General Characteristics of ALL Connective Tissues

Function
- bind
- support
- protect
- fill spaces
- store fat
- produce blood cells

Location
- widely distributed throughout the body
- Lupus – connective tissue autoimmune disorder

Distinguishing characteristics
- mostly have good blood supply
- cells are farther apart
General Characteristics of Connective Tissues

- Helps repair tissue damage
- Farther apart than epithelial cells
- Abundance of intercellular material between them (matrix)
- Rigid - bone & cartilage
- Flexible - loose, adipose, fibrous
- Fluid - blood
Major Cell Types

Wandering Cells:
- Temporarily appear in response to infection or injury
- WBC or macrophages

Fixed Cells:
- Fibroblast: most common, large and star shaped, produce fibers
- Mast cells: large, near blood vessels, release heparin, release histamine
Fibers

Collagenous
- thick threads of collagen
- ligaments and tendons

Elastic
- composed of elastin
- vocal cords

Reticular
- very thin collagenous fibers
- highly branched
What are the six general functions shared by connective tissues?

1. Connective tissue notes
2. Start connective tissue lab – turn in at the end of the block
3. Conn. Tissue crossword HW – due tomorrow
   Quiz - Thursday
Types of Connective Tissues

- Loose or aerolar
- Adipose
- Dense fibrous
- Cartilage
  - Hyaline
  - Elastic
  - Fibrocartilage
- Bone
  - Spongy
  - Compact
- Blood
Loose or areolar

Function/Characteristics
• binds organs together
• holds tissue fluids
• most abundant type

Location
• Makes up the basement membrane
• beneath skin
• between muscles
• beneath epithelial tissues
Adipose

Function/Characteristics

- protects, insulates, stores fat, absorbs shock
- swollen cells

Location

- beneath skin
- around kidneys
- behind eyeballs
- surface of the heart
- between joints
Dense fibrous

Function/Characteristics
- binds organs together
- poor blood supply
- lots of collagen fibers

Location
- tendons
- ligaments
- deeper layers of skin (dermis)
Hyaline Cartilage

Function/Characteristics
• supports, protects, provides framework
• most abundant type of cartilage
• Chondrocytes
  • Cartilage cells
  • Usually in pairs in a lacuna

Location
• nose
• ends of bones
• rings in trachea
• forms embryonic skeleton
Elastic Cartilage

Function/Characteristics

- supports, protects, provides flexible framework
- chondrocytes

Location

- external ear
- parts of larynx
Fibrocartilage

Function/Characteristics

• supports, protects, absorbs shock
• chondrocytes

Location

• between vertebrae
• pelvic girdle
• knee
Fibrocartilage

- Nucleus
- Collagenous fiber
- Intercellular material

Chondrocyte in lacuna

Nucleus

Collagenous fiber

Intercellular material
Bone

Function/Characteristics

- cells arranged concentrically
- supports, protects, provides framework
- Osteocytes
  - Mature bone cells

Location

- Skeleton
- Spongy: ends of bones
- Compact: shaft of the bone
Blood

Function/Characteristics

- transports substances
- helps maintain homeostasis
- WBC, RBC, platelets, and plasma

Location

- throughout body within vessels and chambers of the heart
Name that Tissue BR

1. Finish Lab
   - Turn in
2. Review by completing quiz in socrative.com
   - 242221
   - You may take multiple times

HW- STUDY
Connective Tissue ID BR

1. Review xword
2. Review
3. QUIZ
4. Intro. to Muscles and Nervous Tissue

HW – Muscle and Nervous Tissue
Connective Tissues

Across:
3. connective tissue mainly involved with transport
5. fat tissue
8. most common type of cartilage found in the body
9. dense connective tissue that connects muscle to muscle
10. type of bone tissue in the shaft of a long bone
11. bone cells

Down:
1. cells responsible for making the three types of fibers
2. one type of rigid connective tissue
4. a type of fixed cell releases heparin and histamine
6. dense connective tissue that connects muscle to bone
7. connective tissue cells that increase in numbers when needed; usually in response to injury or infection
12. cartilage cells