

Pathology of the Respiratory System: General Responses to Injury



"It may not be a perfect wheel, but it's a state-of-the-art wheel."

Respiratory Pathology

- Respiratory disease important in all species
 - Economic importance
 - Clinical importance
- Diagnosis is a challenge, both clinical and morphologic

Pathology of Respiratory System

- **Respiratory injury and response - Outline**
 - General
 - Upper respiratory tract
 - Lower respiratory tract
 - Pleura and thoracic cavity

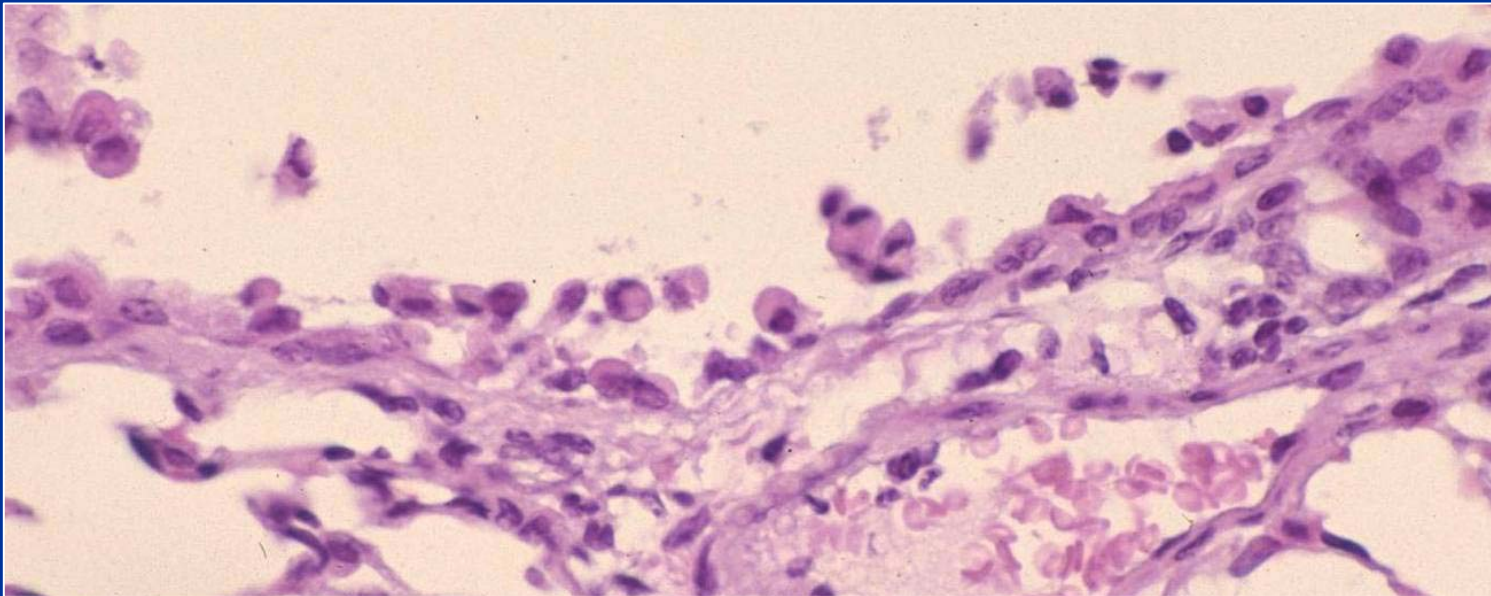
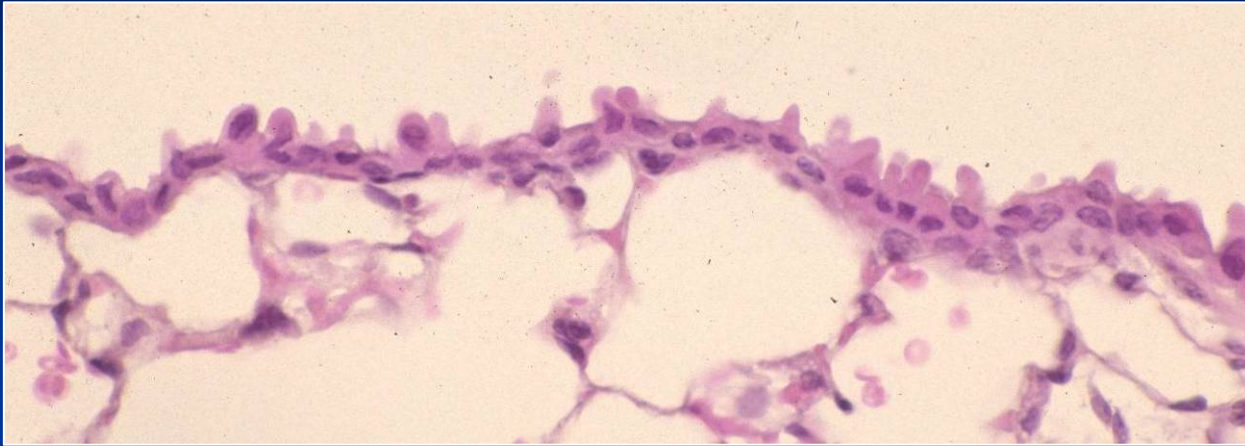
Injury

- Types of injury
 - Primary or secondary
 - Cell specific or non-specific
- Importance in repair process
 - Are stem cells injured?

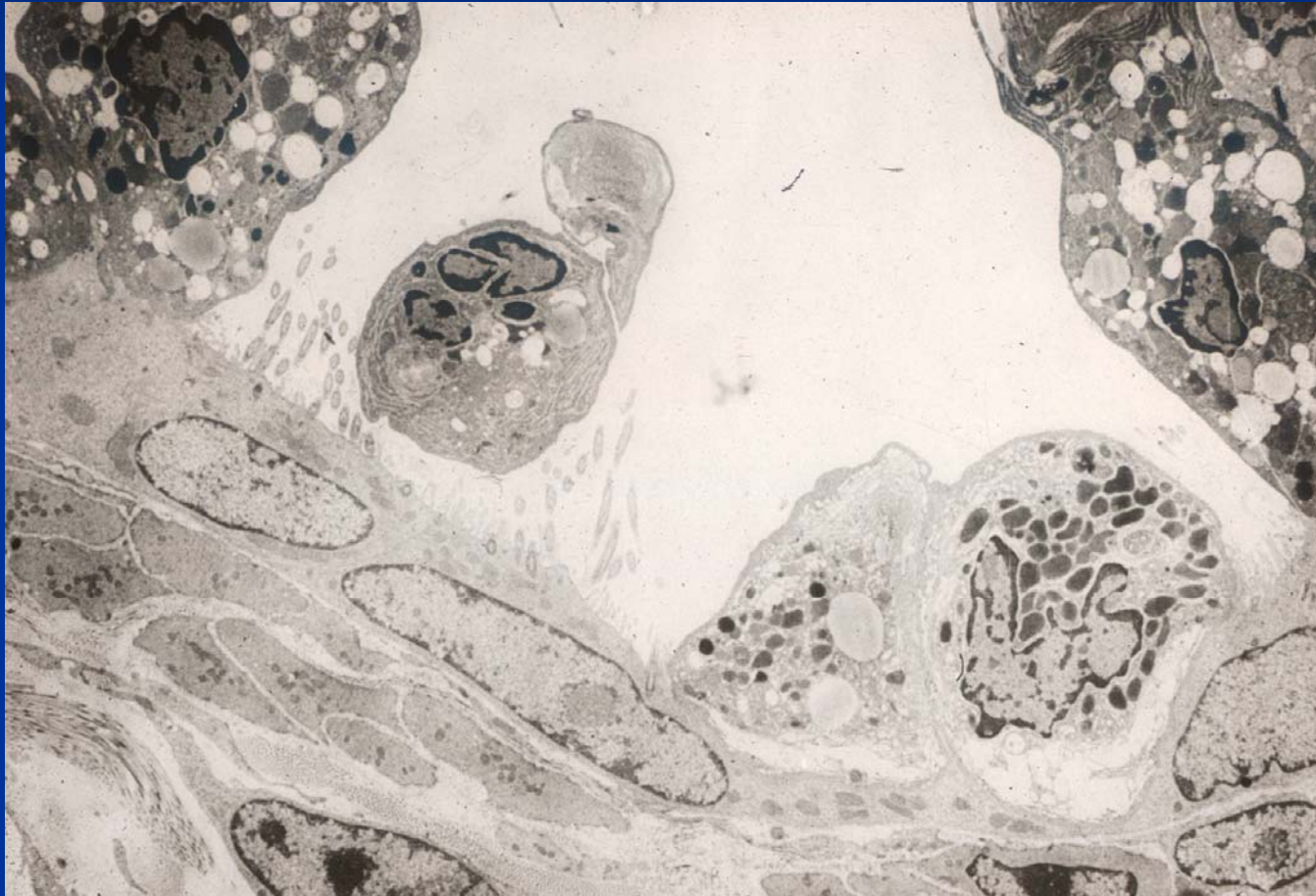
Causes of Injury: Cell Specific

- Ciliated cell injury
 - Bacteria e.g. *Bordetella*, *Mycoplasma* spp
 - Viruses e.g. influenza, paramyxovirus
 - Air pollutants (NO_2 , SO_2 , O_3 , O_2)
- Clara cell injury
 - Metabolically activated xenobiotics (3 methylindole)

Clara Cell Necrosis



Clara Cell Necrosis



Causes of Injury: Non-specific

- Some viruses
- Chemicals (caustic agents)
- Foreign bodies

