ALL Lecture of practical OSPE (MSK Block)

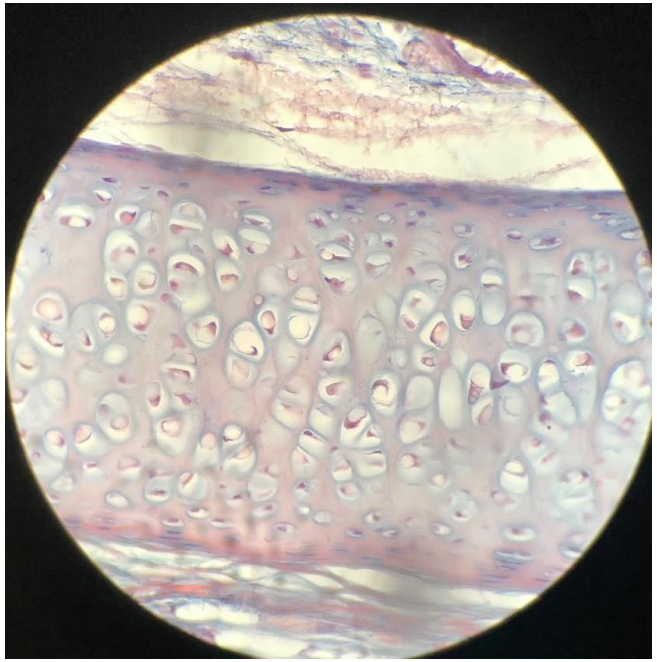
*Male

King saud university
Histology team med438

CARTILAGE & BONE

NOTE : if he ask about features you can not write the site or example

Hyaline Cartilage



Q1- Identify the structure?

Hyaline Cartilage

Features :

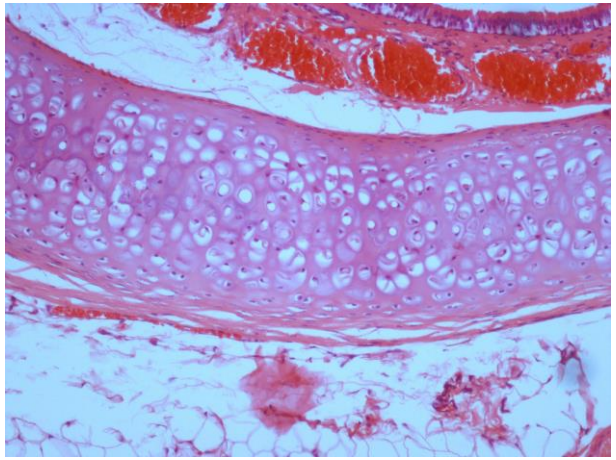
- Perichondrium.
- chondroblasts
- chondrocytes (found in lacunae).

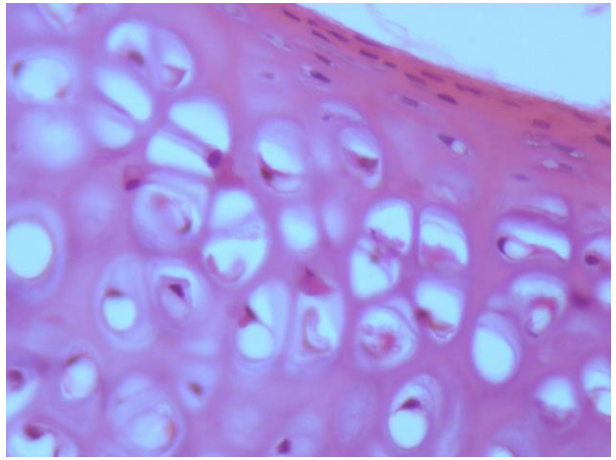
Matrix :

- Homogeneous and Basophilic .
- collagen fibers type II.

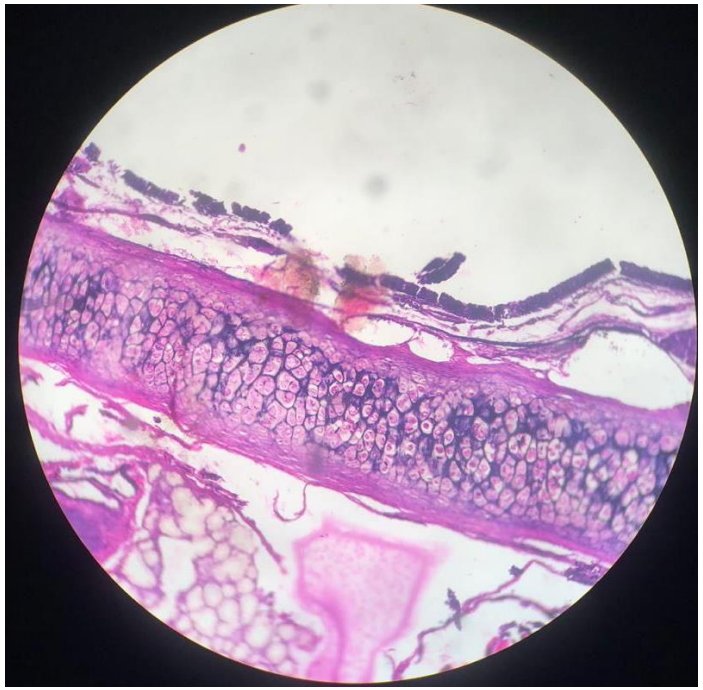
Q2- mention the organs (distribution, site & example)?

- Articular surfaces of bones.
- Foetal (fetal) skeleton.
- Costal cartilage.
- Nose , Trachea & Bronchi.





Elastic Cartilage



Q1- Identify the structure?

Elastic Cartilage

Features :

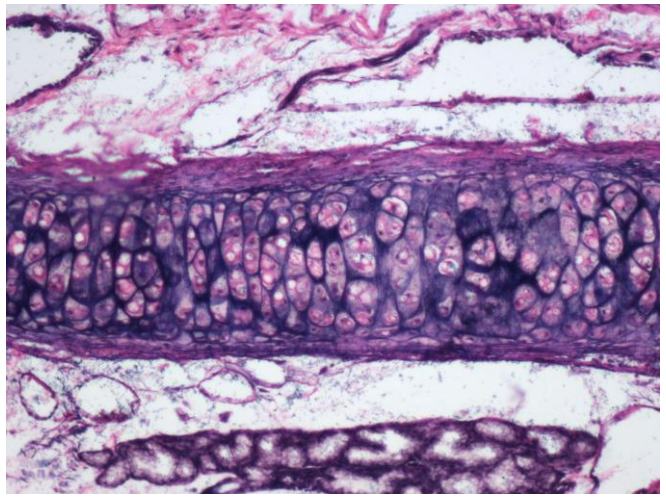
- Perichondrium
- Chondrocytes

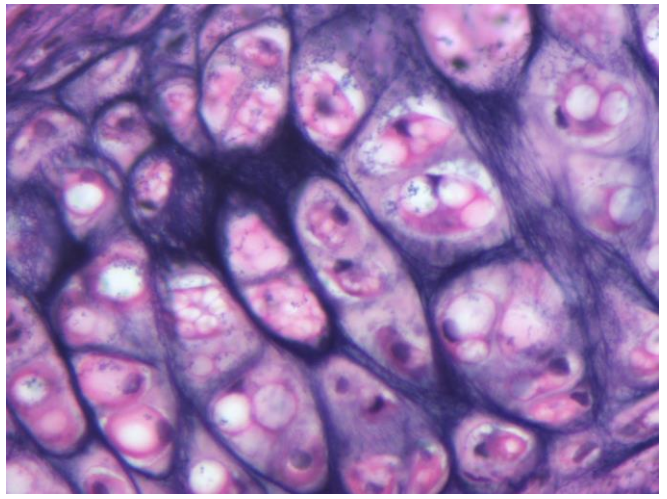
Matrix :

- Contains elastic fibers
- collagen fibers type II.

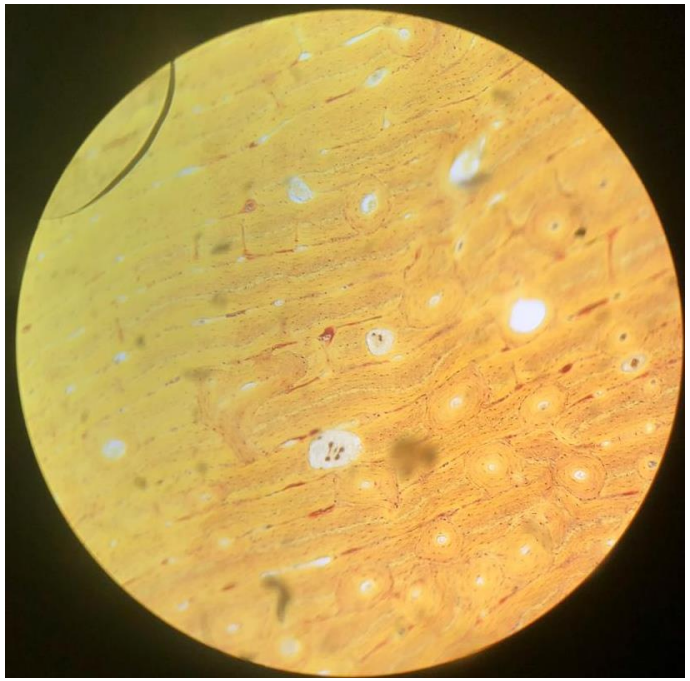
Q2- mention the organs (distribution, site & example)?

- External ear
- Epiglottis





Compact bone (cortical)



Q1- Identify the structure?

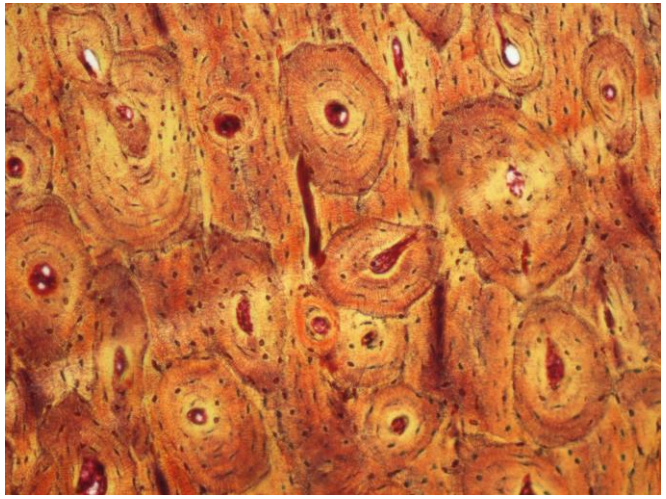
Compact bone (cortical)

Features:

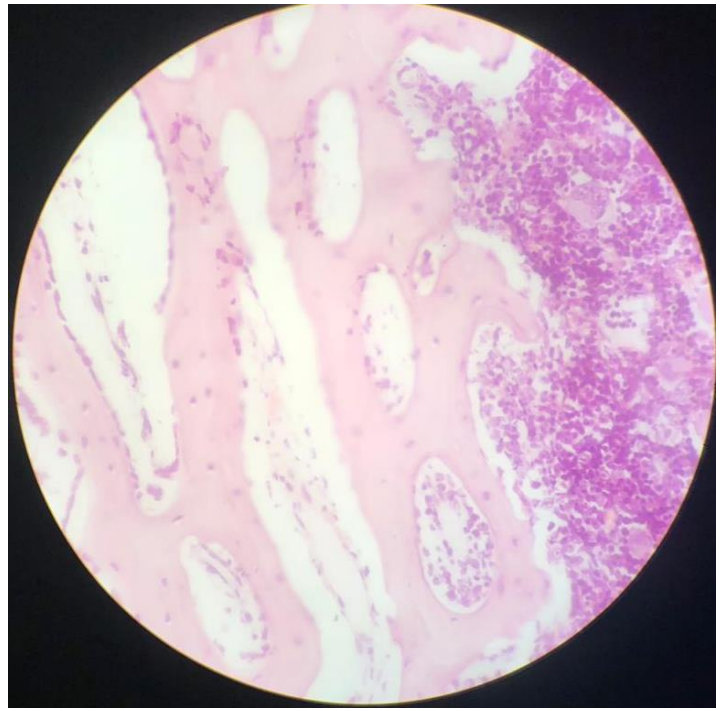
- Bone Lamellae.
- Haversian systems.
- Osteocyte inside lacunae that have canaliculi.

Q2- mention the organs (distribution, site & example)?

- Diaphysis of long bones.



Spongy (Cancellous) Bone



Q1- Identify the structure?

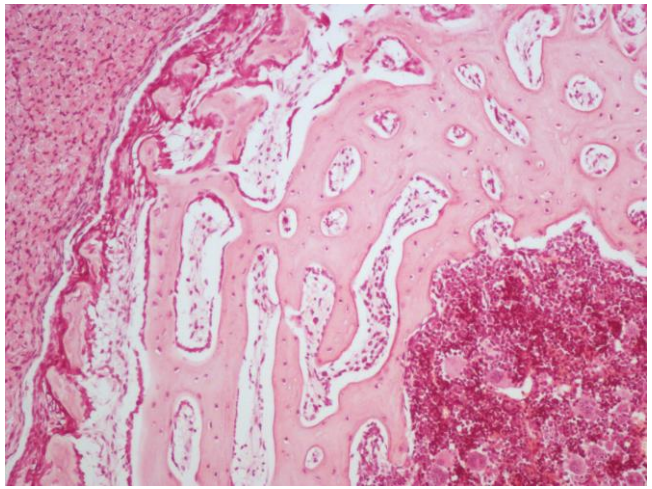
Spongy (Cancellous) Bone

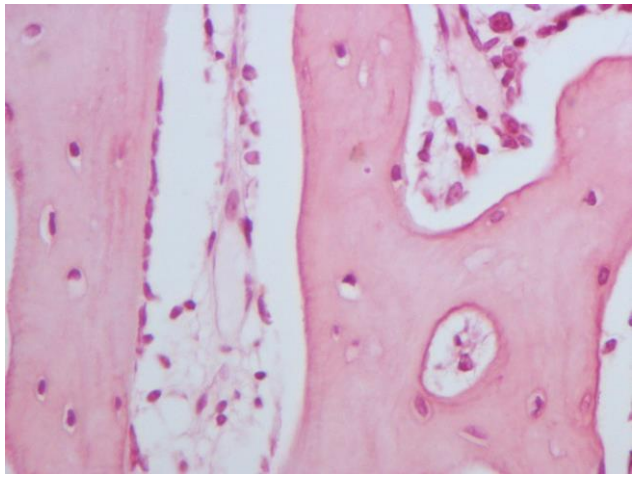
Features :

- Irregular bone trabeculae (matrix).
- Irregular bone marrow spaces
- contains bone marrow .
- NO Haversian systems .
- Osteoclasts (multinucleated)

Q2- mention the organs (distribution, site & example)?

- Flat bones.
- Epiphysis of long bone.

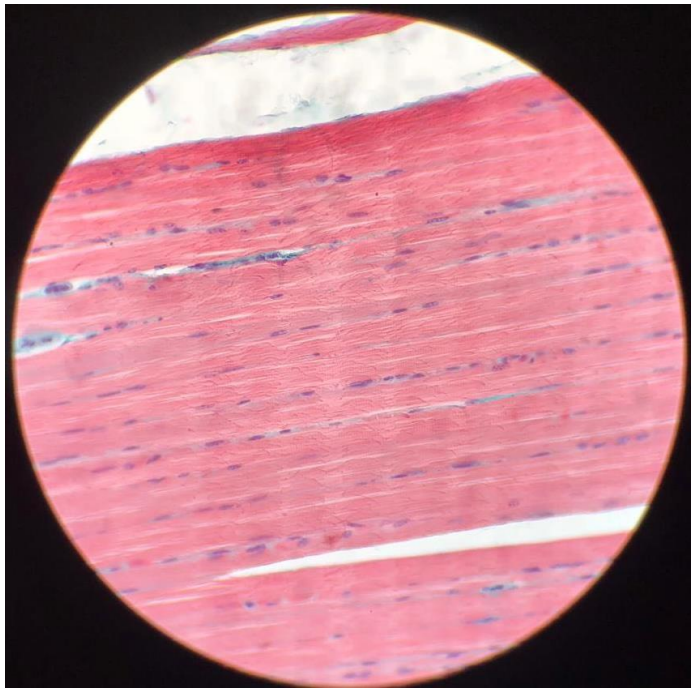




MUSCLES

NOTE : if he ask about features you can not write the site or example

Skeletal muscle (L.S.)



Q1- Identify the structure?

Skeletal muscle (L.S.)

Longitudinal section

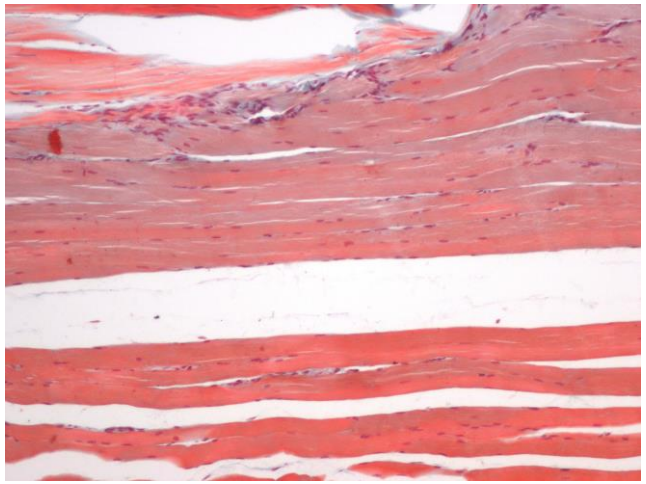
Features :

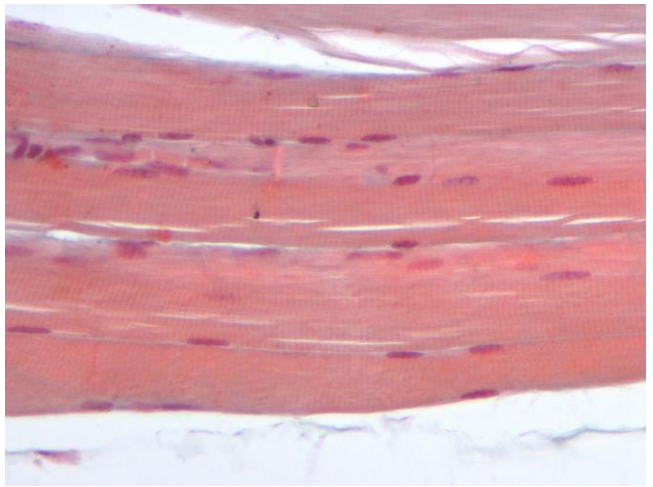
- Multinucleated,
- peripheral nuclei
- Cylindrical in shape.
- Non-branched .
- Cytoplasm (sarcoplasm) is acidophilic and shows clear transverse striations.

Q2- mention the organs (distribution, site & example)?

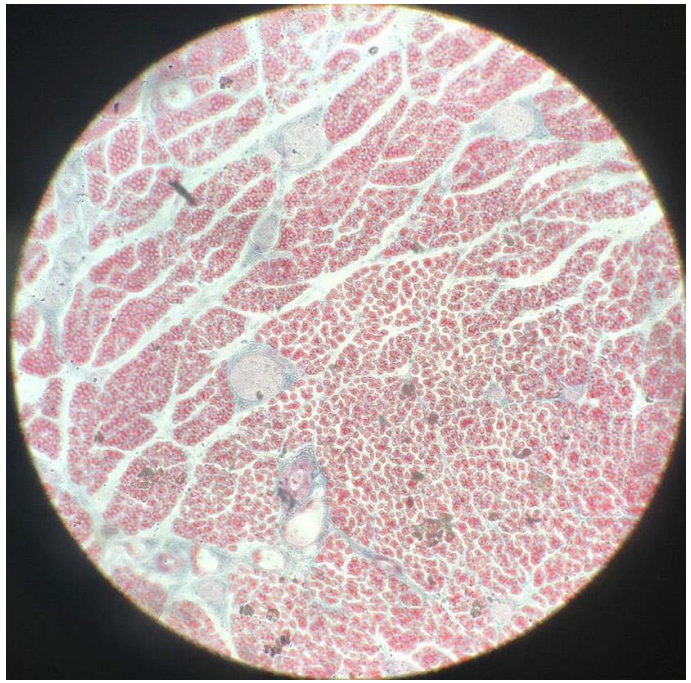
- Skeletal system (all voluntary muscles).

*You have to mention the type of section





Skeletal muscle (T.S.)



Q1- Identify the structure?

Skeletal muscle (T.S.)

Transvers section

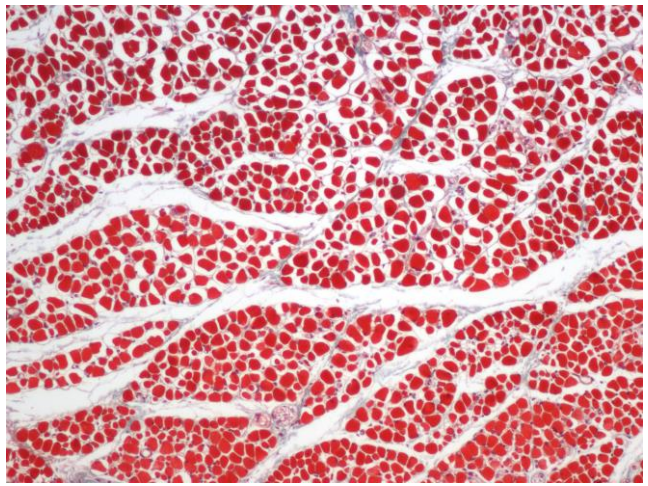
Features:

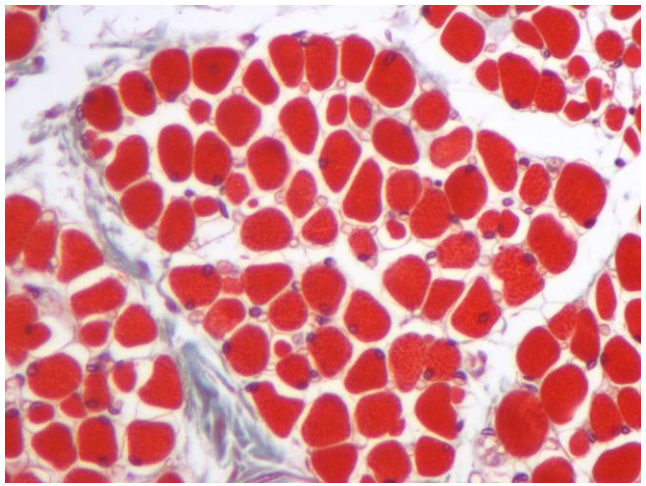
- Epimysium: Thick CT covering the whole muscle.
- Perimysium: Separates the parallel bundles of muscle fibers.
- Endomysium: Loose C.T. separates the individual fibers.
- Multinucleated, nuclei on periphery
- Non-branched

Q2- mention the organs (distribution, site & example)?

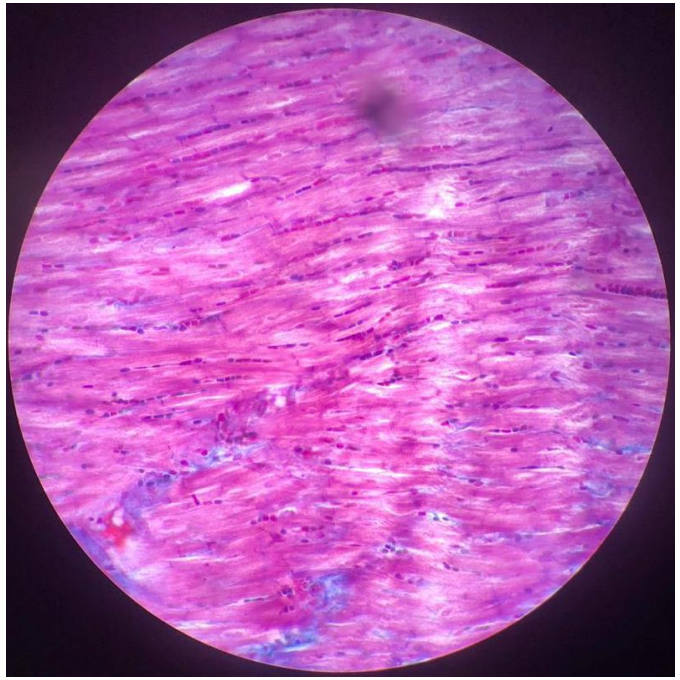
- Skeletal system (all voluntary muscles).

*You have to mention the type of section





Cardiac muscle



Q1- Identify the structure?

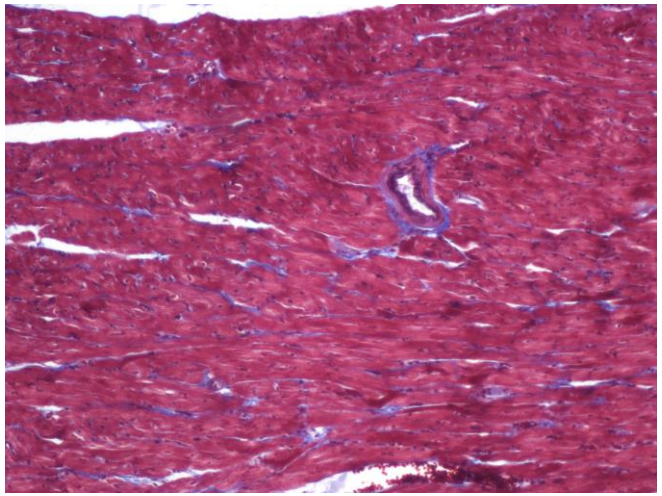
Cardiac muscle

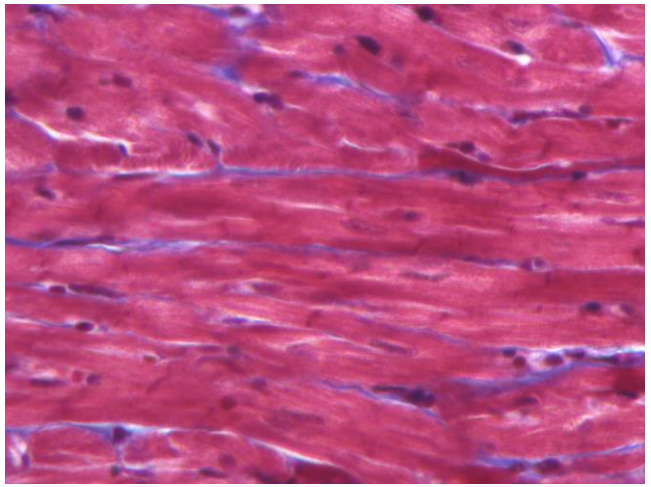
Features:

- Mononucleated.
- Oval and central nuclei.
- Branched and anastomose.
- Striated (not clear)
- Cylindrical in shape.
- Intermediate in diameter (in comparison to other muscles)
- Gap junctions are present .
- Intercalated discs.

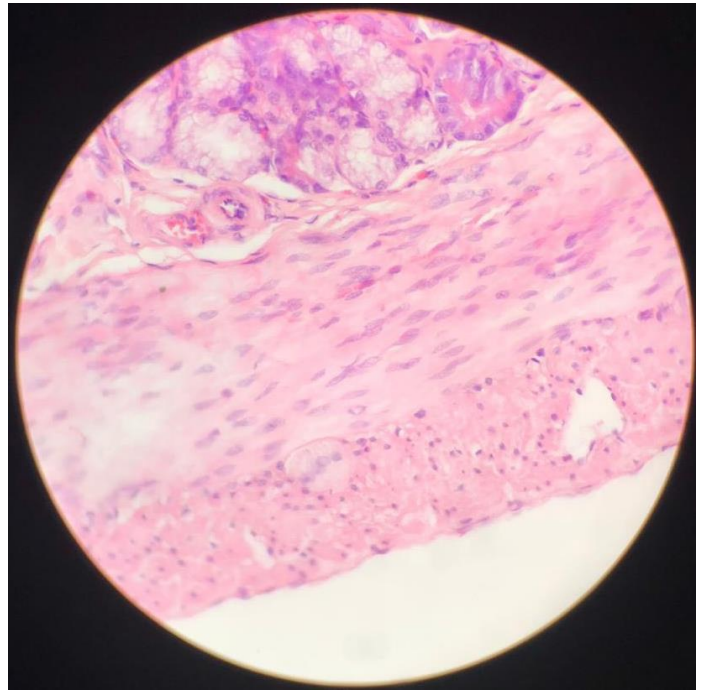
Q2- mention the organs (distribution, site & example)?

- Myocardium.





Smooth muscle
(T.S & L.S)



Q1- Identify the structure?

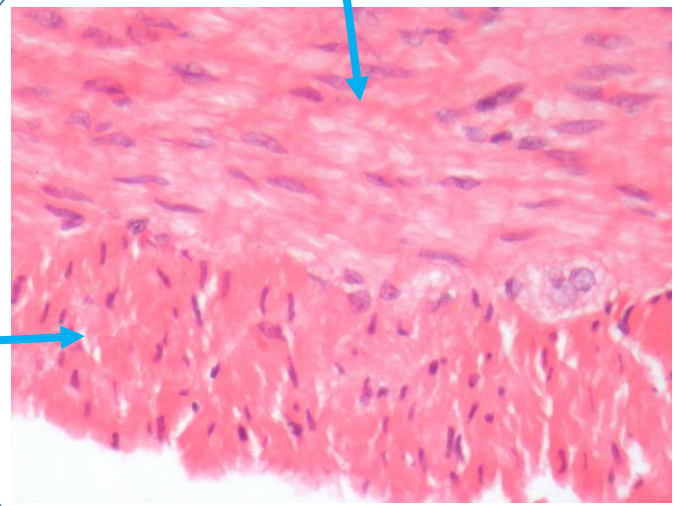
Smooth muscle (T.S & L.S)

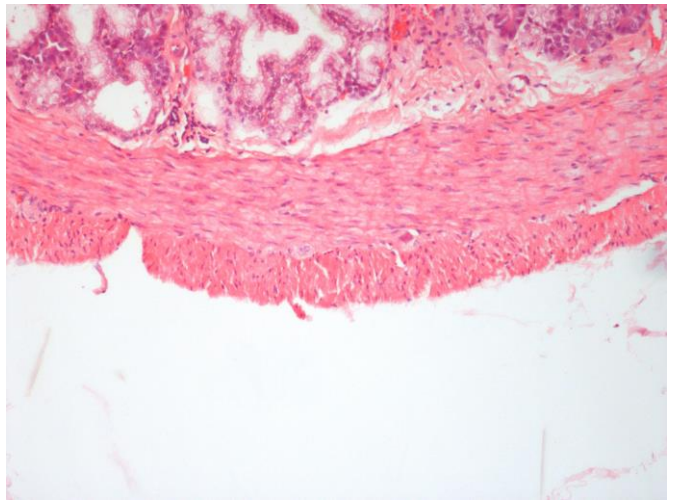
Features:

- Mononucleated; oval and central nuclei.
- Non striated.
- Non branched.
- Fusiform (spindle shaped).
- Small in diameter.
- Gap junctions are present.

Q2- mention the organs (distribution, site & example)?

- Walls of blood vessels.
- Viscera.





Comparison between different types of muscle fibers

	Skeletal	Cardiac	Smooth
Site	Muscle attached to skeleton	Myocardium of the heart	Viscera e.g. stomach
Shape	Cylindrical	Cylindrical	Fusiform
Diameter	Largest	Medium-sized	Smallest
Branching	Non-branched	Branched	Non-branched
Striations	Clear	Not clear	Absent
Intercalated discs	Absent	Present	Absent
Nuclei	Numerous and peripheral	One central nucleus	One central nucleus
Action	Voluntary	Involuntary	Involuntary
Regeneration	Limited	No	active

*Useful for revision

اذا عندك انتقاد او مدح او اقتراح صارحنا هنا 💙 💙

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See you in the next block 💙

Please send your suggestions & questions:

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