Blood clot

Thickened, irritated small intestine

Thickened Intestine
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

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

Septal deviation
Turbinate atrophy

Necropsy approach in a finisher pig with respiratory disease

Ventral approach
Lateral approach

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.

Larynx

Ventral head/mandible

Trachea and lymph nodes

Thoracic inlet

Lung

Location for collection of 5 slices of lung for histopath.

Include affected and adjacent unaffected tissue.

Include airway cross sections.

Lung from a pig experimentally infected with porcine circovirus type 2

Collect tracheobronchial lymph nodes for microbiology and histopath.

Normal Lung
List of images:

- Normal lung
- Enlarged liver
- Infected heart
- Fibrin coated lung and heart

Text:

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

Porcine dermatitis and nephropathy syndrome
Examine skin and collect lesions in different stages of progression

Porcine dermatitis and nephropathy syndrome
Salmonellosis
Parovirus and Staphylococcus aureus
Erysipelas

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Thanks and good luck with your diagnostic investigations...