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
Locate ileocecal junction.
Identify the ileocecal junction

String out the small intestine by cutting the mesentery

Large on the left

Severe stomach ulcers

Healed ulcer with stricture at esophagus entrance
Blood clot with fibrin in ileum – severe ileitis

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.

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

Ventral approach

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

Lateral approach

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

1 2 3 4 5
Include affected and adjacent unaffected tissue

Normal Lung

Diseased lung

Lung from a pig experimentally infected with porcine circovirus type 2

Collect tracheobronchial lymph nodes for microbiology and histopath

Include airway cross sections
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
Examine skin and collect lesions in different stages of progression

Acknowledgements

ISU-VDL Pathology Section Faculty
- Dr. Pat Halbur
- Dr. Kent Schwartz
- Dr. Mike Yaeger
- Dr. Dave Lathrop
- Dr. Bruce Janke
- Dr. Locke Kamber

ISU-VDL Director
- Dr. Gary Osweiler

ISU-VDL Necropsy Floor Staff
- Ray Grover
- Mike Jennings
- Jeff Meister

ISU Biomedical Communications
- Jim Fosse for photography

http://www.vetmed.iastate.edu/departments/vdpam/VDL/userguide/pathology

Thanks and good luck with your diagnostic investigations...