

Connective tissue(CT)

Connective tissue (CT) is one of the four types of biological [tissue](#) that supports, connects, or separates different types of tissues and organs in the body and fills the spaces between organs and tissues . The other three types are [epithelial](#), [muscle](#), and [nervous](#) tissue. Connective tissue is found in between other tissues everywhere in the body, that have many functions at following:

- 1) Structural framework for body.
- 2) Transportation of fluid and dissolved substances.
- 3) Protection of delicate organ.
- 4) Supports, Surrounds and connects other tissues.
- 5) Storage of energy in the form of lipids.
- 6) Defend the body against microorganisms.

The tissue composed mainly of:

- 1) extracellular elements

- **Ground substance** is gel-like substance in which the fibers and cells are embedded. Consist of glycoproteins.

- **Fibers: Collagen fiber, Elastic fiber and Reticular fiber**

- 2) a limited number of cells:

- **Fibroblast, Macrophage, Lymphocyte, Leukocytes, Fat cells and Mast cell**

Types of CT:

1- Embryonic CT.

- Mesenchymal : it gives rise to all other connective tissues, has star shaped Mesenchymal cell, located in embryo.
- Mucous

2- Adult CT.

A- connective tissue proper

- Loose (areolar): Fibers create loose, open framework, located under epithelia fascia, around organ and surrounding capillaries.
- Dense irregular: Fibers densely packed, located in dermis, sub mucosa of digestive tract, fibrous capsule of organs and joint.
- Dense regular: located in tendons, most ligaments, deep fascia
- Adipose T: located in hypodermis, around kidneys and eye balls, on surface of heart, female breasts , hips, abdominal region.
- Reticular T: located in liver, spleen, bone marrow.

B- Specialized connective tissue:

- Supporting tissues: bone: Solid, crystalline matrix.
and cartilage: Solid, rubbery matrix.
- Blood

