

Lab 6: Osseous Tissue

Osseous Tissue

Today we will look more closely at the structure, development, and growth of bone (Exercise 9). First, review Figures 9.1 and 9.2. Determine the differences between the axial and appendicular skeleton. Review the various cartilages and associated placement within the body.

Figure 9.3 & 9.4 will familiarize you with both macroscopic and microscopic anatomy of osseous tissue. Become familiar with the following terms: **Epiphysis, Diaphysis, Spongy Bone, Compact Bone, Epiphyseal Line/Plate, Medullary/Marrow Cavity, Periosteum, Endosteum, Central or Haversian Canal, Perforating or Volkmann's Canal, Osteon, Lamellae, Lacunae, Osteocytes, and Canaliculi.**

Long bones are ossified through Endochondral Ossification, whereas flat bones go through Intramembranous Ossification. Review Figure 9.5 and be able to explain and identify the developmental zones.

Finally, Table 9.1 explains various bone markings. The far majority of these indicate muscle or bone articulation sites. Familiarize yourself with each type.

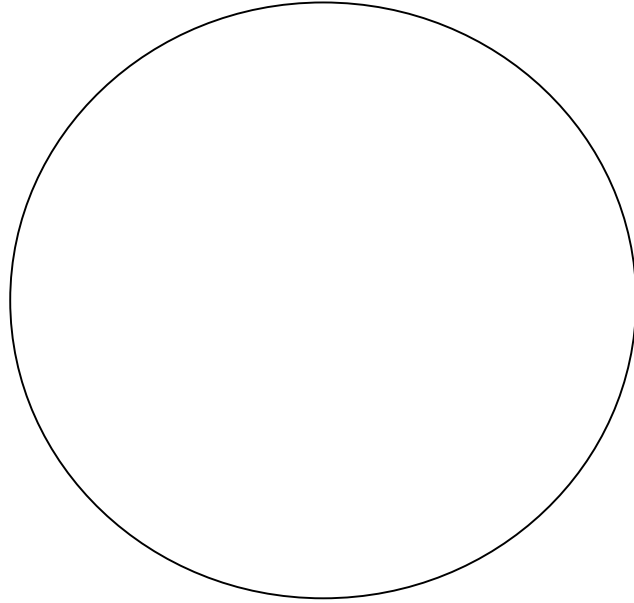
1. What can be found in the Central/Haversian canals?
2. Name the immature and the mature bone cells.
3. Give the name for a round or oval opening through a bone. Give the name for a canal-like passageway through a bone.
4. How does Endochondral Ossification differ from Intramembranous Ossification?
5. Give an example of a long bone. Give an example of a flat bone.
6. What exactly is the Epiphyseal Plate/Line?

Slide Assignment: Osseous Tissue

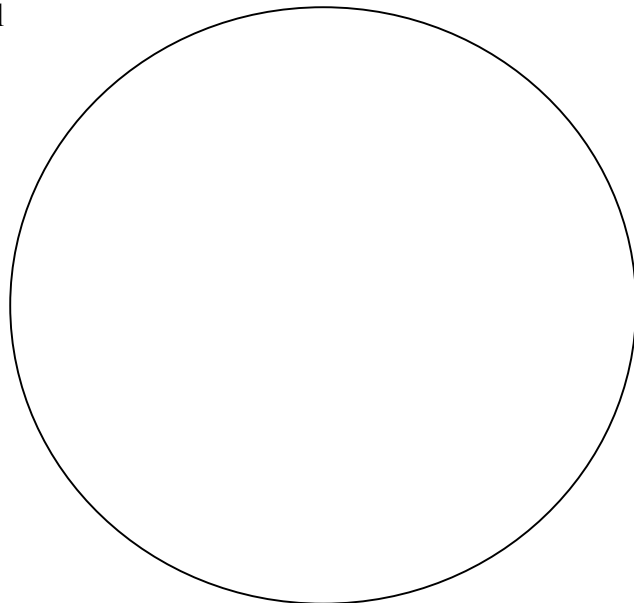
(Beginning on p107 in Lab Text, p108 in Histology Text)

Draw the following slides using the figures in the lab and histology texts as a reference. Use whichever magnification works best to show all given structures. Please note that not every slide will show everything; you will need to look at multiple slides and/or sources. Your drawings should artistically combine views to include all structures.

- **Compact Bone** – label and understand function of the following:
 - Osteons
 - Lamellae
 - Lacunae
 - Osteocytes
 - Central or Haversian Canal
 - Canaliculi



- **Decalcified Bone** – label and understand function of the following:
 - Compact Bone
 - Marrow Cavity
 - Central or Haversian Canal
 - Perforating or Volkmann's Canal



- **Endochondral Ossification** – label and understand function of the following:
 - Resting Zone
 - Proliferation or Growth Zone, and Chondroblasts
 - Hypertrophic Zone, Chondrocytes, and associated Lacunae
 - Calcification Zone or Line
 - Ossification Zone, and Osteoblasts

