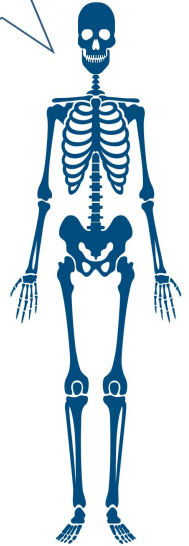


Histology

OSPE

Hi!
Any future
corrections will
be in the editing
file :Click [Here](#)



musculoskeletal
block



Histology team
MED 439

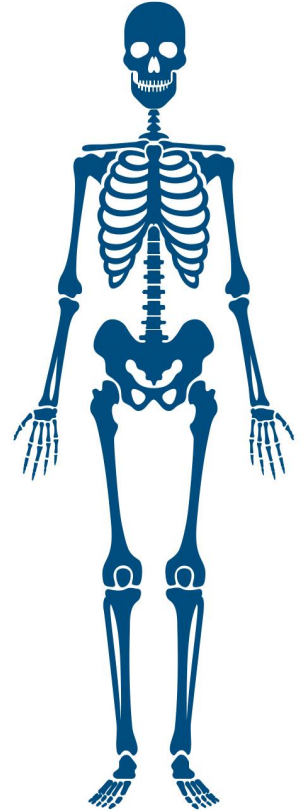
Picture under the Microscope from female

Picture under the Microscope from male

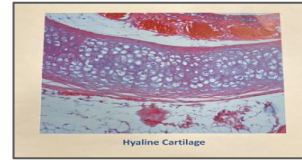
Color index:

-  important
-  Doctor's note
-  in girl's slides
-  in boy's slides

CARTILAGE & BONE



Hyaline Cartilage



Q1- Identify the structure?

Hyaline Cartilage

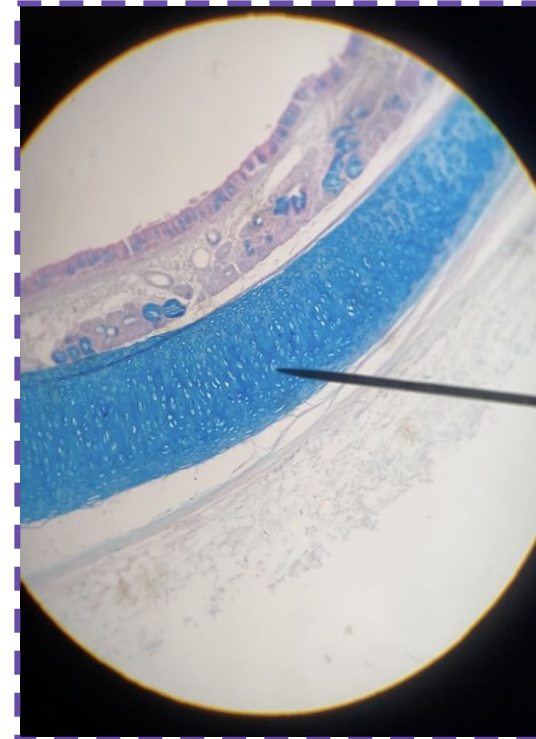
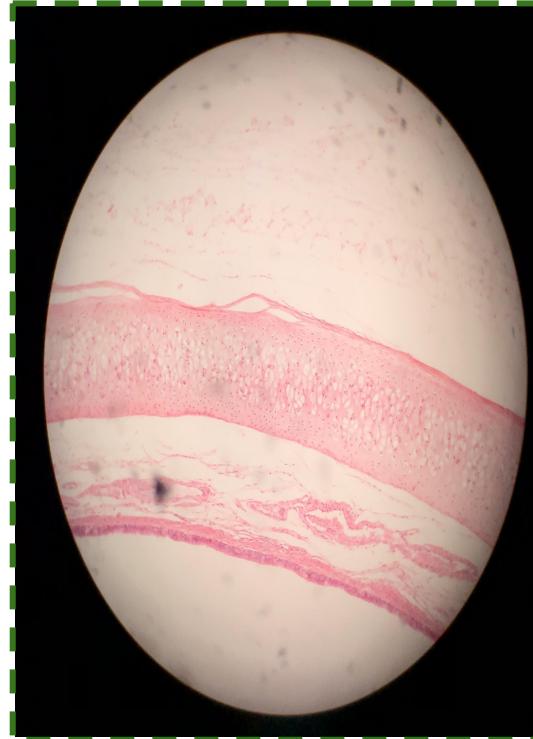
Q2-What is the main part of the structure = feature?

- Perichondrium.
- chondroblasts
- chondrocytes (found in lacunae).
- Matrix :**

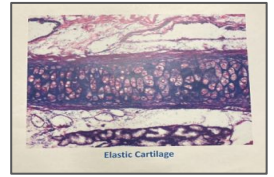
Homogeneous and Basophilic collagen fibers type II

Q3- 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

Q2-What is the main part of the structure = feature?

-Perichondrium

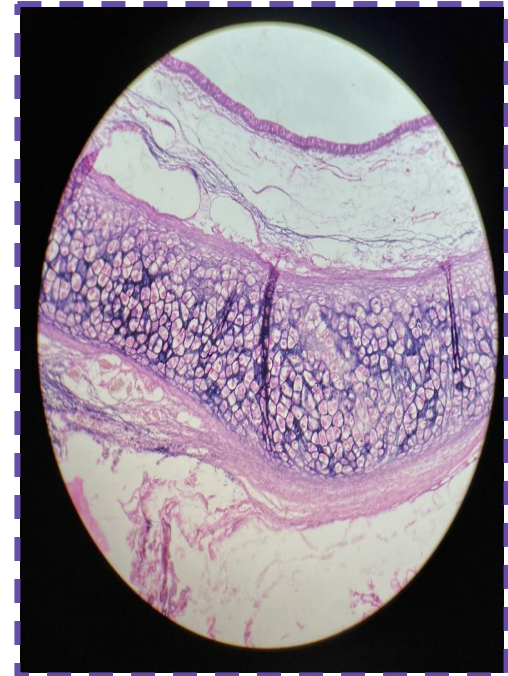
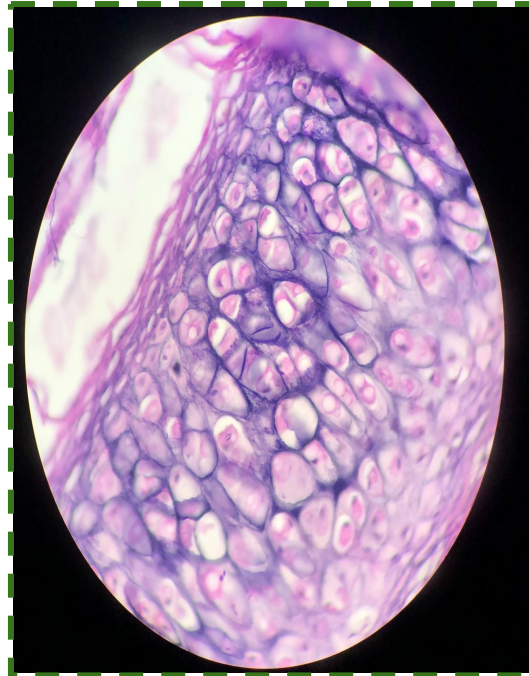
-Chondrocytes

-Matrix :

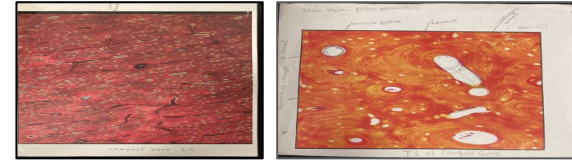
Contains elastic fibers
collagen fibers type II

**Q3- mention the organs
(distribution, site & example)?**

- External ear
- Epiglottis



Compact bone (cortical)



Q1- Identify the structure?

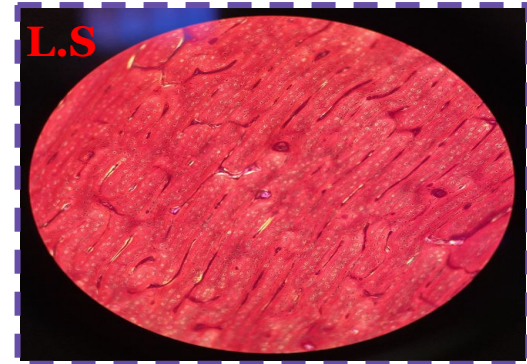
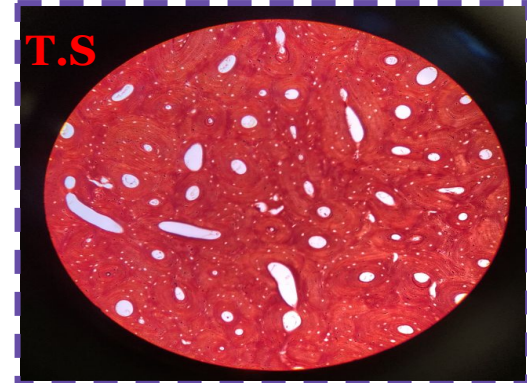
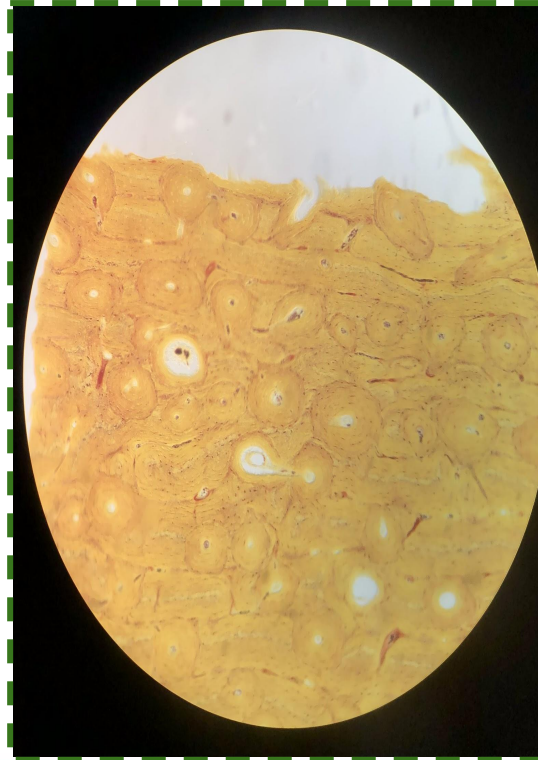
Compact bone (cortical)

Q2-What is the main part of the structure = feature?

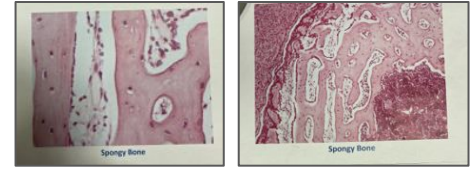
- Bone Lamellae.
- Haversian systems.
- Osteocyte inside lacunae that have Canaliculi.

Q3- mention the organs (distribution, site & example)?

- Diaphysis of long bones.



Spongy (Cancellous) bone



Q1- Identify the structure?

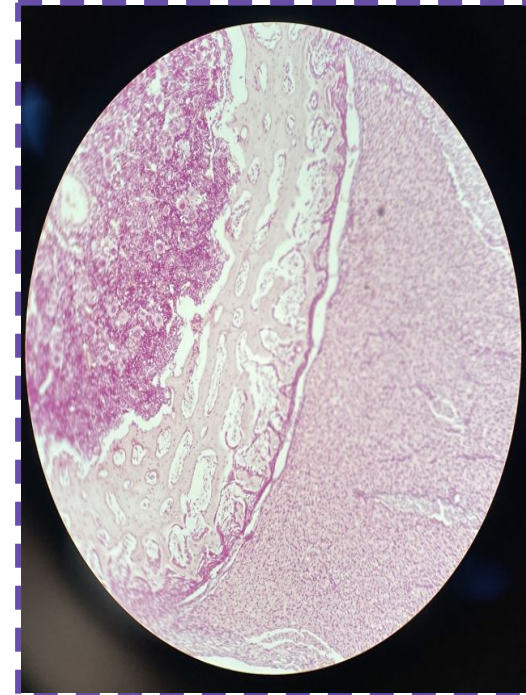
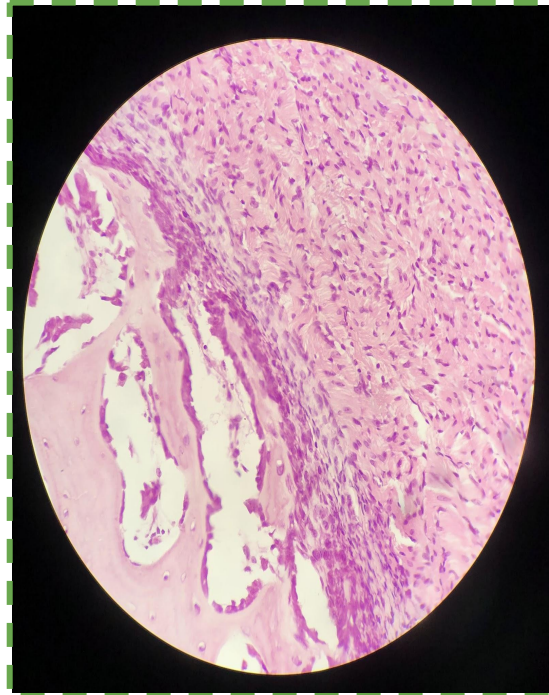
Spongy (Cancellous) Bone

Q2-What is the main part of the structure = feature?

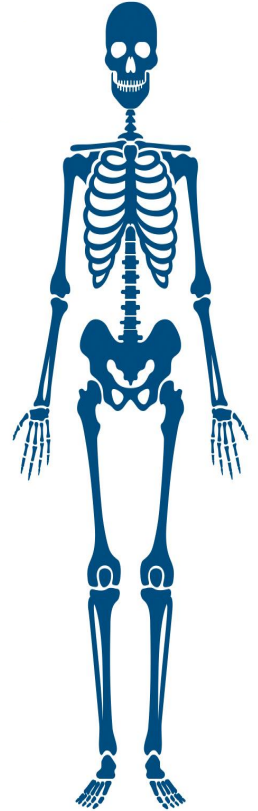
- Irregular bone trabeculae (matrix).
- Irregular bone marrow spaces
- contains bone marrow .
- NO Haversian systems .
- Osteoclasts (multinucleated)

Q3- mention the organs (distribution, site & example)?

- Flat bones.
- Epiphysis of long bone.

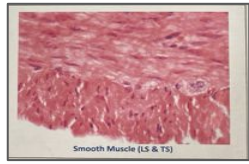
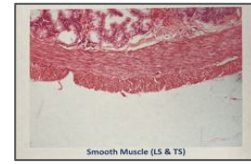


Types of Muscles



**REMEMBER to write L.S

Skeletal muscle (L.S.)



Q1- Identify the structure?

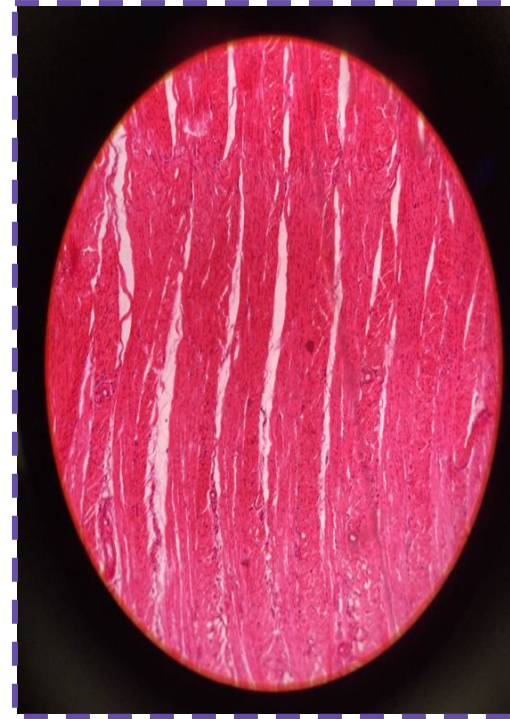
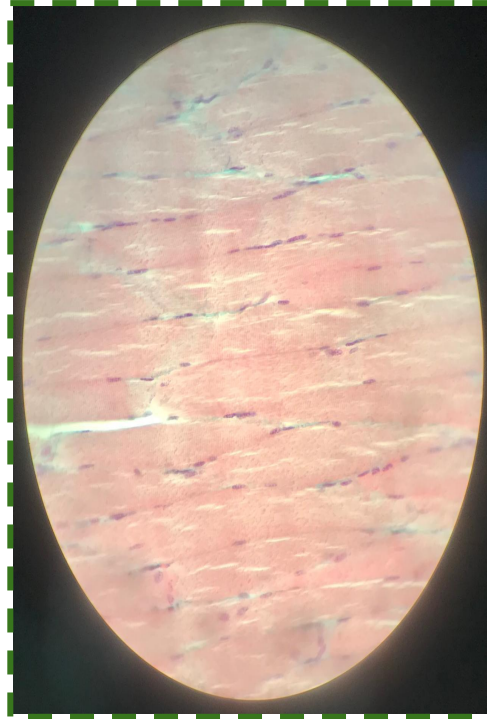
Skeletal muscle (L.S.)

Q2-What is the main part of the structure = feature?

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

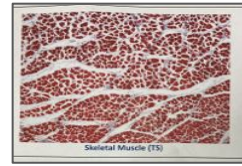
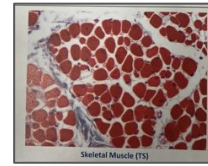
Q3- mention the organs (distribution, site & example)?

Skeletal system (all voluntary muscles).



**REMEMBER to write T.S

Skeletal muscle (T.S.)



Q1- Identify the structure?

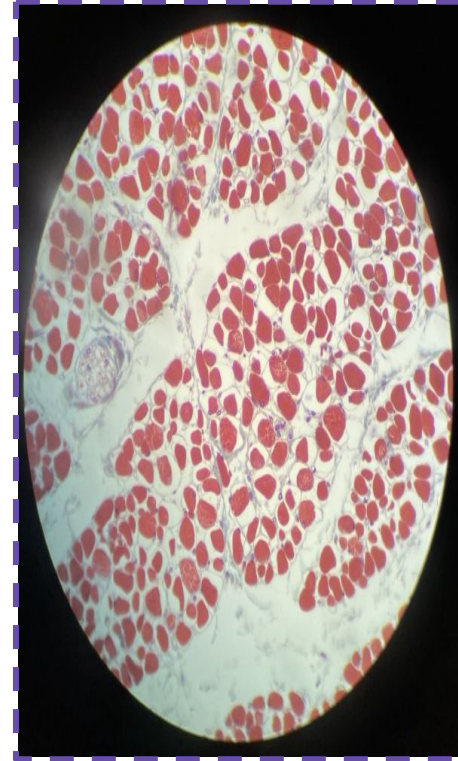
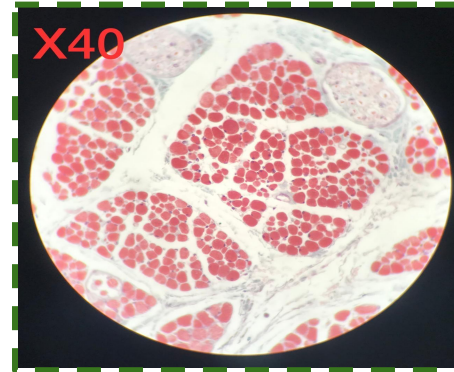
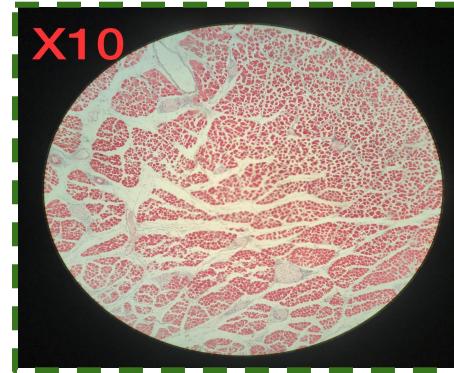
Skeletal muscle (T.S.)

Q2-What is the main part of the structure = feature?

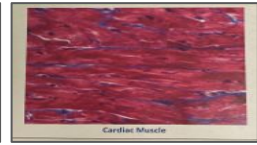
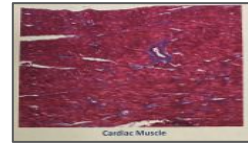
- Endomysium: Loose C.T. separates the individual fibres.
- Perimysium: Separates the parallel bundles of muscle fibres.
- Epimysium: Thick CT covering the whole muscle.
- Multinucleated, nuclei are peripheral
- Non-branched .

Q3- mention the organs (distribution, site & example)?

Skeletal system (all voluntary muscles).



Cardiac muscle



Q1- Identify the structure?

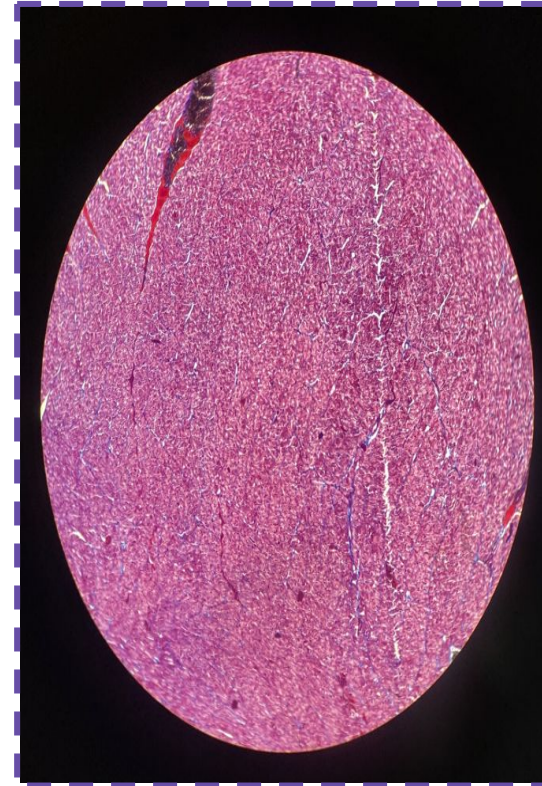
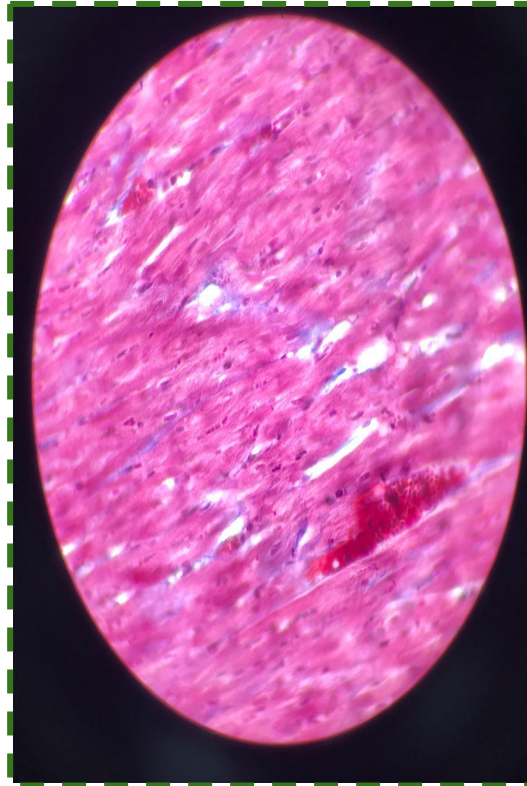
Cardiac muscle

Q2-What is the main part of the structure = feature?

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

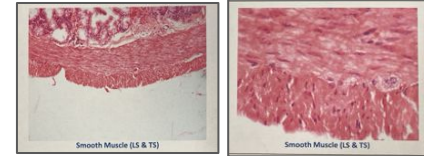
Q3- mention the organs (distribution, site & example)?

- Myocardium.



**REMEMBER to write T.S & T.S

Smooth muscle (T.S. & L.S.)



Q1- Identify the structure?

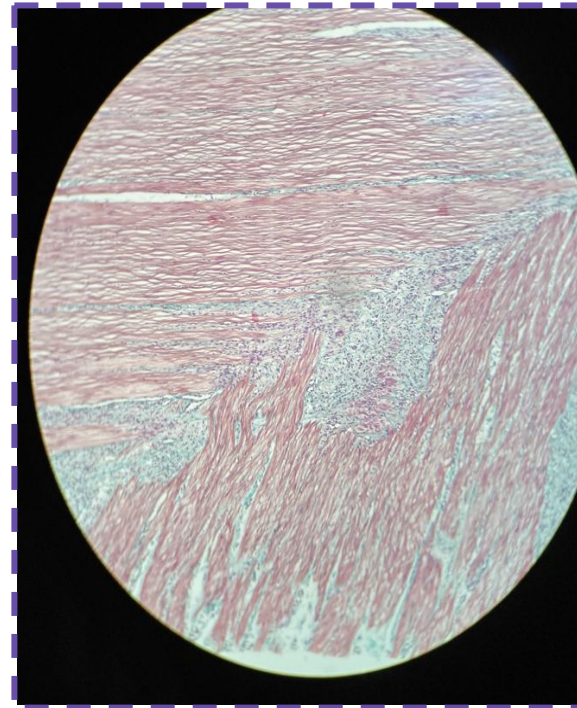
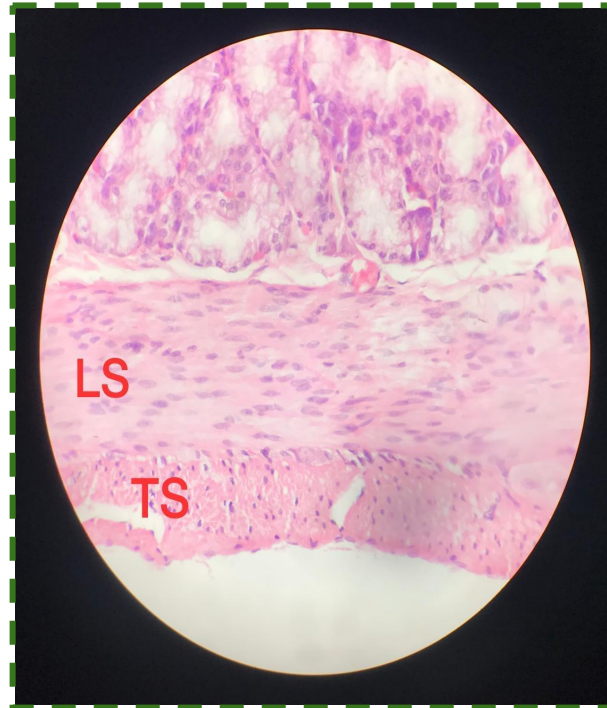
Smooth muscle (T.S & L.S)

Q2-What is the main part of the structure = feature?

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

Q3- mention the organs (distribution, site & example)?

- Walls of blood vessels.
- Viscera.



Comparison between different types of muscle fibers

Muscle type	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
Nucleus	Numerous and peripheral	One central nucleus	One central nucleus
Action	Voluntary	Involuntary	Involuntary
Regeneration	Limited	No Regeneration	Active



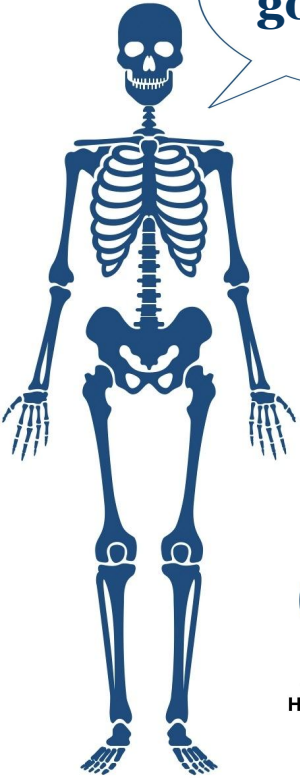
Team members

 Fatimah Alhelal  Albara Aldawoud

Team members

-  Afnan AlMohsen
- Nourah Alklaib
- Sumo Abdulrahman
- Mariam Alruhaimi
- Joud Alarifi
- Yazeed Alomar
- Abdulmohsen Albeshar
-  Mohamed Albabtain
- Mohammed Ben Hajji
- Mohamed Alquhidan
- Nawaf Alshahrani
-  Abdullah Alburikan

good luck



Histology team
MED 439

Contact us through :
Histologyteam439@gmail.com