Histology
Part II: Connective Tissue

MMHS Anatomy

Location and Description

Location:

- Found throughout the body but never exposed to the **external** environment.

Description:

- Made up of **specialized** cells.
- Contains extracellular **protein** fibers.
- "**Ground Substance**" fluid found throughout.
- May or May not be highly **vascularized**.

Function of Connective Tissue

1. Provides a structural **framework** of the body.
2. **Transports** Fluids
3. **Protection** of vital internal organs.
4. Stores long-term **energy.**

Classification of Connective Tissue

Loose Connective

- Contains a "**packing material**" that fills spaces between organs and cushions and supports epithelia.

- **Adipose** tissue: looks like droplets of lipids: functions to pad and insulate the body.

Dense Connective

- **Collagen** fibers dominated this tissue.
- Fibers are **tightly** packed and run **parallel** to each other.

Examples: **tendons, ligaments,** and **elastic tissue.**

Blood

- **Red** blood cells (erythrocytes) = the most **numerous** and **donut**-shaped cells. Transport **gases.**
- **White** blood cells (leukocytes)= fewer in number; large, **irregularly**-shaped, fight **diseases.**
- **Plasma** = made up of a **watery** fluid.
- **Platelets** = **fragments** of cells that **clot** blood.

Hyaline Cartilage

- Most **common** type of cartilage
- **Collagen** fibers are closely packed.
- Connections between **ribs,** coverings of **elbow** and **knee.**

Bone

- Made up of **collagen** fibers and **calcium** salts.
- **Lacunae** (compartments within bone) contain **osteocytes.**
- Bone tissue is highly **vascularized** = **diffusion** of gases occurs between osteocytes through canaliculi.