Antemortem Respiratory Diagnostics:

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
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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?
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- **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
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- 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
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- 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
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- 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
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- TTW and BAL samples can be 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