

Connective tissue type and characteristics

Functions

Locations

Arcular (loose) connective tissue. Loose array of random fibers with a wide variety of cell types

Nourishes and cushions epithelia, provides arena for immune defense against infection, binds organs together, allows passage for nerves and blood vessels through other tissues

Under all epithelia; outer coverings of blood vessels, nerves, esophagus, and other organs; fascia between muscles; pleural and pericardial sacs

Adipose tissue (fat). Large fat-filled adipocytes and scanty extracellular matrix

Stores energy, conserves body heat, cushions and protects many organs, fills space, shapes body

Beneath skin; around kidneys, heart, and eyes; breast; abdominal membranes (mesenteries)

Dense irregular connective tissue. Densely spaced, randomly arranged fibers and fibroblasts.

Toughness; protects organs from injury; provides protective capsules around many organs

Dermis of skin; capsules around liver, spleen, and other organs; fibrous sheath around bones

Dense regular connective tissue. Densely spaced, parallel collagen fibers and fibroblasts.

Binds bones together and attaches muscle to bone; transfers force from muscle to bone

Tendons and ligaments

Cartilage (gristle). Widely spaced cells in small cavities (lacunae); rubbery matrix.

Eases joint movements; resists compression at joints; holds airway open; shapes outer ear; moves vocal cords; forerunner of fetal skeleton; growth zone of children's bones

External ear, larynx, rings around trachea, joint surfaces and growth zones of bones, between ribs and sternum, intervertebral discs

Bone (osseous tissue). Widely spaced cells in lacunae; much of matrix in concentric orientika layers; hard mineralized matrix.

Physically supports body, provides movement, endoses and protects soft organs, stores and releases calcium and phosphorus

Skeleton

Blood. Erythrocytes, leukocytes, and platelets in

Transports nutrients, gases, wastes, hormones,

Circulates in cardiovascular system