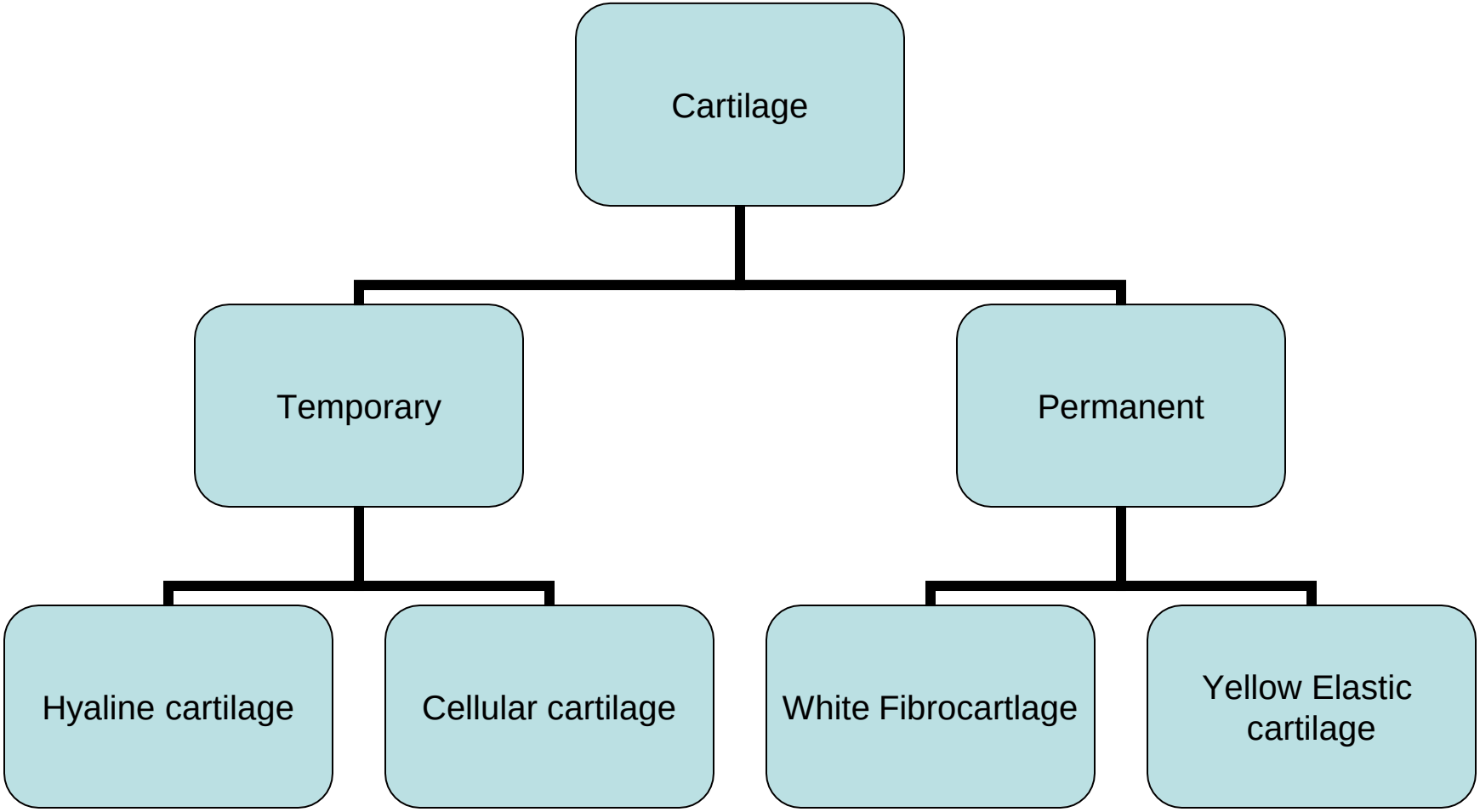
CARTILAGE

Specialized connective tissue , Sclerous tissue which forms generalized framework of the body. Cartilages appear in those areas where rigidity and elasticity are required.

Peculiarities

- It has solid matrix.
- Cartilage is avascular and non- nervous.
- Consistency is just like that of a plastic.
- Develops from mesenchyme.
- Grows by interstitial growth in young and by appositional growth in adult.
- Because of lower antigenicity of cartilaginous matrix and isolation of chondrocyte in separate lacunae, homogenous transplantation of cartilage is possible without rejection.

Classification



Structure

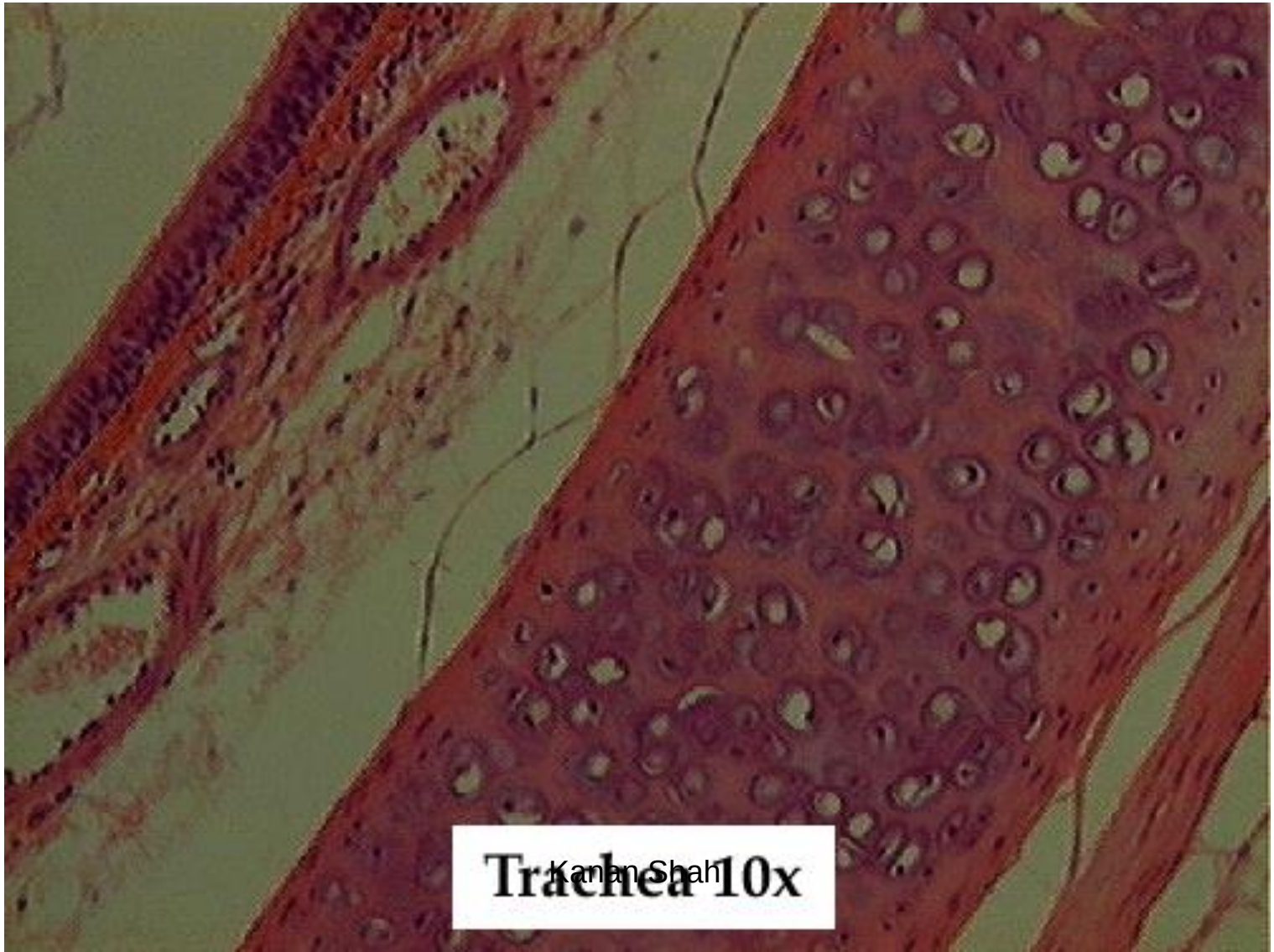
Cells --- CHONDRCYTE
CELL NEST
LACUNAE

Intercellular substance --- Collagen fibres
Chondroitin sulfate in hydrated gel bound to protein

HYALINE CARTILAGE

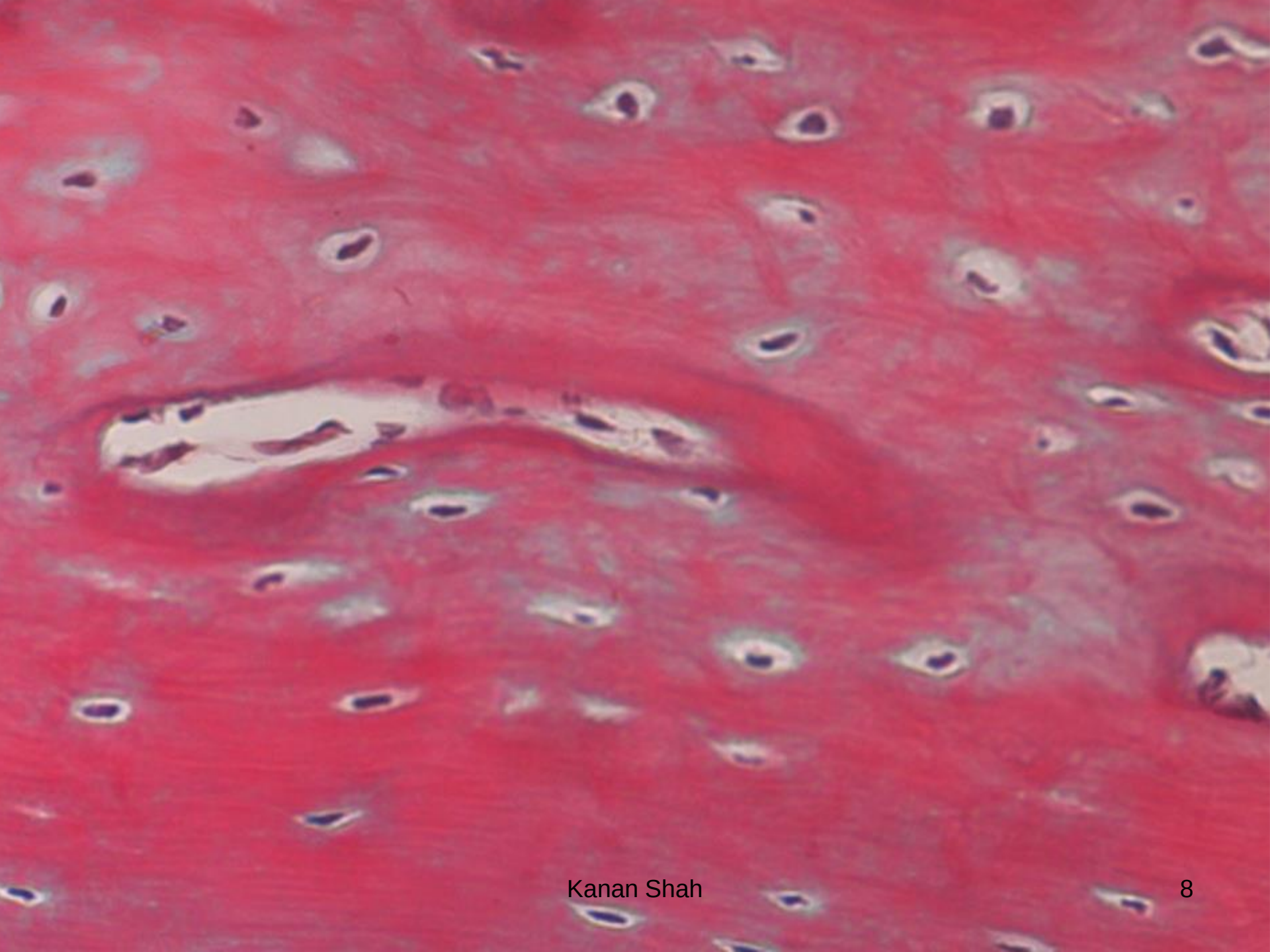
- Pearly white , glassy translucent in appearance.
- Covered by membrane called Perichondrium except articular cartilage.
- Cell nest is present.
- Matrix - Interstitial matrix
  - Territorial matrix
- Fibers are there but less in number they are arrange as fibrils and not fibers.
- Hyaline cartilage undergo calcification in later life.
- Resembles TYRE resist both compressive forces as well as tensile forces.
- E.g.. Costal cartilage, Trachea , large bronchi , Thyroid cartilage, Cricoid cartilage, Articular cartilage
- Articular cartilage : Cells arrange in layers. Not covered by Perichondrium. Never calcify.

HYALINE CARTILAGE



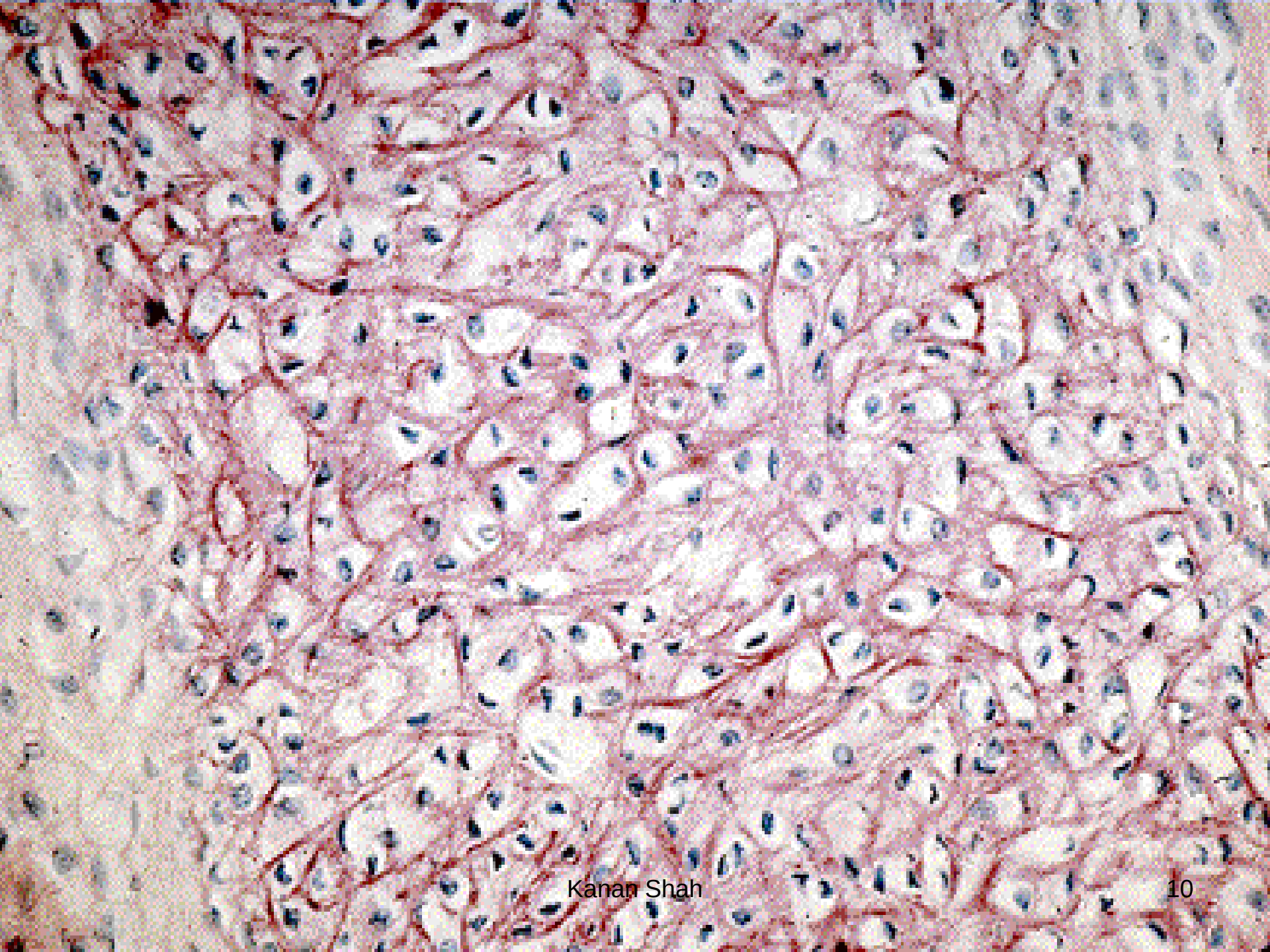
WHITE FIBROCARTILAGE

- Cells are arranged in rows.
- Bundles of collagen fibers present.
- Much like dense fibrous tissue.
- Perichondrium is absent.
- Never calcified.
- E.g. Intervertebral disc , Menisci, labrum , Articular disc.



YELLOW ELASTIC CARTILAGE

- Elastic fibers are present which branch and anastomose in all directions except around the cartilage cells.
- Cover by Perichondrium.
- Never calcify.
- E.g. Pinna of ear, epiglottis, corniculate, cuneiform and apex of arytenoid cartilage, auditory tube.



Aknowledgement

- Inderbir Singh’s Textbook of Human Histology
- Textbook of Histology- Atlas and Practical Guide by JP Gunasegaran
- Difiore’s Atlas of Histology
- Images from Google
- Histology Text & Atlas -Brijeshkumar