

2. Fibrocartilage

- Form the cushion-like discs between the vertebrae of the spinal column

3. Elastic cartilage

- Found where a structure with elasticity is desired
e.g. cartilage supporting the ear

Dense CT

- Dense fibrous tissue
- Collagen fibers as its main matrix element
- **Fibroblasts**
 - Fiber forming cells located between the collagen fibers
 - Manufacture the fibers
- Form strong rope-like structures such as tendons and ligaments

Type/sites of dense CT:

1. Tendons – attach skeletal muscles to bones
2. Ligaments – connects bone to bone at joints
 - more stretchy and contain more elastic fibers than tendons
3. Dermis of the skin – arranged in sheets

Loose CT

- Softer and have more cells and fewer fibers than any other CT type except blood

Areolar CT

- Anchors internal organs
- Soft pliable tissues
- Its fluid matrix contains all types of fibers forming a loose network
- Most of the matrix appears to be an empty space, explaining the name of the tissue
(areola = small open space)

Functions:

1. Provides reservoir of water and salts for the surrounding tissue
 2. Provides nutrients to all body cells
 3. dump site for cellular wastes
 4. Anchors internal organs
 5. Cushions and protects organs
- Many types of phagocytes wander through this tissue scavenging for bacteria, dead cells, and other debris that they destroy

Lamina propria – soft layer of areolar CT underlies all mucous membranes

Edema – swelling of the area where the areolar tissue soaks up the excess fluid (like a sponge) due to inflammation

Adipose CT

- Fat
- An areolar tissue where fat cells predominate
- Glistening droplet of stored oil occupies most of a fat cell's volume, compressing the nucleus, displacing it to one side
- **Signet ring appearance** – containing the bulging nucleus looks like a ring with a seal

Functions of adipose tissue:

1. Form the subcutaneous tissue beneath the skin, where it insulates the body and protects it from extreme cold or heat
2. Fat corpuscles surrounding the kidneys and cushions the eyeballs in their sockets.
3. Fat depots in the body (hips and breasts), where fat is stored and available for fuel if needed

Reticular CT

- Consists of a delicate network of interwoven reticular fibers associated with reticular cells, which resemble fibroblasts
- Limited to certain sites

Functions :

1. it forms the stroma (bed or mattress)
2. internal support framework supporting many free blood cells (largely lymphocytes)
- In lymphoid organs such as lymph nodes, spleen, and bone marrow

Blood

- Vascular tissue
- Considered as connective tissue because it consists of blood cells surrounded by a non-living, fluid matrix called blood plasma
- The fibers of blood are soluble protein molecules that become visible only during blood clotting

MUSCLE TISSUE

- Highly specialized to contract or shorten to produce movement
- Called muscle fibers because of its elongated muscle cells to provide a long axis for contraction

Types of Muscle Tissue:

1. Skeletal
2. Cardiac
3. Smooth