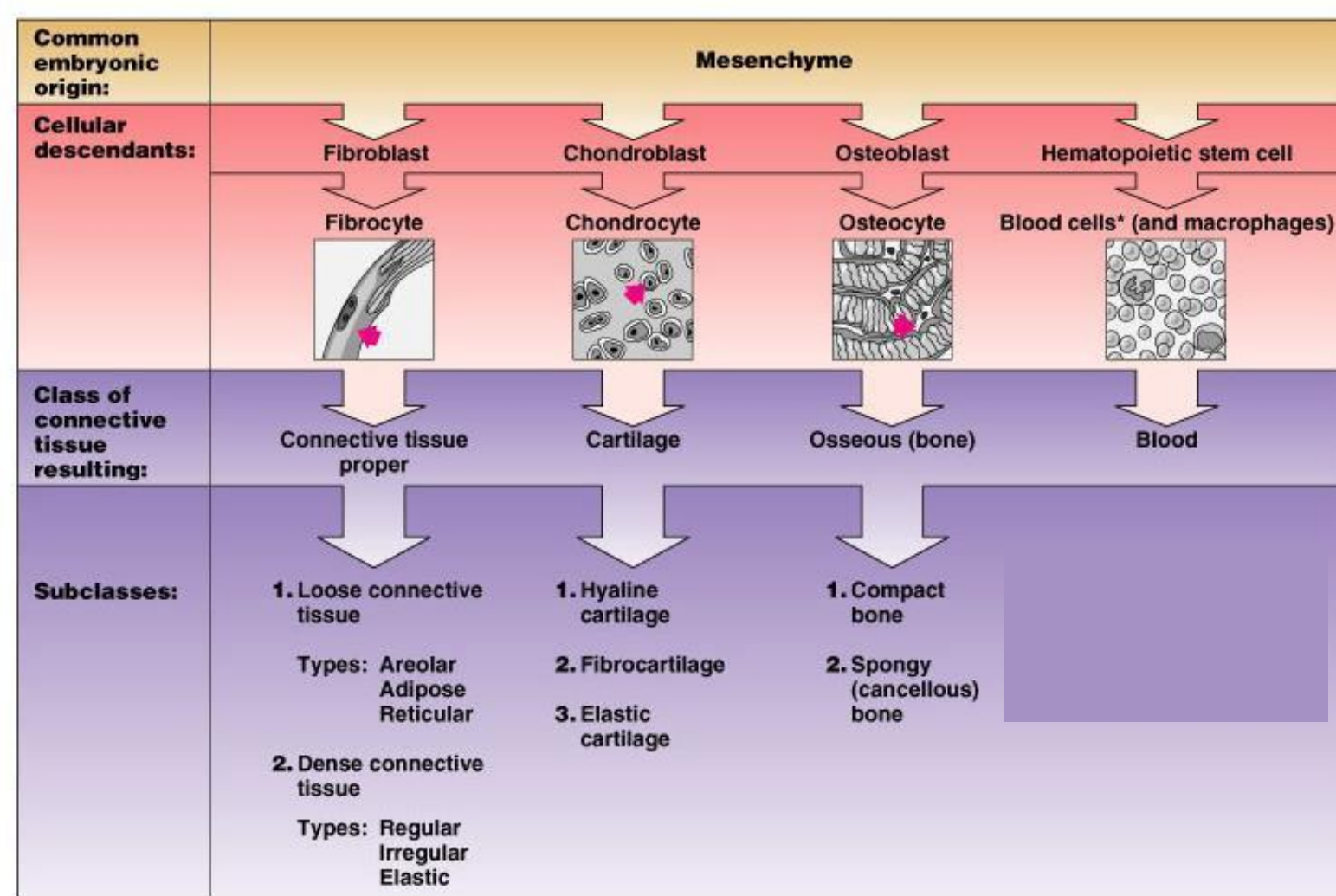


Histology of Cartilage

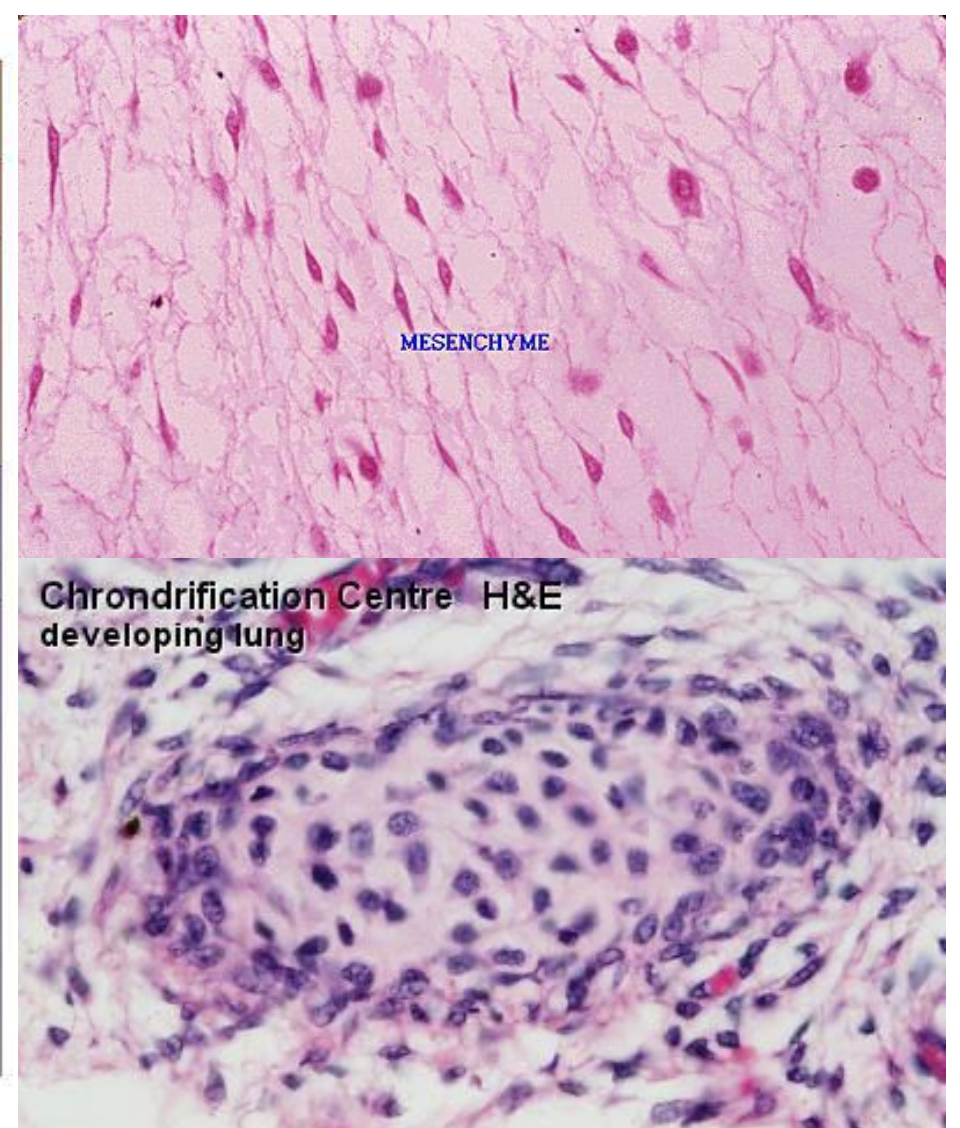
Learning objectives

- To know the types of cartilage and their location in body.
- To know the salient histological features of each type of cartilage.
- To be able to identify cartilage in a histology slide.

Classes of Connective Tissue



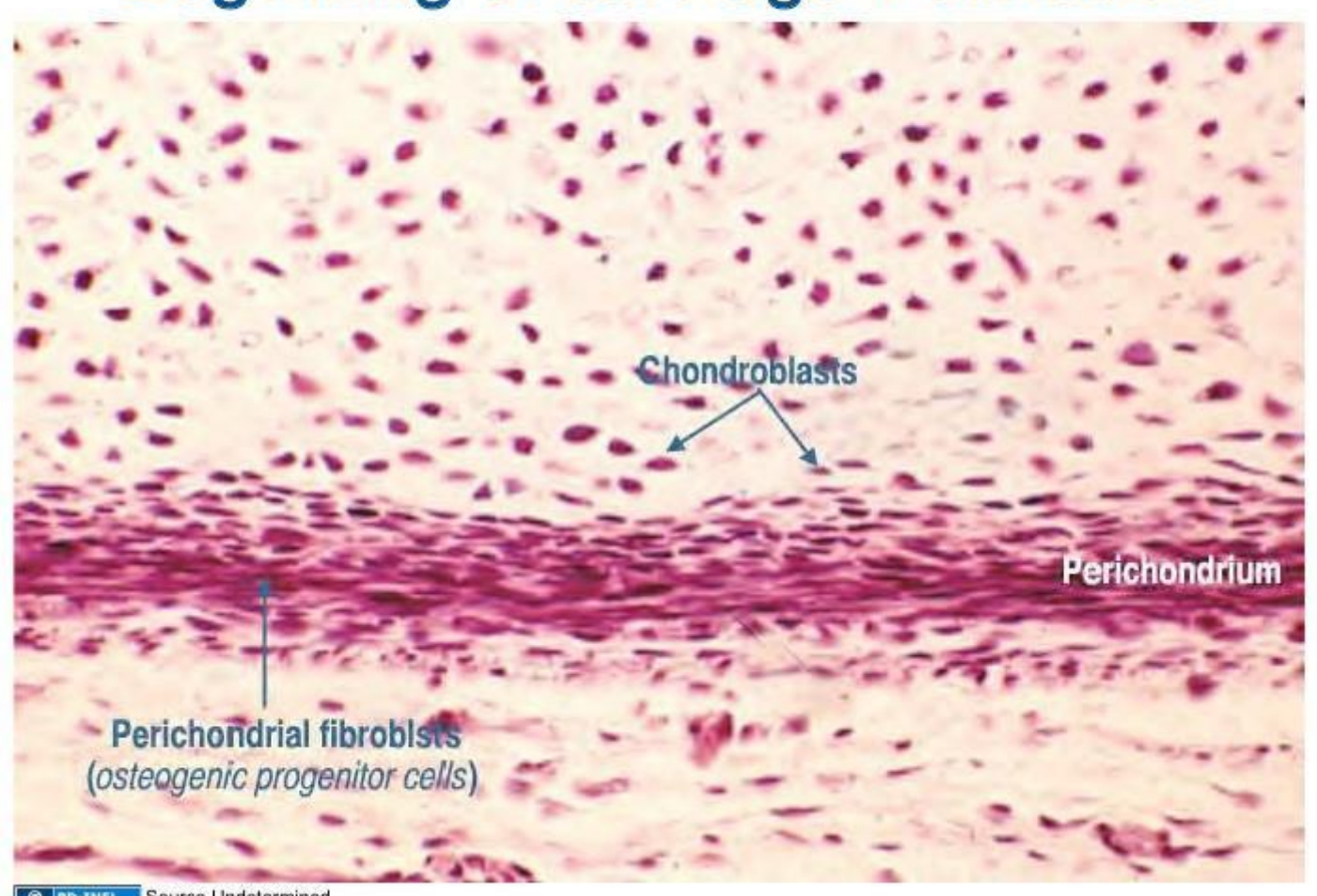
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Cartilage

- Specialised Connective tissue :
 - Cells
 - Extracellular components.
- No vessels or nerves.
- Perichondrium present

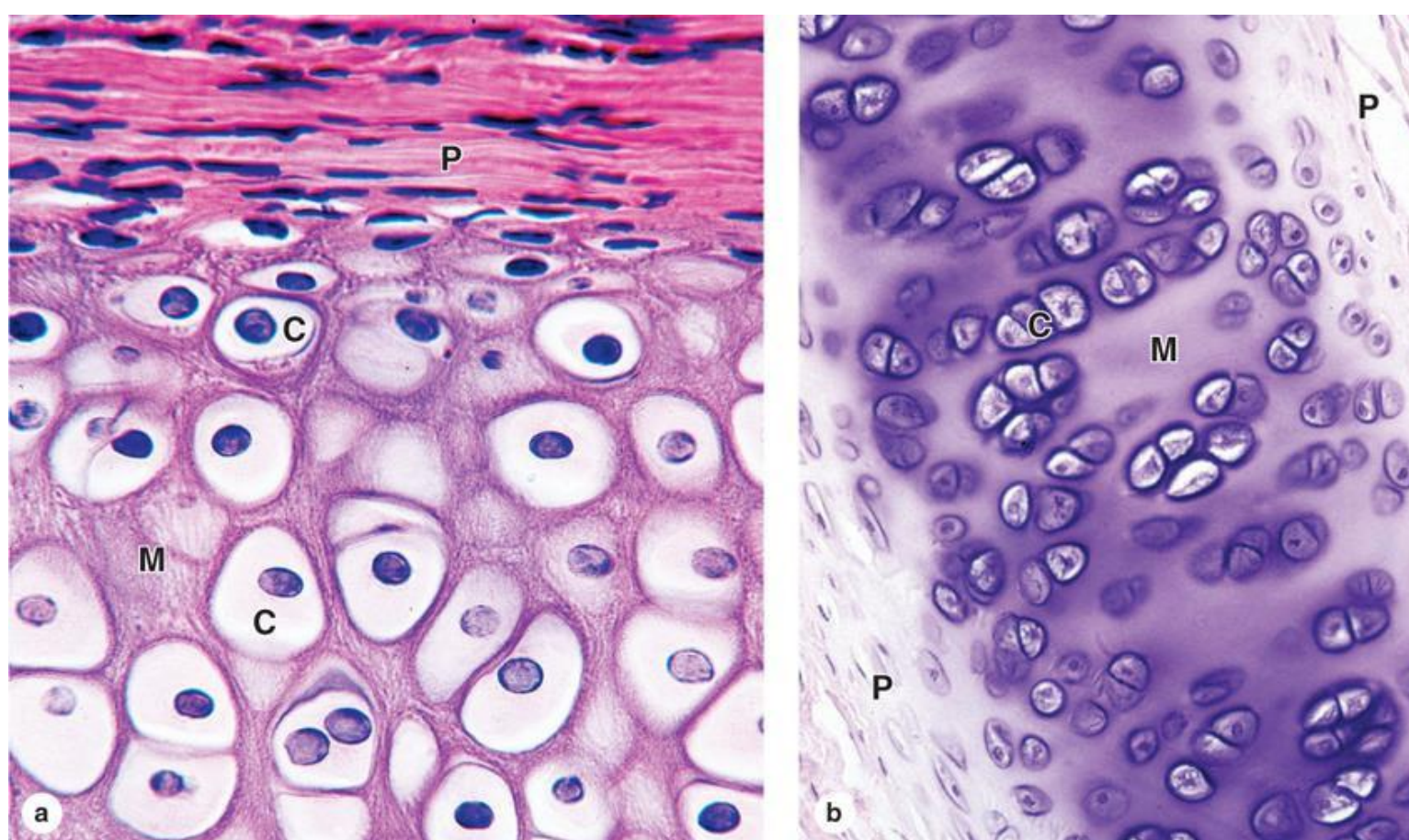
Beginning of cartilage Formation



Extracellular matrix

Ground substance

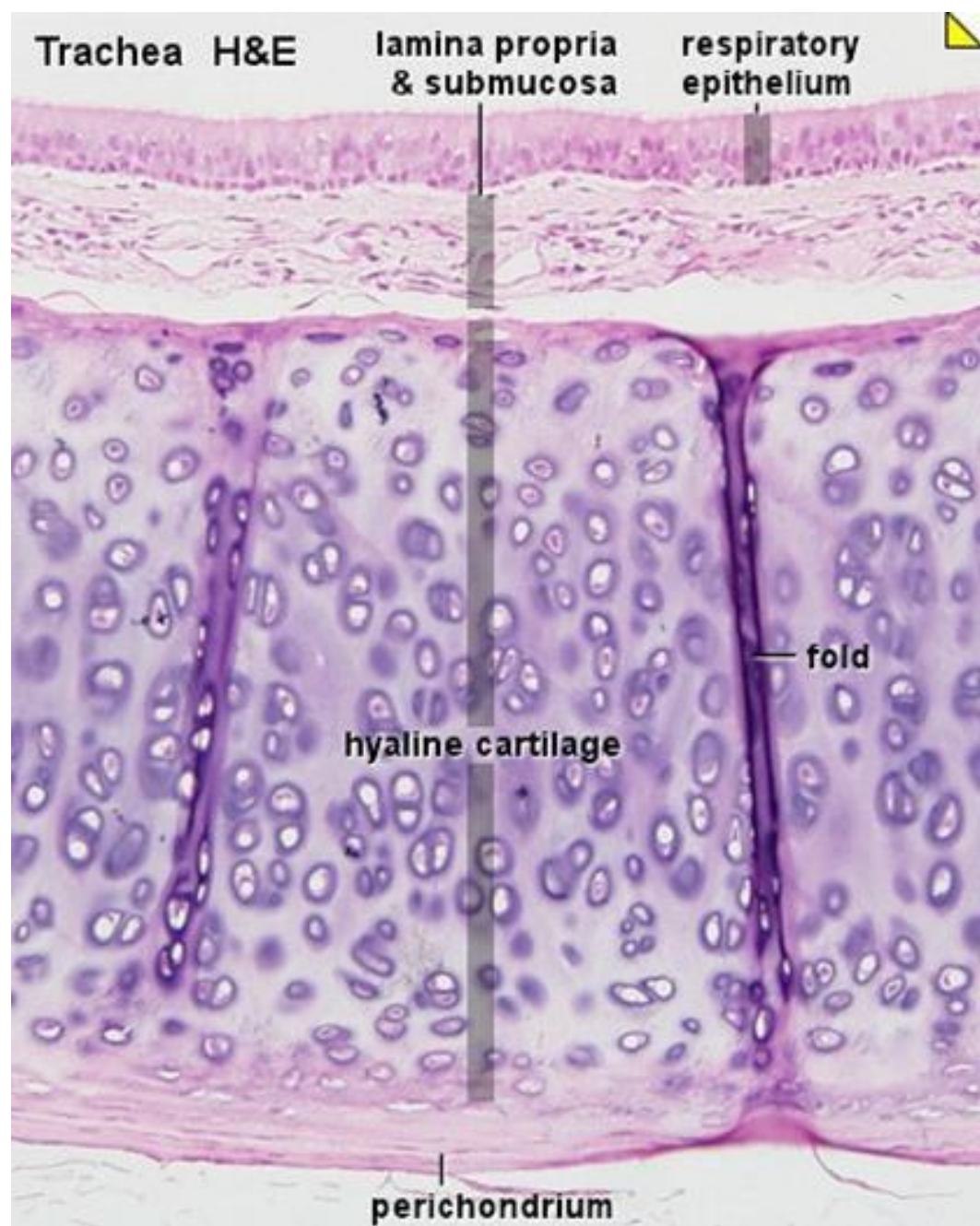
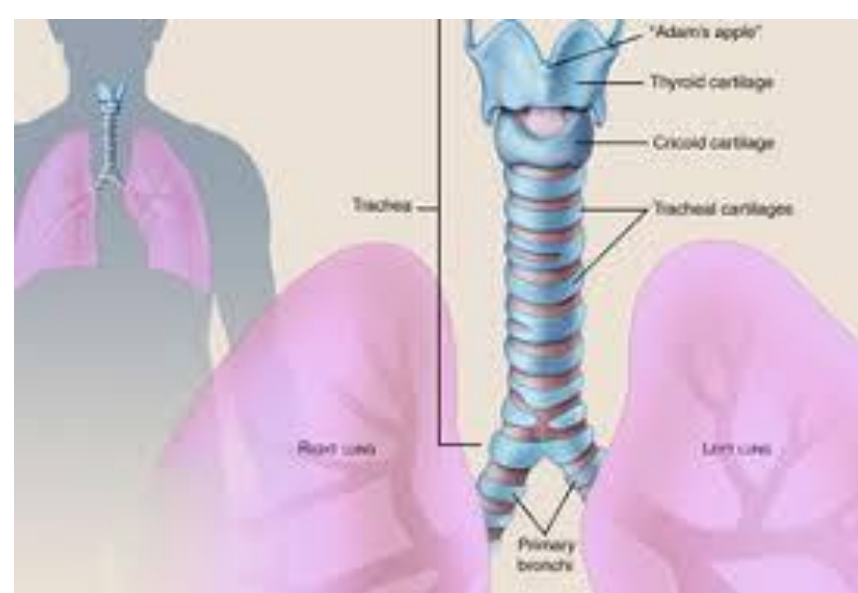
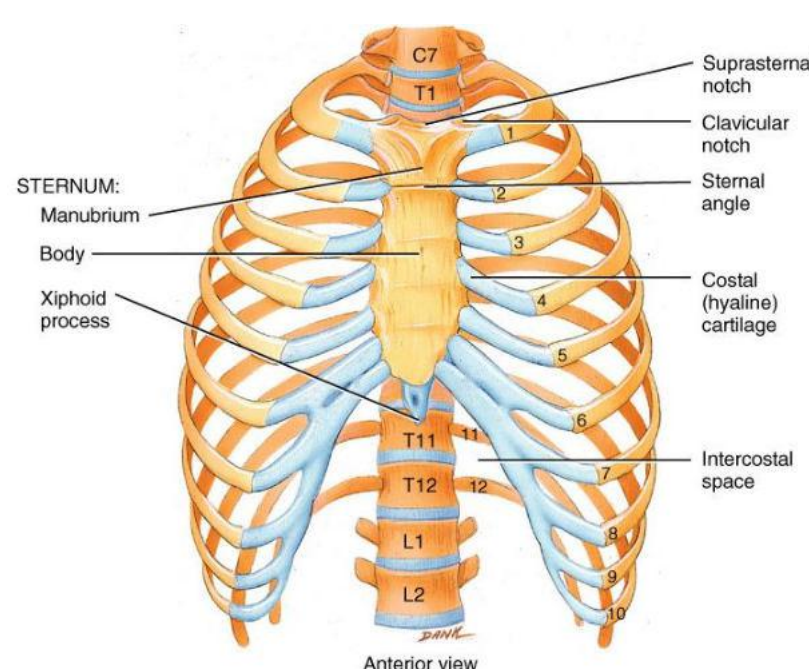
- Hyaluronan
- chondroitin sulfates
- keratan sulfate
- Tropocollagen
- Collagen type II



Source: Anthony L. Mescher: Junqueira's Basic Histology: Text and Atlas, 15th Edition. Copyright © McGraw-Hill Education. All rights reserved.

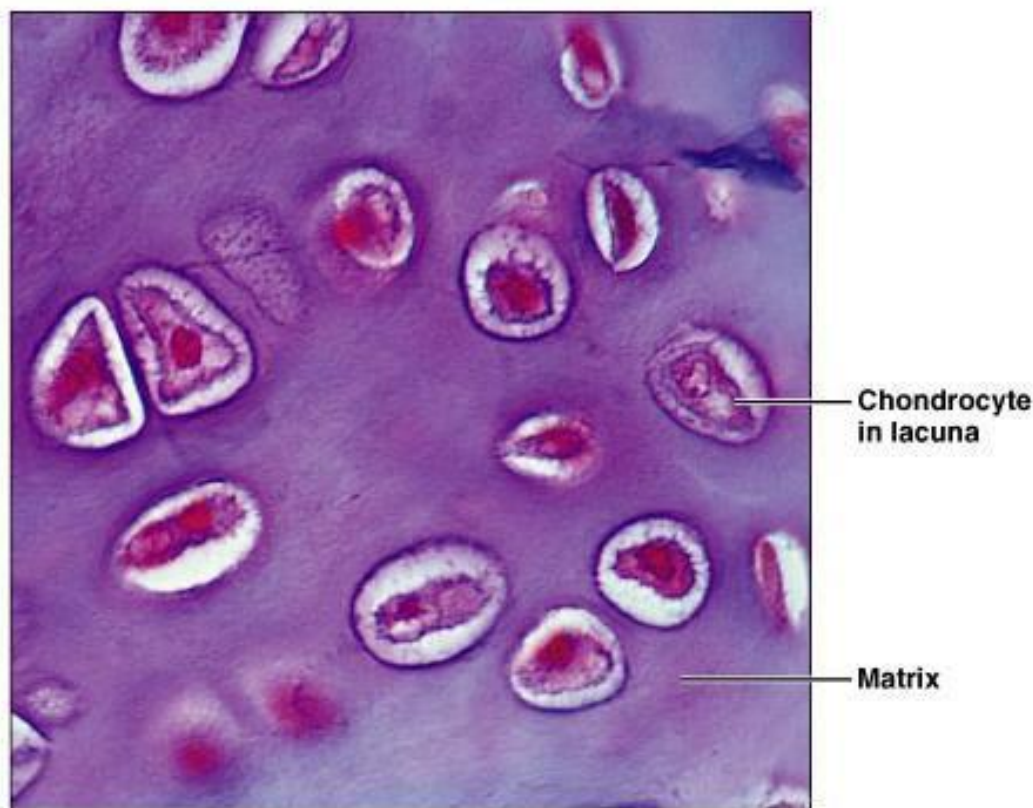
Types of cartilages

- Hyaline cartilage
- Elastic cartilage
- Fibrocartilage



Hyaline cartilage

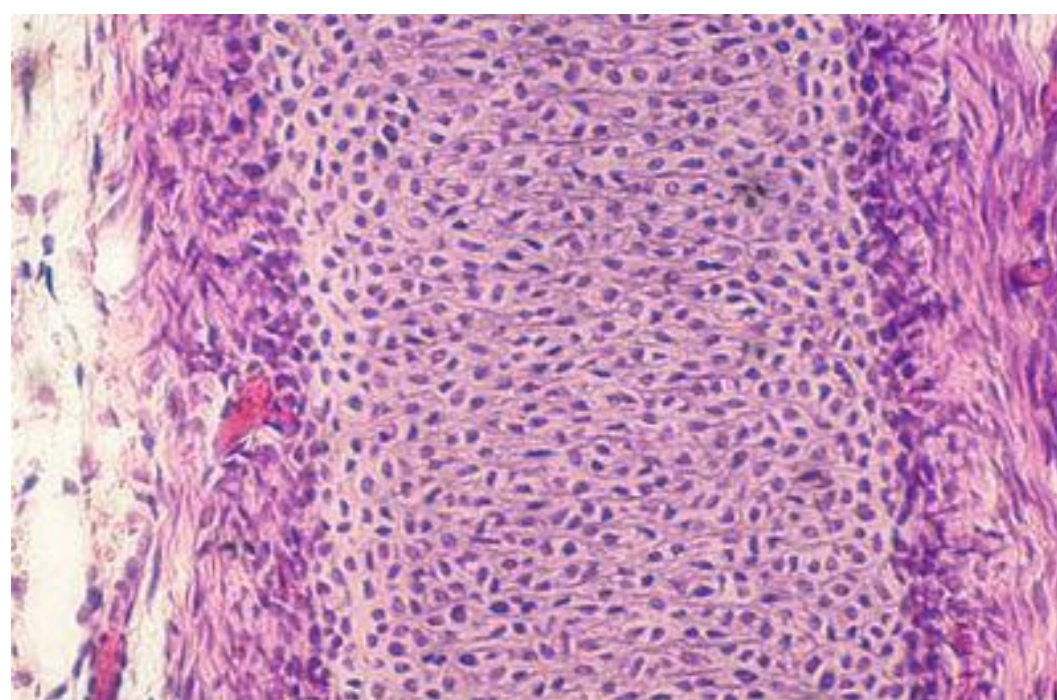
- Isogenous groups of chondrocytes
- Territorial matrix
- Interterritorial matrix



Elastic Cartilage

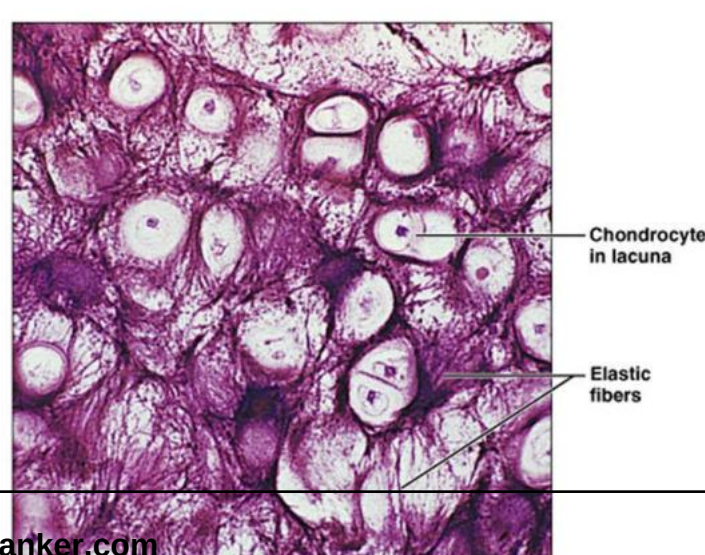
Located in

- epiglottis cartilage
- corniculate
- cuneiform cartilage
- external ear
- auditory tube.



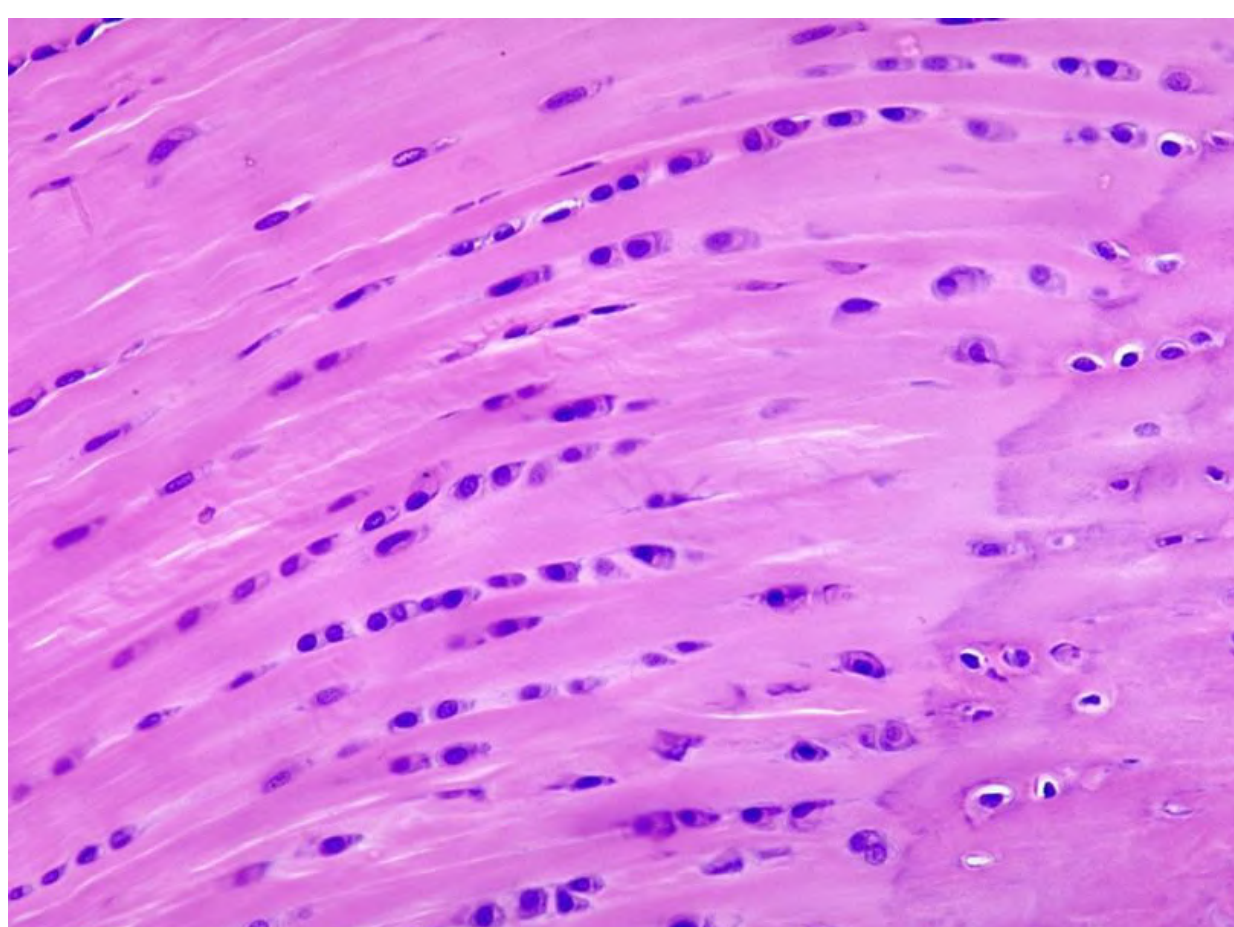
- Elastic fibres

- Maintains shape



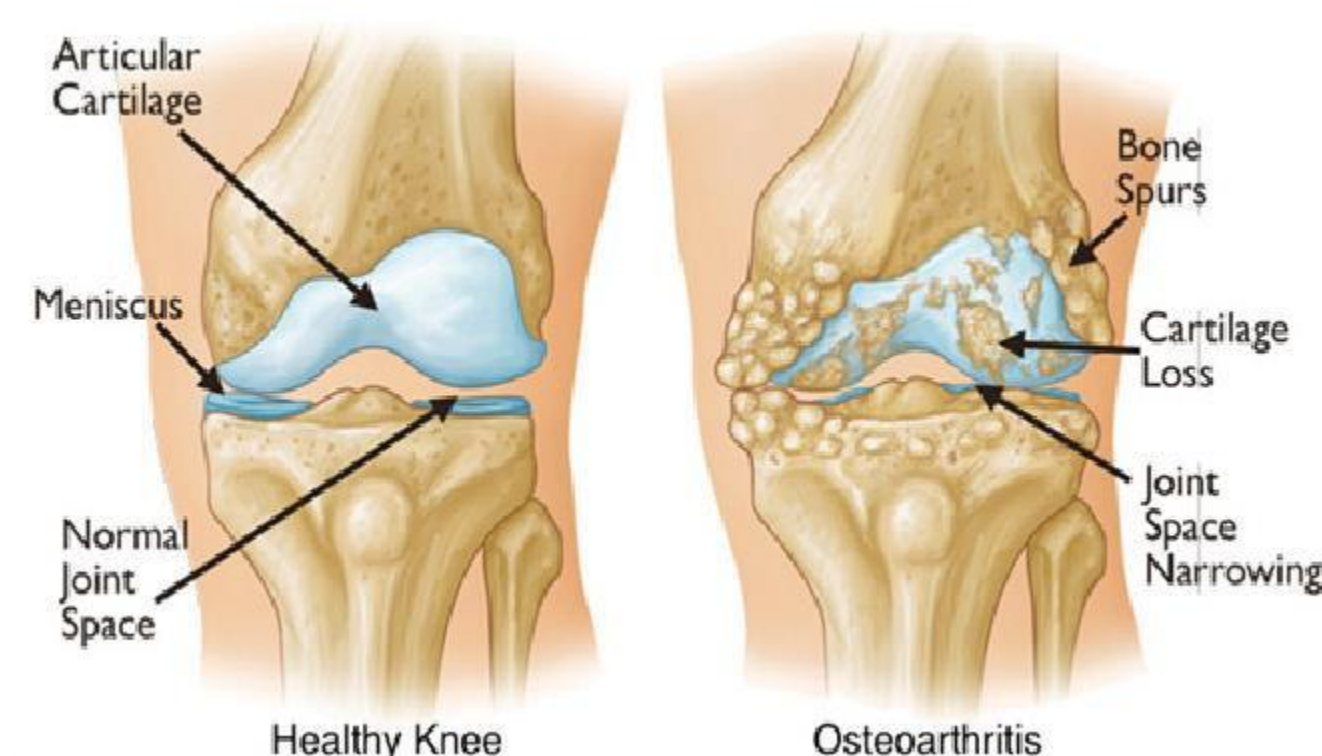
Fibrous Cartilage

- Transitional
- Chondrocytes lie in short rows.
- Perichondrium difficult to define.

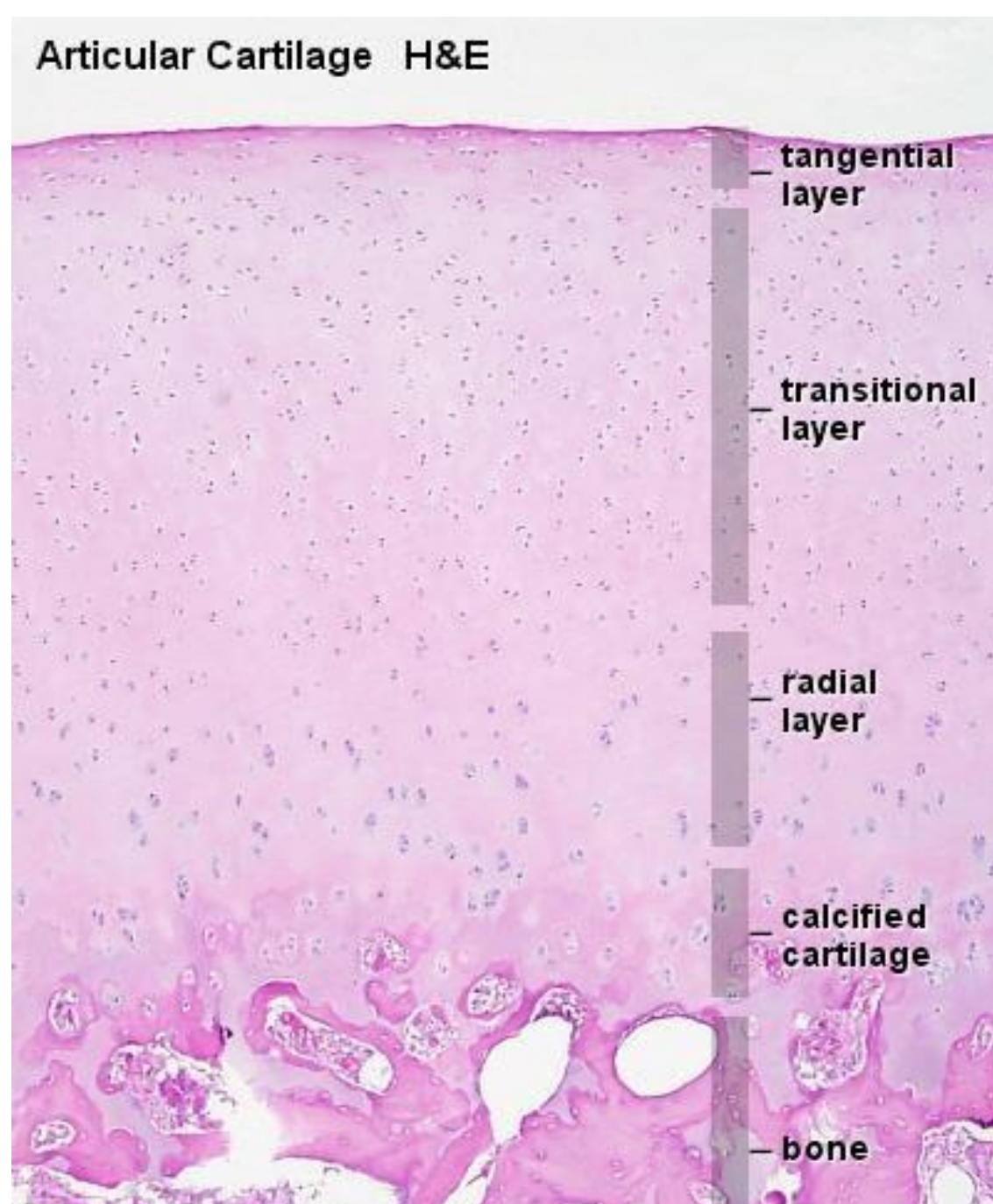


Articular Cartilage

- Specialised form of hyaline cartilage.
- Covers articulating ends of the bones
 - Lubrication
 - wear-proof
 - slightly compressible
 - exhibit very little friction.
- **No** perichondrium and is partly vascularized.

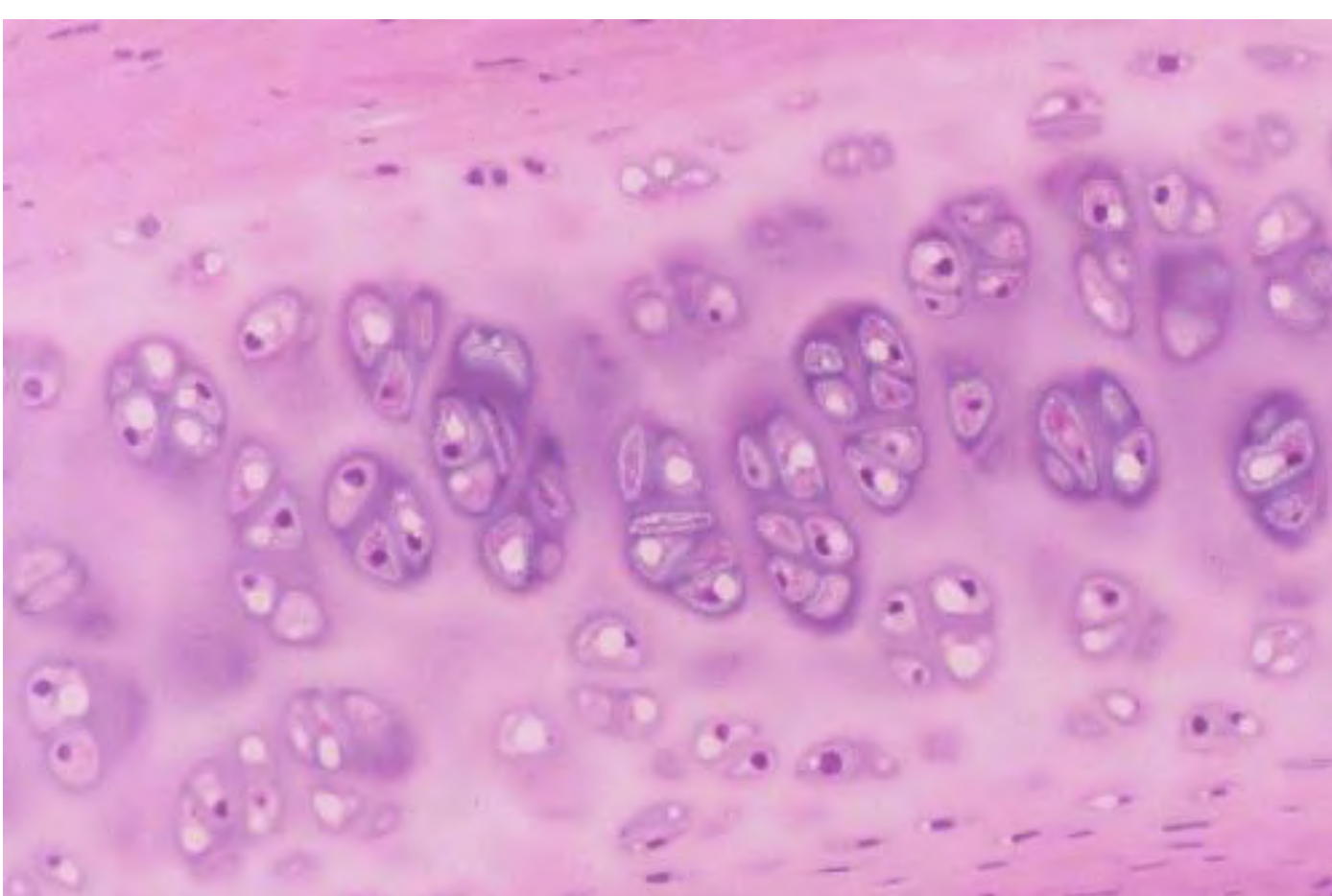


Layers



Growth in cartilages

- Appositional growth –
- Interstitial growth – isogenous cells nest



Identify

