

# Module 2 – L09

## Tissue Growth, Modification and Repair

Dr. Lisa Brinn

[lbrinn@fiu.edu](mailto:lbrinn@fiu.edu)

## 9. Tissue Growth, Modification, and Repair

- Definitions
  - A. Hypertrophy
  - B. Atrophy
  - C. Apoptosis
  - D. Necrosis
  - E. Fibrosis
  - F. Plasias
    - Hyperplasia
    - Metaplasia
    - Dysplasia

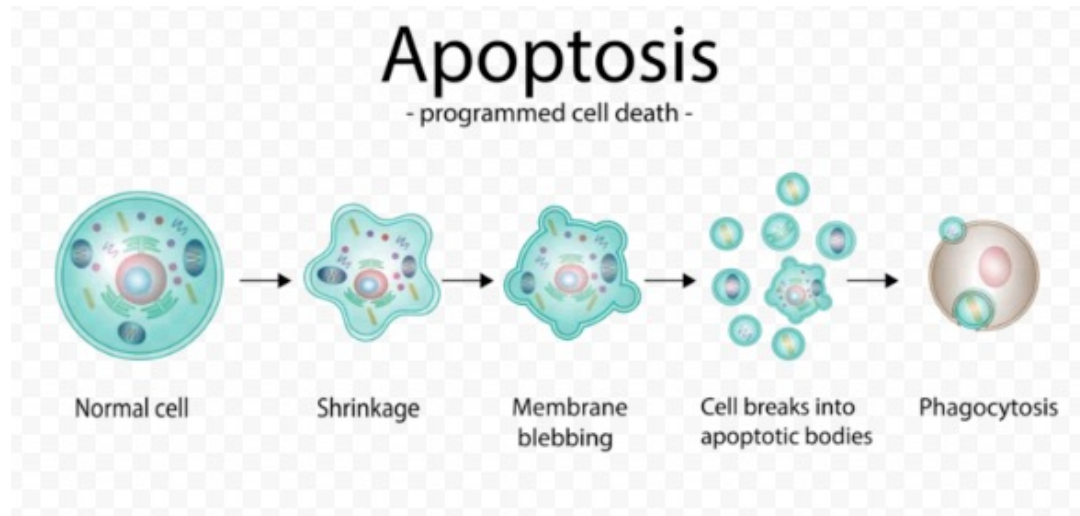
## A. Hypertrophy



## B. Atrophy



## C. Apoptosis



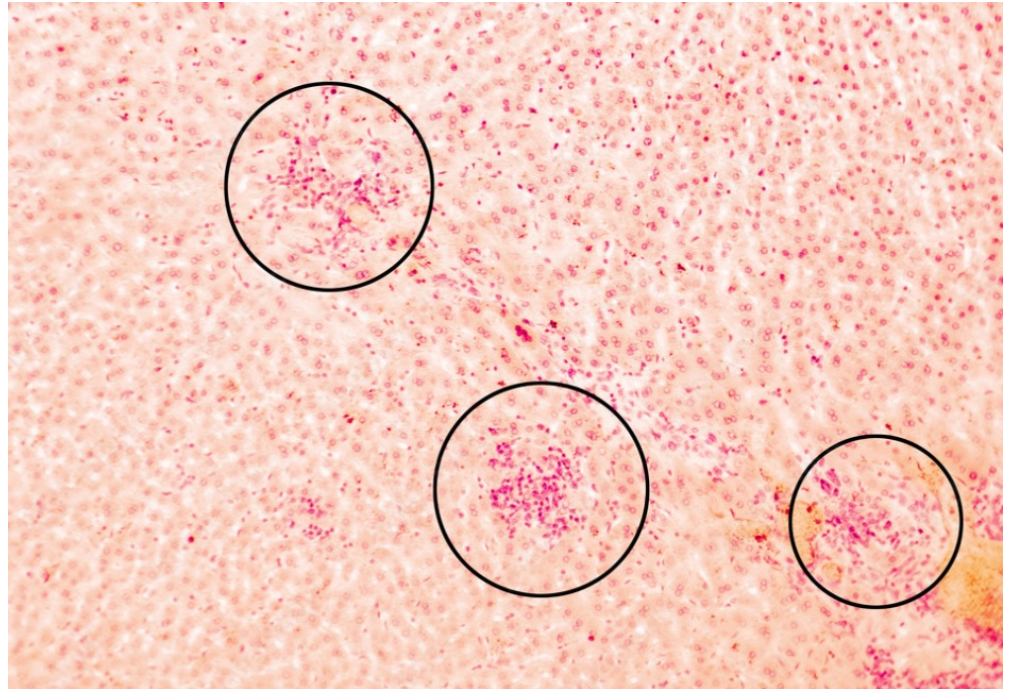
## E. Necrosis



## F. Fibrosis



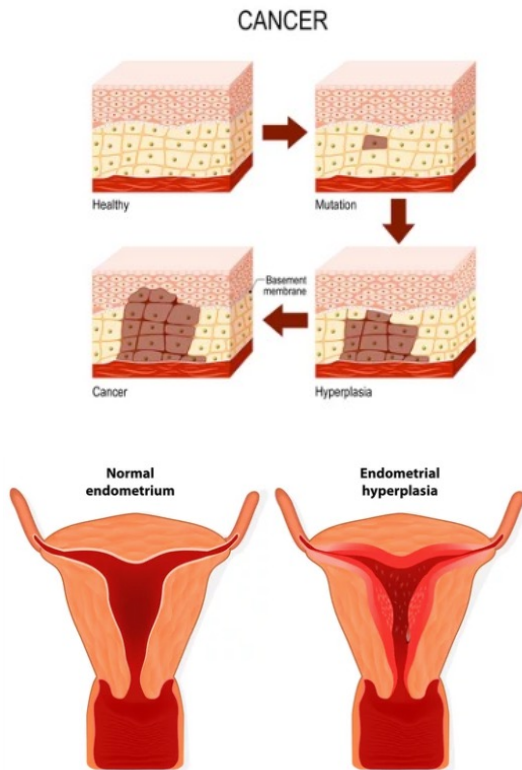
Pulmonary Fibrosis



Lung Fibrosis

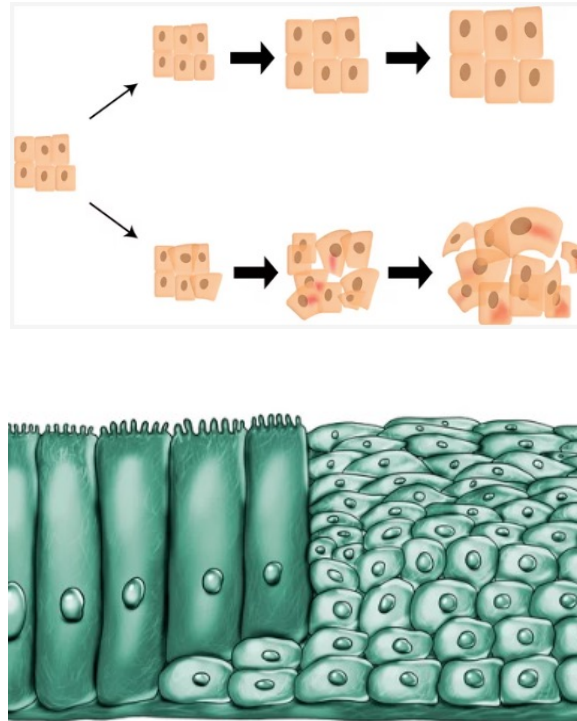
# D. Plasia (hyperplasia, metaplasia, dysplasia)

## Hyperplasia

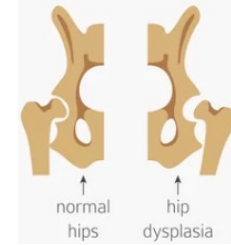


Increase in cell reproduction rate

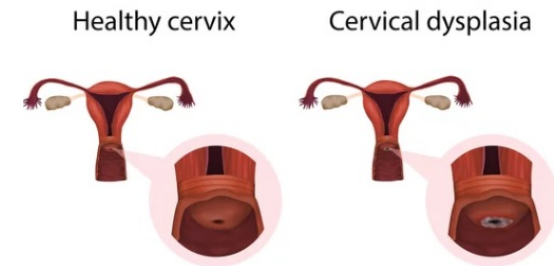
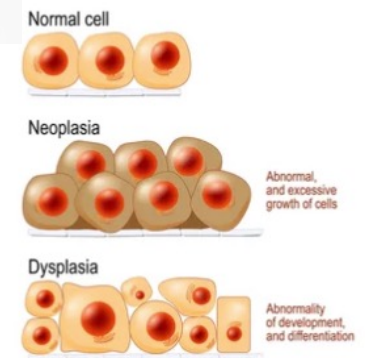
## Metaplasia



Change in cell type



## Dysplasia



Abnormal cell growth



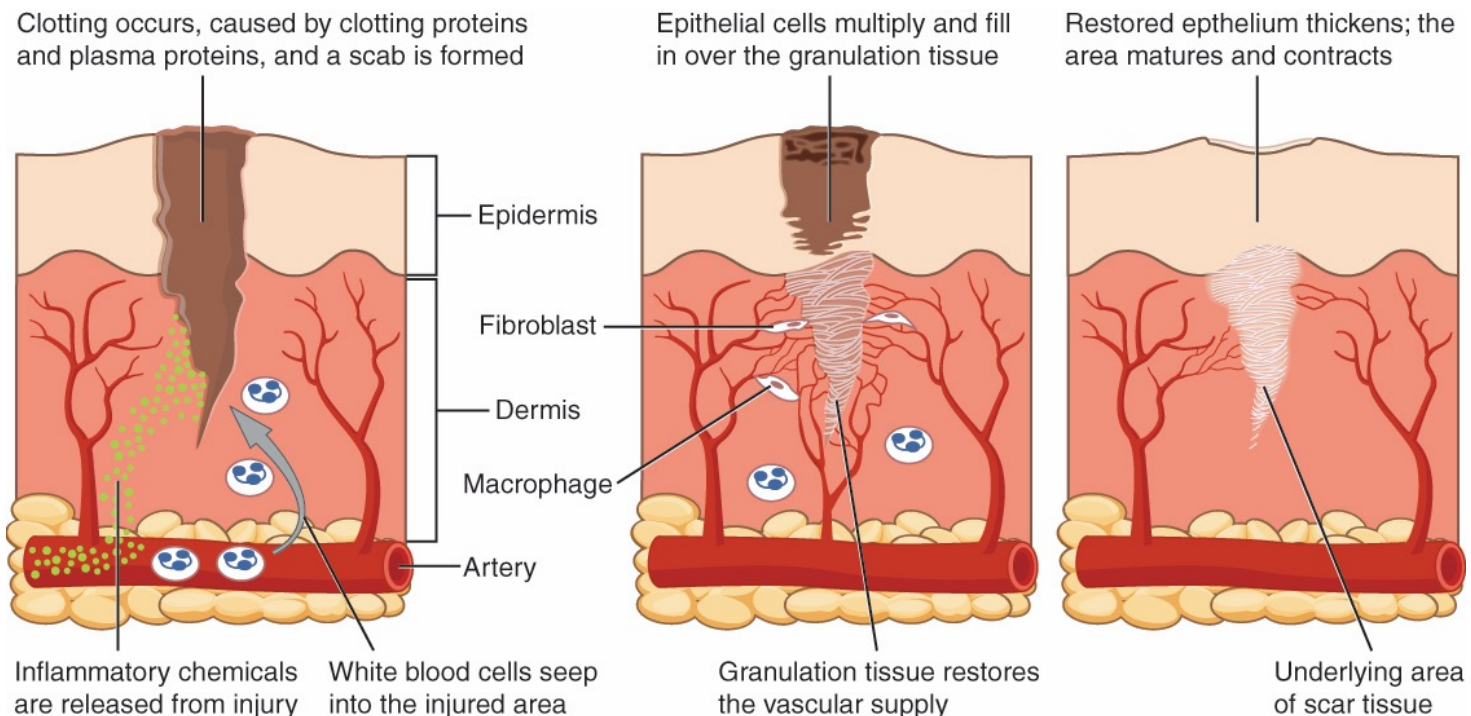
# Inflammation

- Defined – standard, initial response to injury
- Cardinal signs of inflammation
  1. Redness – vasodilation (mast cells)
  2. Swelling – excess liquid in tissue (edema)
  3. Pain
    - edema causes squeezing of pain receptors
    - Prostaglandins activate pain neurons
  4. Local heat - vasodilation
  5. Loss of function

# Tissue Repair

## Tissue Healing

During wound repair, collagen fibers are laid down randomly by fibroblasts that move into repair the area.



# Development of Cancer

Note the change in cell size, nucleus size, and organization in the tissue.

- Carcinomas – epithelial cells
- Myelomas – myeloid tissue or blood cells
- Leukemias – white blood cells
- Sarcomas – connective tissue
- Gliomas – glial cells

