

## Skeletal System

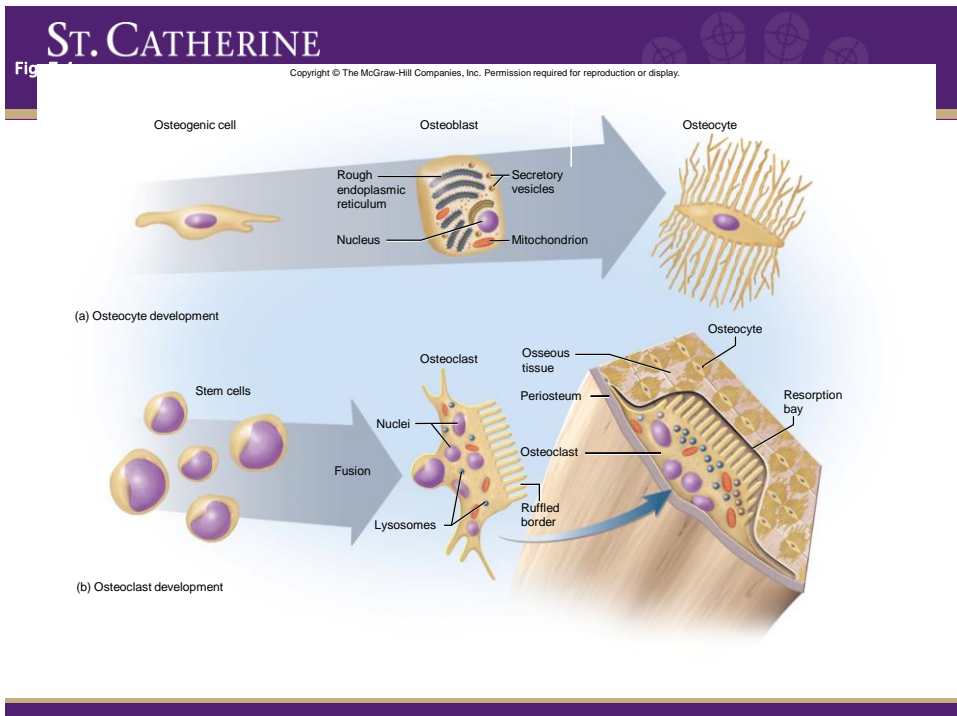
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### Functions of Bones

- Support
  - Protection
  - Movement
  - Blood Formation
  - Electrolyte Balance
  - Acid-base Balance
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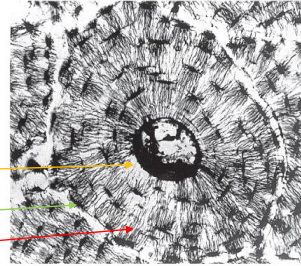
# Bone (Osseous) Tissue

- Matrix
  - 1/3 organic (collagen)
  - 2/3 inorganic (hydroxyapatite)
- Cells
  - Osteogenic Cells
  - Osteoblasts
  - Osteocytes
  - Osteoclasts
- 2 Tissue types: Compact and Spongy



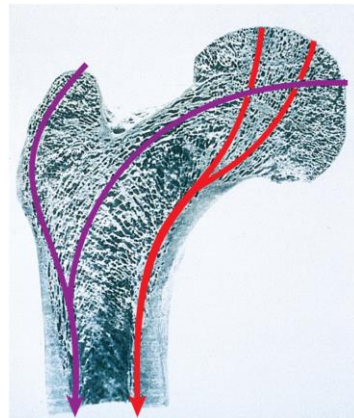
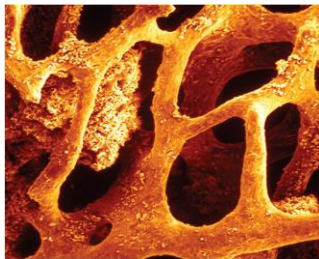
## Compact bone

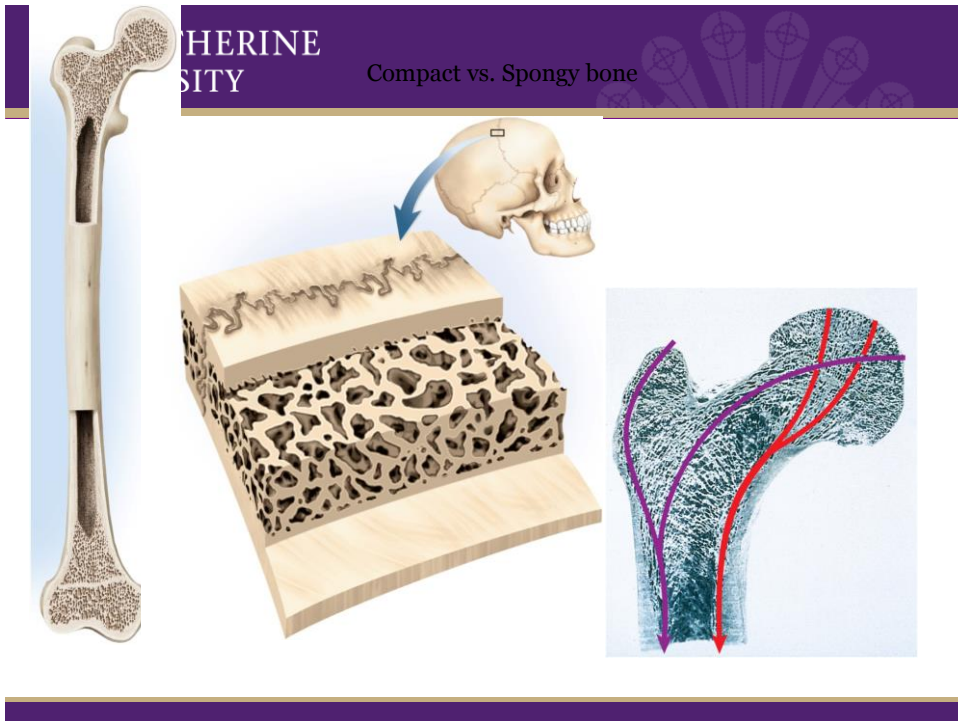
- Strong
- Weight bearing
- Made of Osteons:
  - One central canal and all of its concentric rings.
  - Perforating Canals
  - Lamellae
  - Lacunae
  - Canaliculi



## Spongy Bone

- Trabeculae
- Trabeculae also have lamallae, but no haversian canal.
- Space filled with marrow.
- Develop along lines of stress.

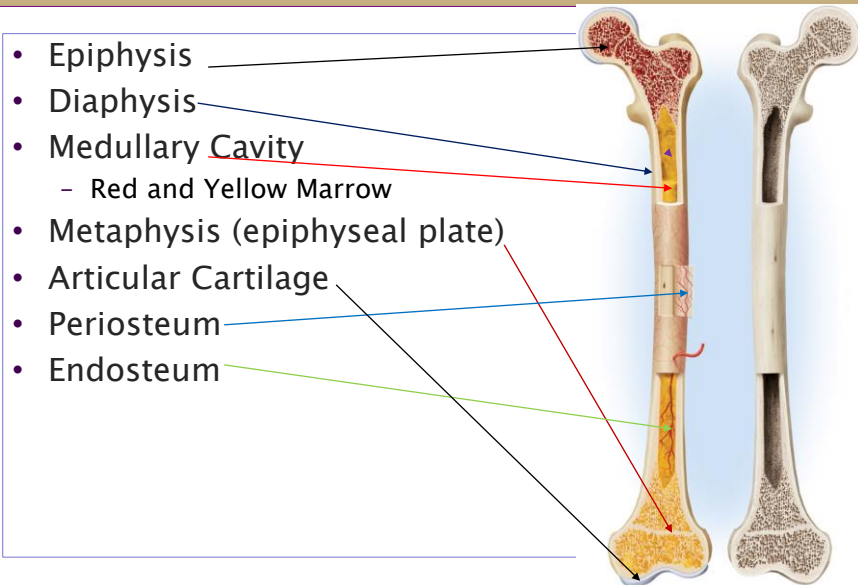




## Shapes of Bones

- Long Bones
- Short Bones
- Flat Bones
- Irregular

## Long Bone Anatomy



## Bone Development

- Ossification
- 2 types:
  - Intramembranous
  - Endochondrial

