| **Connective tissue type and characteristics** | **Functions** | **Locations** |
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| **Areolar (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 fetalskeleton; 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 onionlike layers; hard mineralized matrix. | Physically supports body, provides movement, encloses 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 |