

CARTILAGE

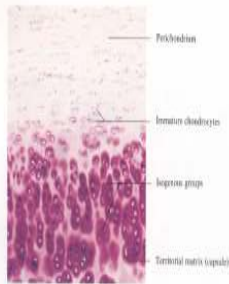
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- ## Introduction
- Composed of Chondrocytes (2-5%) located in Lacunae surrounded by an intercellular matrix.
 - Avascular
 - Low metabolic activity except in the embryo
 - Surrounding tissue (perichondrium)
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- ## Classification
- Cartilage is classified as
 - Hyaline cartilage
 - Elastic cartilage, &
 - Fibrocartilage.
 - The difference between the different cartilage types depend on the intercellular matrix and fibers embedded in the matrix.
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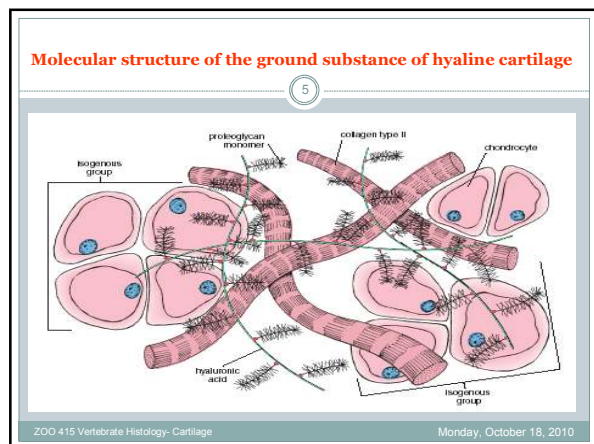
HYALINE CARTILAGE.




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- Like ground glass in appearance, with basophilic matrix. Although no specific fibers are ordinary seen, yet the matrix is permeated by a felt-like structure of fine collagenous fibrils.
- Much more matrix than in precartilage.
- Covered by perichondrium except over the articular surfaces of bone. e.g. tracheal rings.

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ELASTIC CARTILAGE



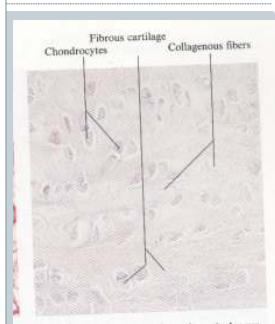
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Example. external ear, Eustachean tube, epiglottis and in some of the laryngeal cartilage.

- Similar to hyaline cartilage, plus a large number of branching yellow fibers between the lacunae.
- Staining of the intercellular compound surrounding the capsule is dense compared with hyaline cartilage.
- Often distinctly eosinophilic.
- Capsules and cells more or less prominent.
- Cells likely to form in smaller groups than in hayline cartilage.

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FIBROUS CARTILAGE



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Examples: intervertebral disc and the junction of tendons and bone.

- The cells are usually widely separated and arranged in rows.
- Immediate pericapsular territories are usually free from collagenous fibers.
- The fibers bundles, which are slightly eosinophilic, run a wavy course through the matrix. Fibers usually run parallel with one another.
- Plates of fibrous cartilage are not surrounded by a perichondrium.

ARTICULAR CARTILAGE

Example: covering of the articular surfaces of the bone.

- Usually hyaline cartilage without perichondrium, and with cells near the surface greatly flattened. Other cartilage cells in short columnar groups.
- Cancellous bone usually found on one side.

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FUNCTIONS OF CARTILAGE

Cartilage is important for:

- Skeletal support
- Elongation of developing bones
- Articulating joints
- Flexible support

Regeneration and repairs

Secondary cartilage.

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