

HISTOLOGY

EXAM 2

What are the 5 connective tissue: ^{connective} Loose, Dense connective, Blood, Osseous (bone), cartilage

Type: Loose connective tissue

Areolar

- widely distributed
- semifluid matrix
- storage, water reservoir, supports and binds
- produced by fibroblasts

Adipose

- Areolar w/ lots of adipocytes (Fat cells)
- Insulates, absorbs shock, nutrient storage
- consists of white & brown fat

Reticular Connective Tissue

- Reticular cells & fibers / fibroblasts
- fibers are thin
- supportive network inside soft organs
- Ex: spleen & lymph nodes

Type: Dense connective tissues ^{Parallel}
Regular: fibers in one direction; resist tension ^{high strength}

Bone to Bone → Ligaments ^{mostly fibers}

Muscle to Bone → tendons

Muscle to Muscle → aponeuroses

Irregular: fibers in ALL direction; (wraps muscles, bones, nerves) → form sheets instead of bundles → Ex: Dermis

Type: Blood

- fluid connective tissues
- transport & carries nutrients
- Matrix is called Plasma
- Fibers solidify when blood clots form

Type: Osseous (Bone) ^{units}

- Widely separated cells Osteons
- Matrix ($\frac{1}{3}$) collagen & $\frac{2}{3}$ mineral salts ^{absorbed for healthy growth}

Produced ~~maintained~~ by osteoblasts maintained by osteocytes

Functions:

- Supports/protects soft tissue
- Serves as points of muscle attachment
- Mineral storage
- Production of Blood cells - RBCs

NOT connective tissue
↓
Muscle Tissue:

1. Muscle tissue is highly cellular and highly vascular — blood supply

2. Muscle tissue is specialized for contraction

3. Functions of muscle tissue:

- Movement → attached to bone
- Maintenance of posture

- Heat → keeps organs warm & traps warmth

Types: of muscle tissues

Skeletal (striated)

Cardiac

Smooth

- Voluntary

- Function: posture & body movement

- muscle fibers (cells)
- have multiple nuclei

- Involuntary

- In the heart ONLY

- cells have one nucleus

- Involuntary

- lines hollow organ & blood vessels

- cells have one nucleus

Neural tissue

Type: Neuron (cell)

1. Functions:

- Receive stimulus
- Convert to impulse
- Pass on impulse to other neurons

2. Impulse travels one way → can't go backwards

3. Perikaryon

Dendrites

Axon

A. conduct impulse away from perikaryon

B. Cell body

C. conduct impulse toward perikaryon

★ Cartilage tissue is on Integumentary worksheet part 1 ★