Transtracheal Wash (TTW) and Bronchoalveolar Lavage (BAL)

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TTW and BAL are useful tools

- individual animals
- problem pens (high morbidity)
- herd outbreaks
- common research tool

Advantages of procedure

- relatively non-invasive
- done prior to treatment
- sample at the point of infection
- more specific than nasal swab
- versatile sample / easily handled
- very useful for diagnostics



TTW / BAL not technically difficult

- commercial kits are available
- practitioner "adaptations"
- adequate restraint needed
- "clean" environment



TTW / BAL give similar results

- sterile collection equipment
- BAL tubes are reusable
- contamination from URT?

TTW Procedure

Equipment

- large TTW kit (HarVet, Inc)
- 30 cc. syringes containing nonbacteriostatic saline
- 2% Lidocaine and syringe + needle
- scalpel blade
- clippers and surgical prep

TTW Procedure (cont.)

Adequate head restraint – chute + halter (cross tie if needed)

- small area over middle 1/3 of trachea is clipped
- surgical prep

Lidocaine "bleb" on point of insertion

- midline of trachea between the muscle bundles
- scalpel blade incision through the skin



TTW Procedure (cont.)

Insertion of trocar and cannula between cartilaginous rings

- firm hold on the trachea
- may feel two "pops" from trocar and cannula

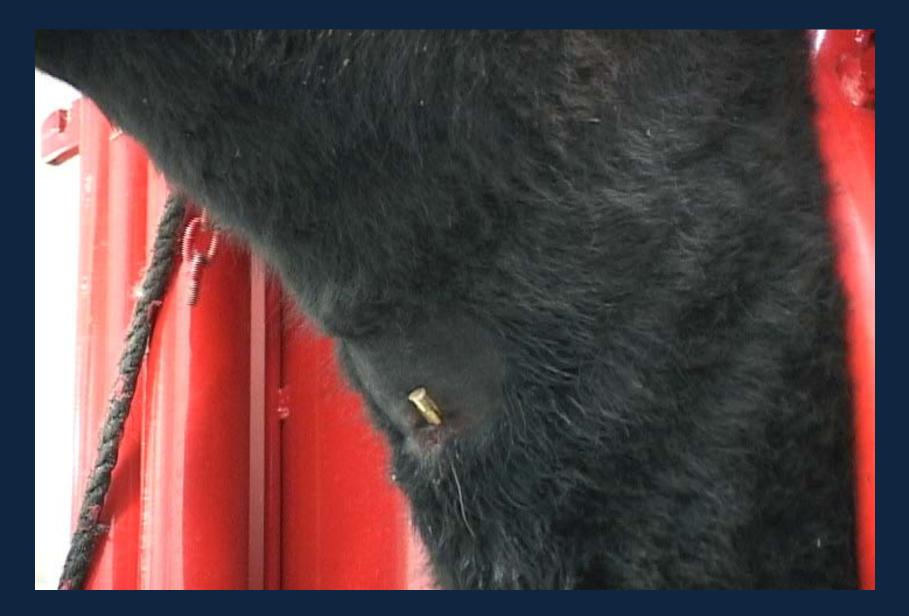
Sterile polyethylene tubing is introduced and pushed

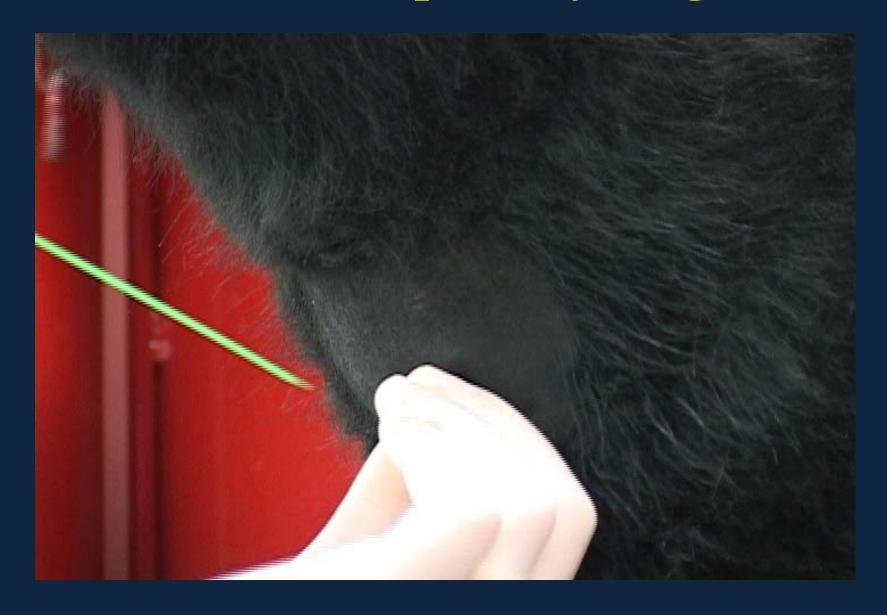
- stop when you feel resistance

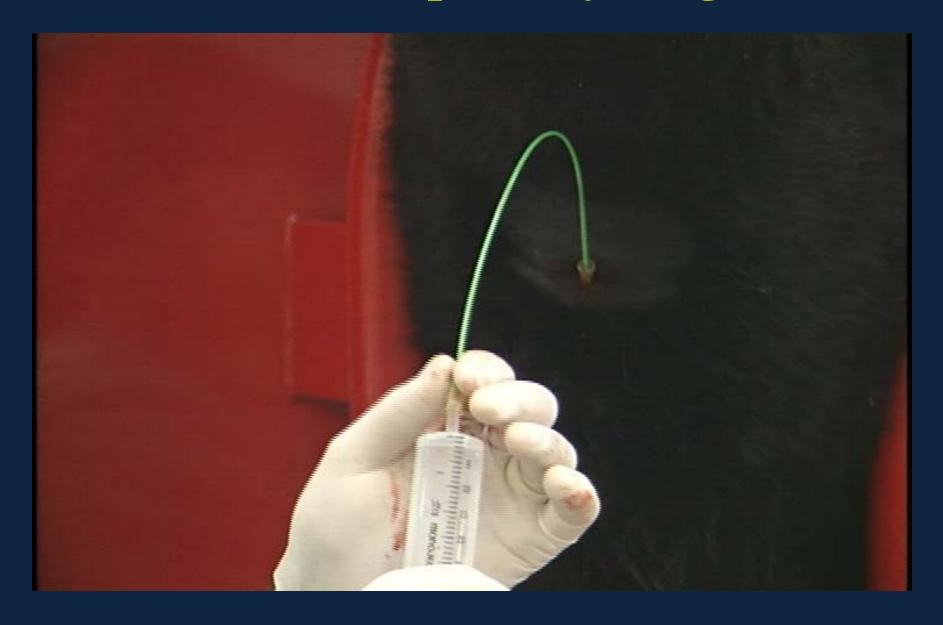
Attach syringe and 30 ml. of saline is introduced

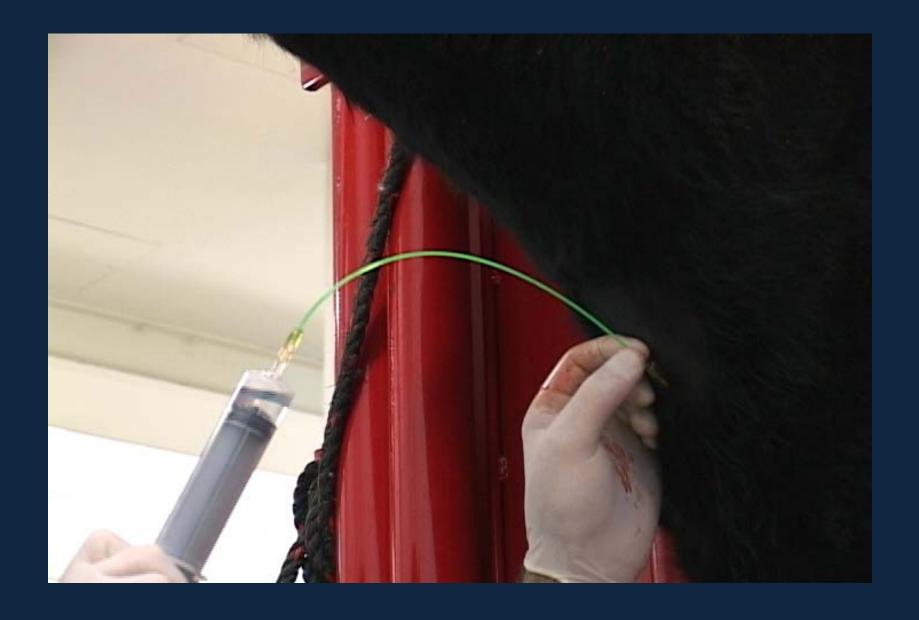
- aspiration as tubing is moved up and down











- Need a minimum of 1.5 3 mls. for diagnostic sample
 - Sample may be clear or cloudy may contain flecks of fibrin
 - may need to inject more saline and repeat procedure
 - Keep cool until shipment and ship on ice with other samples
 - red top tube of blood and nasal swabs

Please include diagnostic lab submission form and calf data form

TTW and BAL samples can used for multiple tests

Submitted in plastic container or red top tube

- Virus isolation, PCR, IHC or FA
- Culture and sensitivity

Samples in purple top (EDTA) can be used for cytology

- also for IHC and FA
- EDTA impedes PCR and VI

