

Skeletal Histology

EQ: Compare and contrast the different type of connective tissue found in the skeletal system.

- I. Connective Tissue
 - a. Found everywhere in the body
 - b. Functions
 - i. Binds body tissues together
 - ii. Supports the body
 - iii. Provides protection
- II. Bone (osseous tissue)
 - a. Composed of:
 - i. Osteocytes in lacunae (cavities)
 - ii. Hard matrix of calcium salts
 - iii. Large numbers of collagen fibers
 - b. Used to protect and support the body
 - c. Osteocytes: bone cells inside of chambers called lacunae
 - d. Osteocytes form rings around the haversian canal – contains blood vessels/nerves
 - e. Lacunae are connected by canaliculi
- III. Hyaline Cartilage
 - a. Most common cartilage
 - b. Composed of:
 - i. Abundant collagen fibers
 - ii. Rubbery matrix
 - c. Entire fetal skeleton is hyaline cartilage
 - d. Covers bones at the joints
- IV. Dense Regular Connective Tissue
 - a. Mostly collagen fibers with some elastic fibers
 - i. Able to withstand intense tensile stress when pulled in one direction
 - b. Cell type is fibroblasts
 - c. Tendons – Attach muscles to bones or to other muscles
 - d. Ligaments – attach bones to other bones
- V. Fibrocartilage
 - a. Highly compressible
 - b. Chondrocytes is the cell type
 - c. Example: forms cushion-like discs between vertebrae
- VI. Regeneration of Tissues
 - a. Tissues that regenerate easily
 - i. Epithelial tissue
 - ii. Fibrous connective tissue and bone
 - b. Tissues that regenerate poorly
 - i. Skeletal muscle
 - c. Tissues that are replaced largely with scar tissue
 - i. Cardiac muscle
 - ii. Nervous tissue within the brain and spinal cord