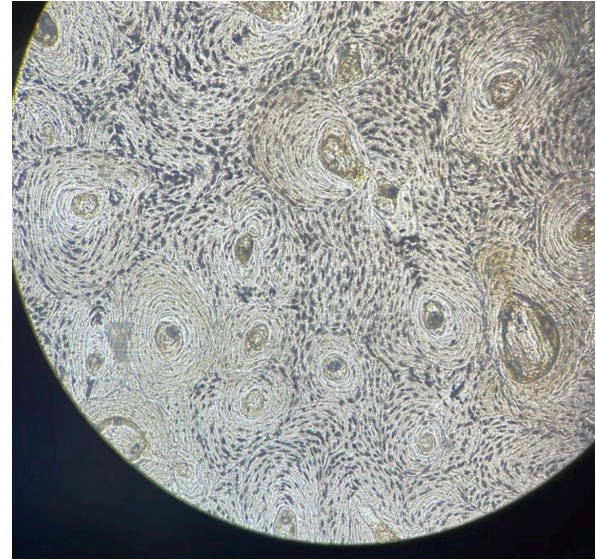


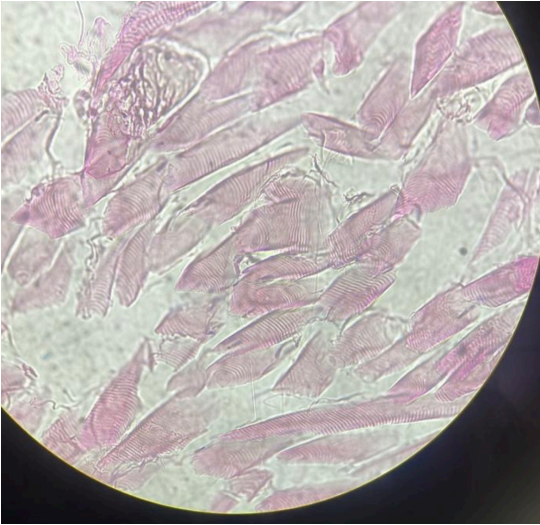
Compact Bone TS

- 3 types of lamellae
 - Circumferential
 - Interstitial
 - Concentric
- Haversian canal present which is occupied by
 - Blood vessel
 - Nerve fibre
 - Some cells
- Periosteum & endosteum +



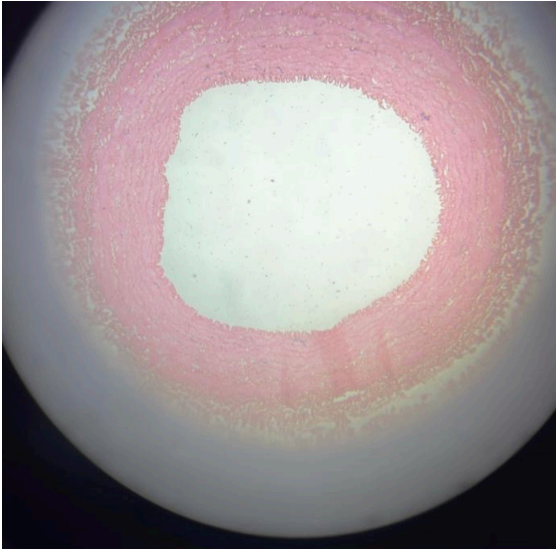
Skeletal muscle

- Long, parallel, unbranched and multi nucleated fibers
- Flat nuclei arranged at periphery
- Fine transverse striations consisting of dark and light bands



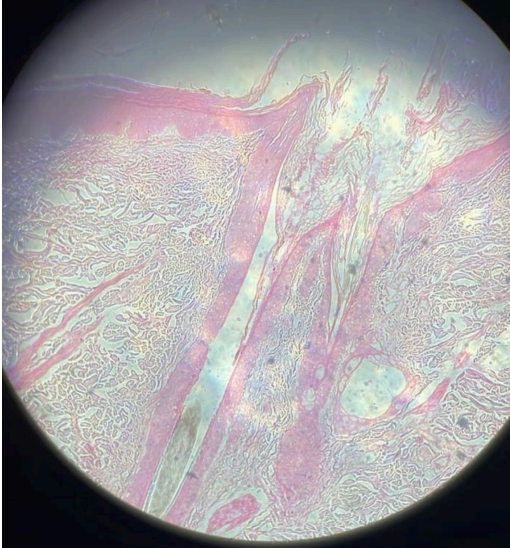
Medium sized artery

- Tunica intima thinner than elastic artery
- Prominent internal elastic lamina
- Tunica media composed almost entirely of vascular smooth muscle with little elastic material



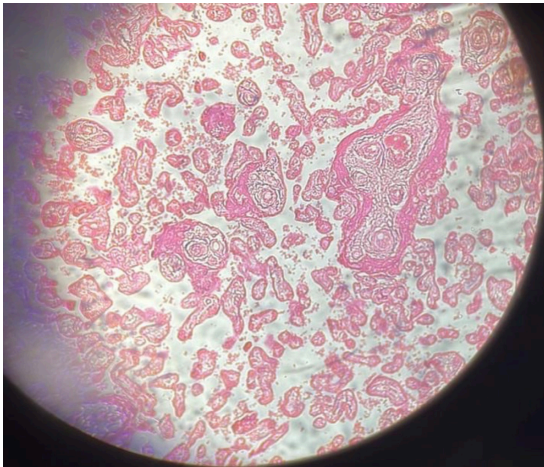
Thin skin

- Presence of thin epidermis due to thin stratum corneum
- Hair follicles, sweat glands, sebaceous glands + in dermis
- Arrectores pilorum muscle +



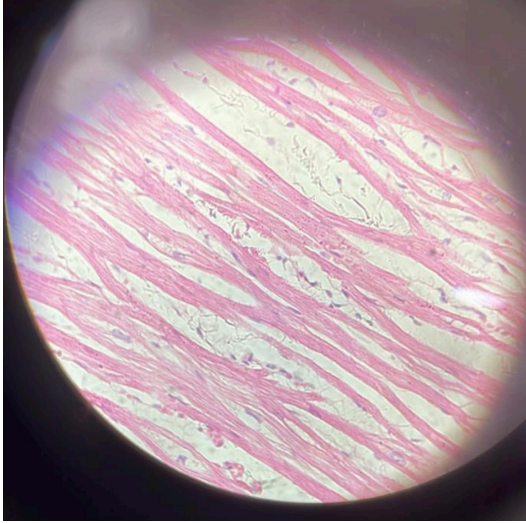
Placenta

- Sections of chorionic villi scattered in intervillous space & are filled with maternal blood
- Hofbauer cells +
- Syncytiotrophoblast & endothelium of blood vessel form placental barrier



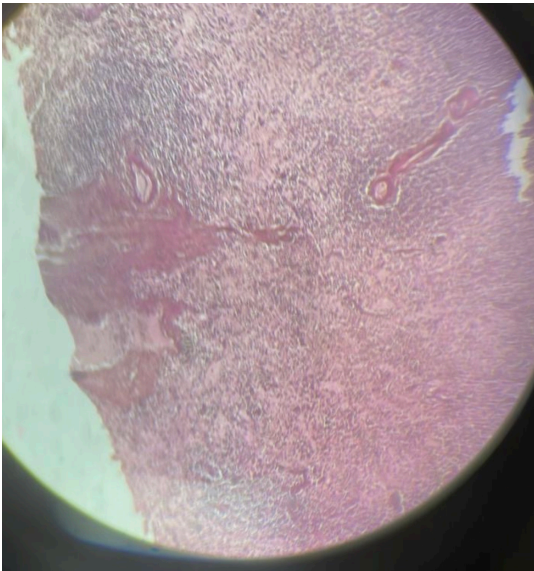
Cardiac muscle

- Branching and anastomosing fibers with light striations
- Centrally located nuclei
- Intercalated discs + at regular intervals which interconnects adjacent myocytes



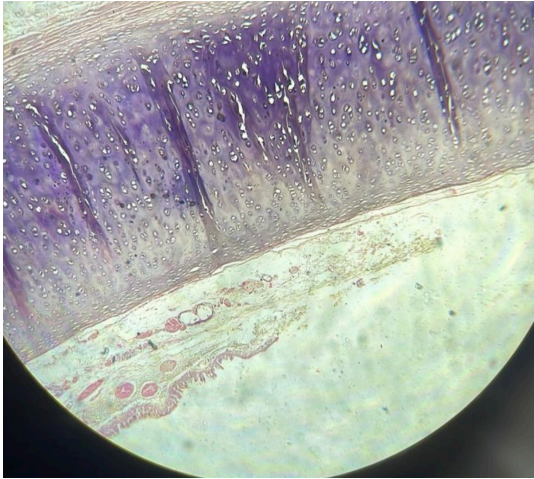
Spleen

- White pulp & red pulp +
- Thick capsule with trabeculae extending to organ
- Within white pulp, central artery branch of splenic artery eccentrically placed



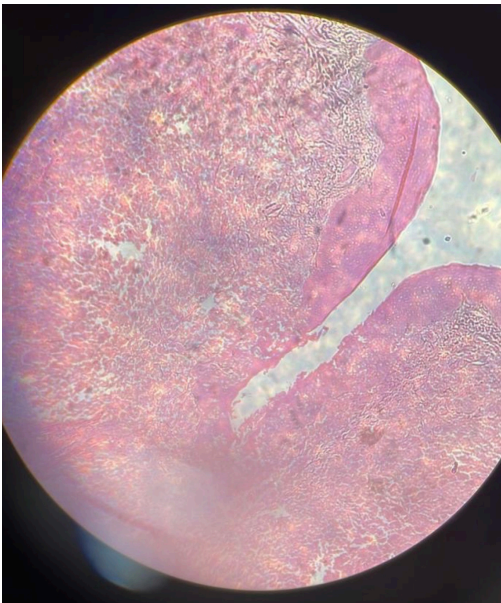
Hyaline cartilage

- Perichondrium + with outer fibrous and inner cellular layer
- Chondrocytes + in cell nest or lacunae
- Size of chondrocyte increases from periphery to centre
- 2 types of matrix- territorial & intercalated



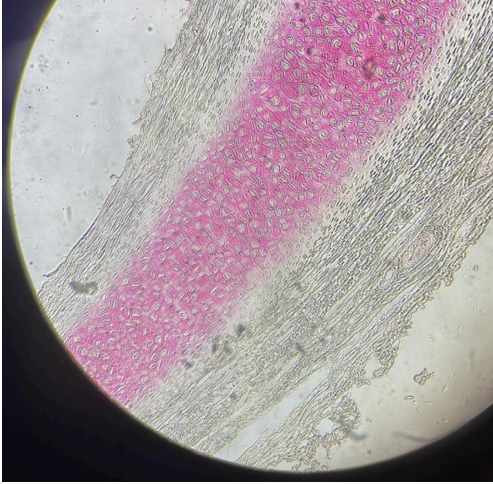
Tonsil

- Covered by stratified squamous non keratinized epithelium
- At places, epithelium dips into substance of tonsil as deep crypts
- Sub epithelial connective tissue contains lymphoid follicles with lightly stained germinal centre



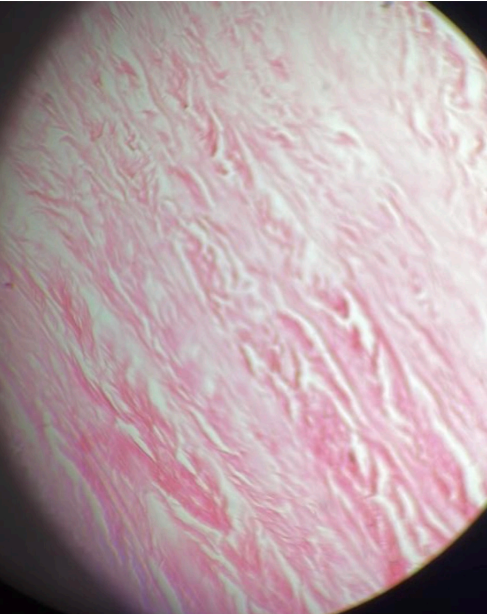
Elastic cartilage

- Perichondrium present with outer fibrous and inner cellular layers
- Thick elastic fibers form ranched network in matrix
- Chondrocytes + in lacunae surrounded by bundles of elastic fibers



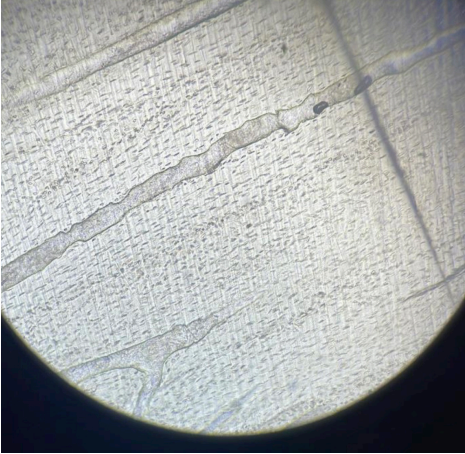
White fibrous cartilage

- Collagen fibers arranged in wavy bundle
- Chondrocytes arranged in linear rows between collagen bundles
- Perichondrium absent



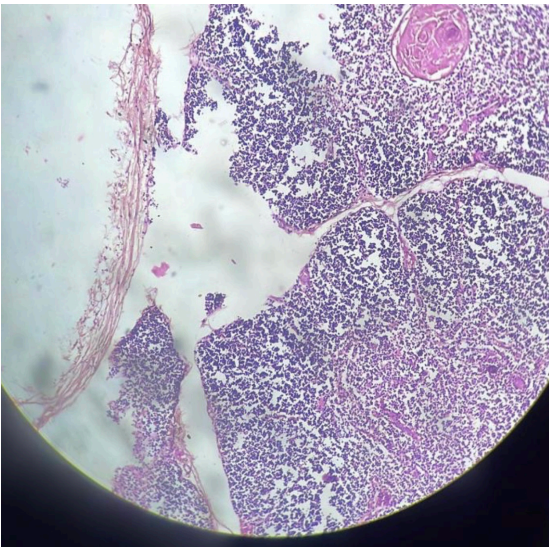
Compact Bone LS

- Haversian canal which run along length of bone
- Volkmann's canal interconnecting adjacent Haversian canals
- Osteocytes + in lacunae



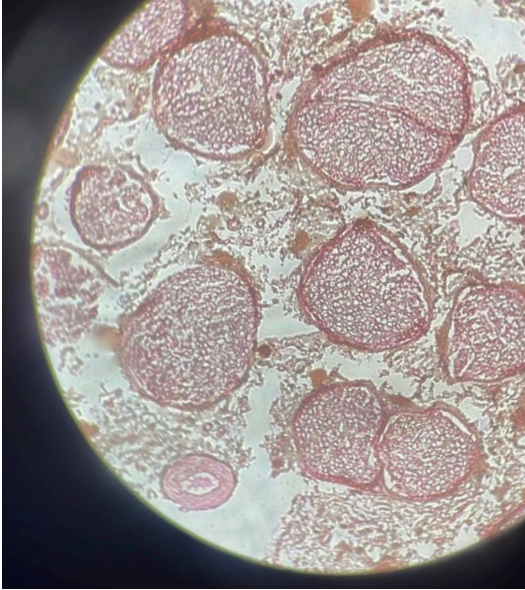
Thymus

- Hassall's corpuscle +
 - Thin connective tissue with trabeculae extending into parenchyma which divides substance into thymic lobules
 - Each lobule has
- Cortex- densely packed mature lymphocytes
Medulla- loosely packed immature lymphocytes



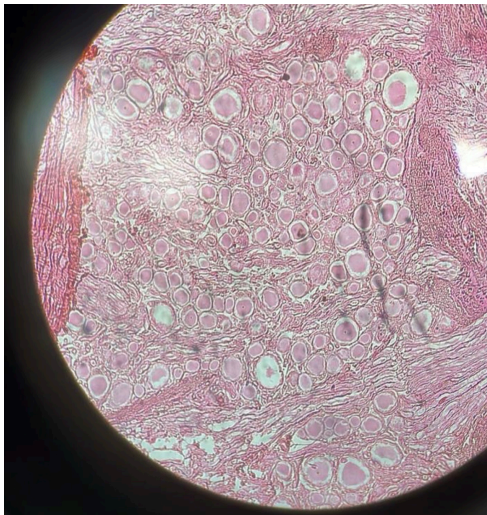
Peripheral nerve

- Fascicles bound together in a collagenous sheath called epineurium enclosing blood vessels
- Each fascicle is covered by perineurium which is composed of collagen fibers & blood vessels
- Individual nerve fibers along with Schwann cells are enclosed in endoneurium



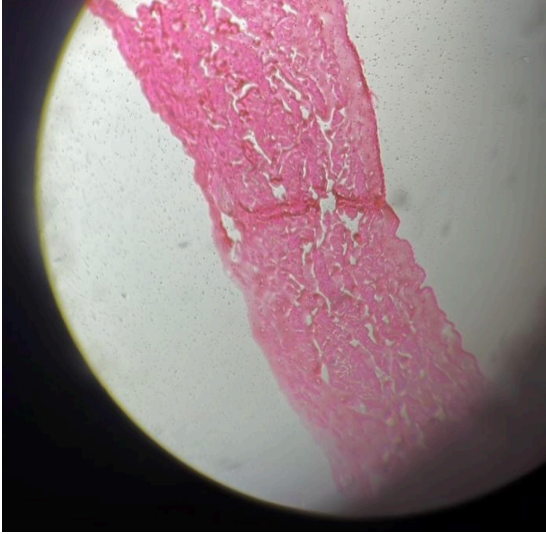
Spinal Ganglion

- Large round pseudo-unipolar neurons with central nucleus
- Groups of cells separated by myelinated nerve fibre
- Neurons encircled by satellite cells



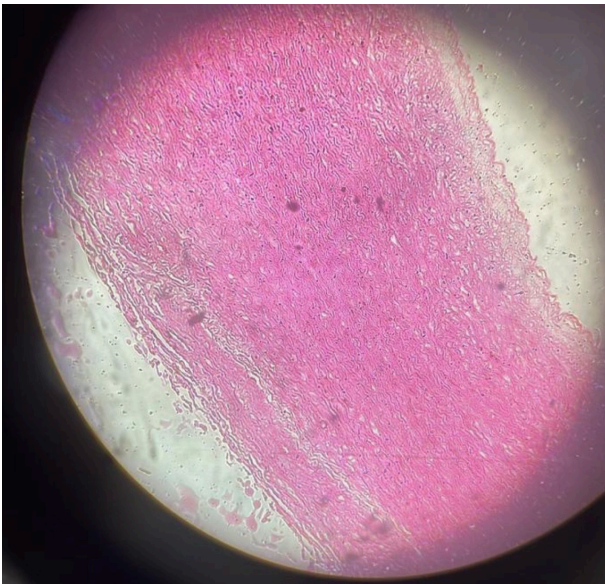
Large vein/ Inferior vena cava

- Large lumen & thin wall
- T.adventitia prominent, intima & media poorly developed
- T.adventitia relatively thick & contains longitudinal bundles of smooth muscle fibers



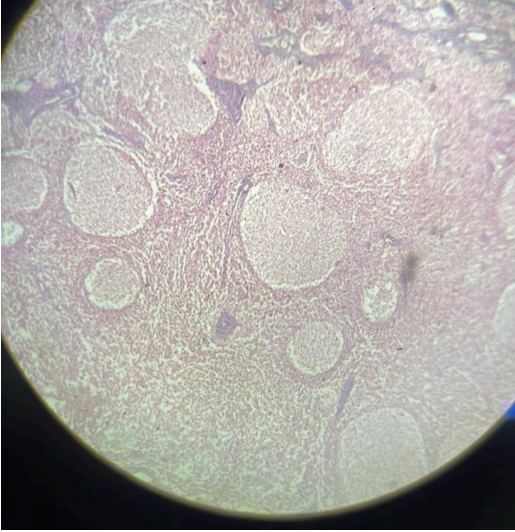
Large/ Elastic artery (Aorta)

- Tunica adventitia containing collagen fibers with several elastic fibers
- Internal elastic laminated in tunica intima is indistinguishable from elastic laminated of tunica media (internal elastic laminated not conspicuous)
- T.media consists elastic fibers with few smooth muscle in between



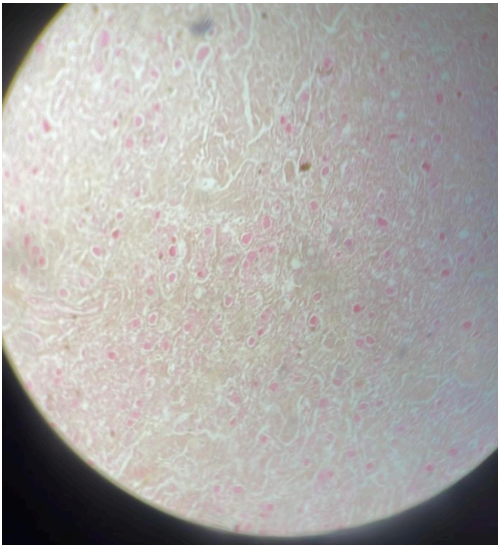
Lymph node

- Thin capsule which forms trabeculae
- Substance divided into 3 regions ; cortex, paracortex & medulla
- Cortex has densely packed lymphatic follicles
- Medulla consists of medullary cords and medullary sinuses
- Paracortex devoid of nodules



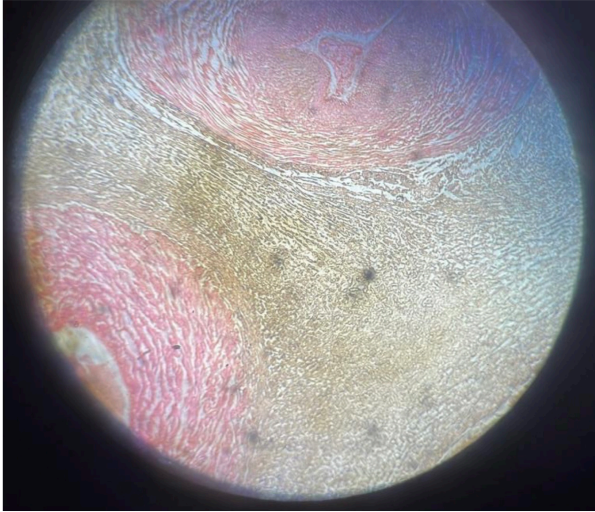
Autonomic ganglion

- Scattered multipolar cells with eccentric nucleus
- Satellite cells- less prominent
- Thin non myelinated fibers seen



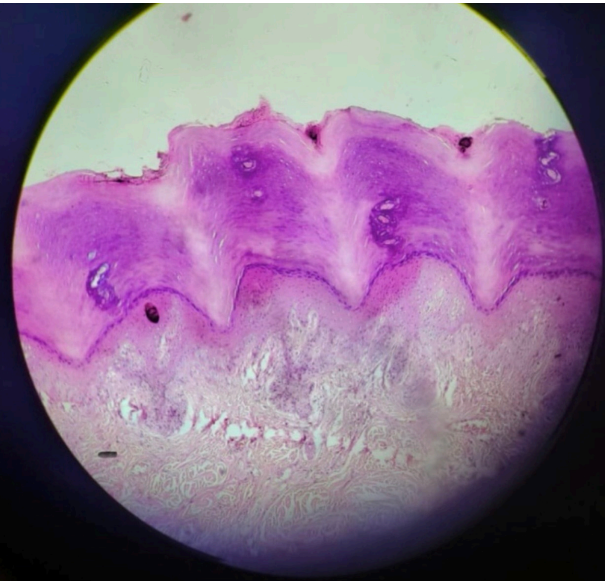
Umbilical cord

- Enclosed by single cell layered amnion (cuboidal epithelium)
- Filled with gelatinous/ mucous connective tissue called Wharton's jelly
- Vein; large collapsed lumen with thin wall
- Arteries; small lumen with thick wall



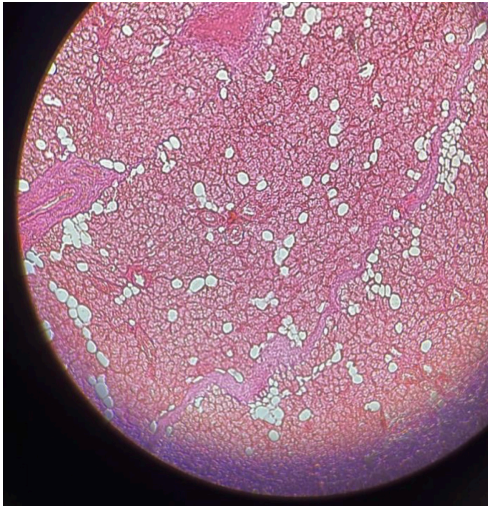
Thick skin

- Thick epidermis due to thick stratum corneum
- Sweat glands seen in dermis but less in number than thin skin
- Hair follicles & sebaceous glands ab in dermis



Serous salivary gland

- Interlobar connective tissue septa from capsule divides it into lobes & lobules
- Each lobule has only serous acini (Pyramidal shaped, with darkly staining basophilic zymogen granules in apex and spherical nuclei at base)
- Numerous adipose tissue in lobules.

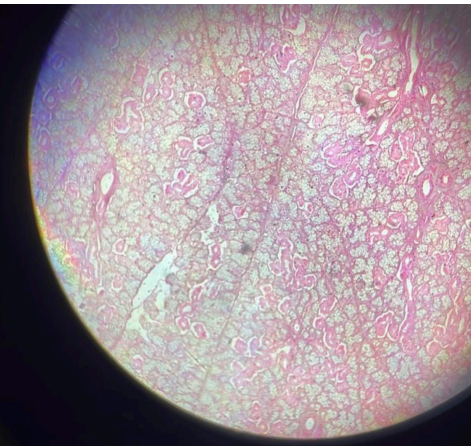


Mixed salivary gland

- Contains both serous and mucous alveoli.

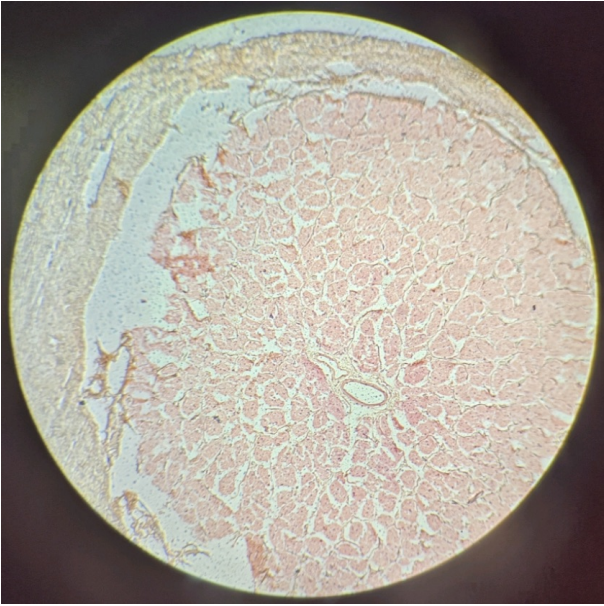
Feature	Serous Alveoli	Mucous Cells
Size	Smaller	Larger
Appearance	Darker (due to zymogen granules)	Clear (due to mucoid material)
Nuclei	Central spherical nuclei	Crescentic basal nuclei
Arrangement	Usually arranged in rounded acini	Usually arranged in tubular secretory elements

- Presence of duct system between acini(alveoli)



Optic nerve

- Covered by dura mater, arachnoid mater and pia mater
- Pial septa divides nerve into bundles/fascicles and guide blood vessels to the nerve fibres.
- Central artery and vein present at the centre.



Stratified squamous

Non Keratinized

- Basal cells: columnar
- Middle cells: polyheadral
- Superficial cells progressively flattened and scale like.
- **Sites:** oesophagus, Tonsil, Cornea, mouth, tongue and vagina

Keratinized

- Surface layer has keratin fibers
- No cellular outline or nuclei seen.
- **Site:** Epidermis of skin
- **Functions:** Protective

Keratin prevents dehydration of underlying tissue.

Transitional epithelium

- Five to six layers thick
- Cells on the superficial layer are dome/ umbrella shaped
- Basal and intermediate cells are polygonal and pear shaped
- **Sites:**

Urinary bladder (Epithelium can be stretched without damage; become thinner, cells flattened/ rounded)

Ureter

Renal pelvis

Calyces

Proximal part of urethra

Pseudo stratified columnar epithelium

- Cells rest on basal lamina and only some reach upto free surface of epithelium
- Nuclei lie at different levels and form two to three rows
- Some have hair like projections(**Ciliated**) : Trachea and large bronchi, epididymis
- Non ciliated: Auditory tube, ductus deferens, male urethra
- **Functions:**

Tall cells- Secretory

Short basal cells- Replace tall cells

Cilia - Clear mucous

Stereo cilia- Absorption