



Cartilage

Characteristics of Cartilage

- Does not contain nerves or blood vessels so it takes longer to repair when damaged due to lack of nutrient supply
- Surrounded by a layer of irregular connective tissue called perichondrium
- Growth of cartilage:
 - Appositional:
 - Occurs at the edge of the cartilage
 - Adds protuberances which are later replaced by bone to create the final structure
 - Cartilage-forming cells in the perichondrium secrete new matrix against the external face of the existing cartilage
 - Interstitial:
 - Occurs in the middle of the cartilage
 - Responsible for increase in overall size of cartilage
 - Chondrocytes divide and secrete new matrix

Type of Cartilage	Locations	Chondrocytes	Matrix	General Characteristics
Hyaline	Articulations over the ends of bones at movable joints, larynx, trachea, nose, costal cartilage attached to end of rib and breastbone, precursor to bone in the embryonic skeleton	Enclosed in lacunae, clustered in groups of 3 or 4 cells	Fine collagen fibres, matrix appears amorphous	- Usually covered by perichondrium
Elastic	Ear lobes and external ear, epiglottis	Similar to hyaline	Abundance of elastic fibres	- Always covered by perichondrium
Fibrocartilage	Intervertebral discs, pubic symphysis, discs of knee joint, where tendons insert on bones	Chondrocytes in rows, located in lacunae between collagen fibres	Abundance of thick, bundled collagen fibres	- Does not have perichondrium

