

Consequences of Lung Parenchymal Injury

- Edema
- Decreased surfactant (→ atelectasis)
- Decreased defense mechanisms
- Epithelial proliferation/neoplasia
- Inflammation
- Fibrosis
- Predisposition to infection
- Immune mediated disease

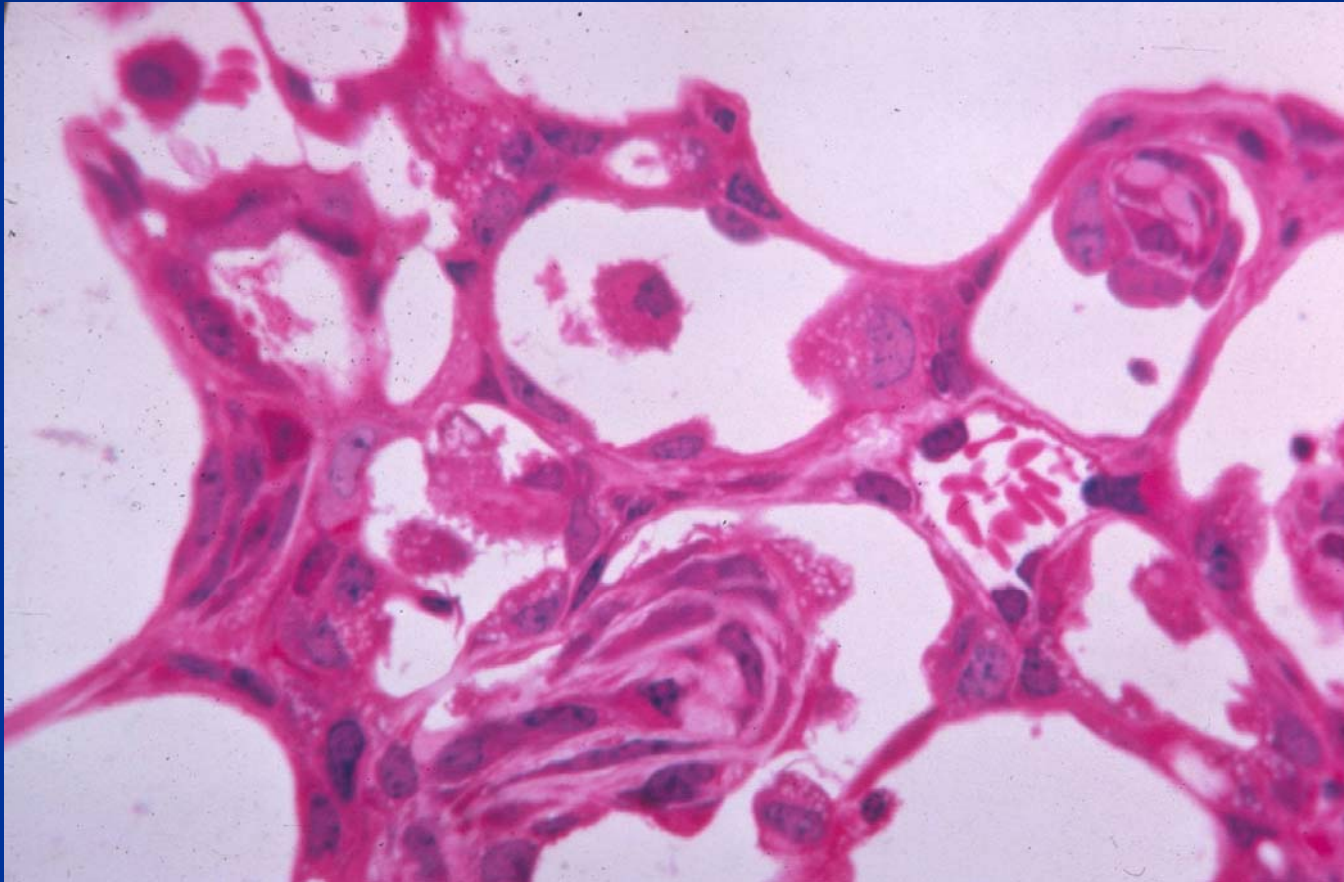
Repair of Injury to the Lung

- Repair can occur if
 - Stem cells are available
 - Basement membrane is intact
 - Inflammation is not too severe
 - Inciting agent is removed

Consequences of Basement Membrane Damage

- Chronic disease: fibrosis
- Severe destruction of tissue
 - Emphysema
 - Abscess
 - Sequestration

Consequences of Basement Membrane Damage - Lung



Diagnosis of Respiratory Disease

- Clinical disease, individual and group/herd
- Pulmonary function
- Clinical pathology
- Anatomic pathology – gross, microscopic, electron microscopy, IHC
- Bacteriology - culture, PCR, serology
- Virology – as bacteriology, virus isolation
- Parasitology
- Toxicology – analytical, feed microscopy

Pathology of Respiratory System

- Respiratory injury and response
- Upper Respiratory Tract
 - Developmental Abnormalities
 - Non infectious Disease
 - Infectious Disease
- Lower Respiratory Tract
- Pleura and thoracic cavity

Upper Respiratory System Developmental Abnormalities

- Examples
 - Maxillary sinus cysts - horse
 - Ciliary dyskinesia - dog
 - Tracheal hypoplasia - dog
 - Epiglottal hypoplasia - horse

Upper Respiratory System: Noninfectious Disease

- Tracheal collapse (dogs, horses)
- Laryngeal paralysis (dogs, horses)
 - Idiopathic laryngeal hemiplasia (roarer)
- Laryngeal edema
- Smoke inhalation

Noninfectious Disease: Differentials for Epistaxis

- Trauma
- Invasive intranasal lesion
 - Fungal infection
 - Neoplasia
- Bleeding disorder – genetic, infectious, or toxic origin
- Exercise induced pulmonary hemorrhage (EIPH) - horses

Proliferative Lesions of Nasal Cavity

- Nasal polyps (cats, horses)
 - Ethmoid hematoma
 - Nasopharyngeal polyps - cats
 - Granulomatous rhinitis
- Neoplasia
 - Carcinoma
 - Sarcoma