

# MUSCLE TISSUE ( Practical)



*By*  
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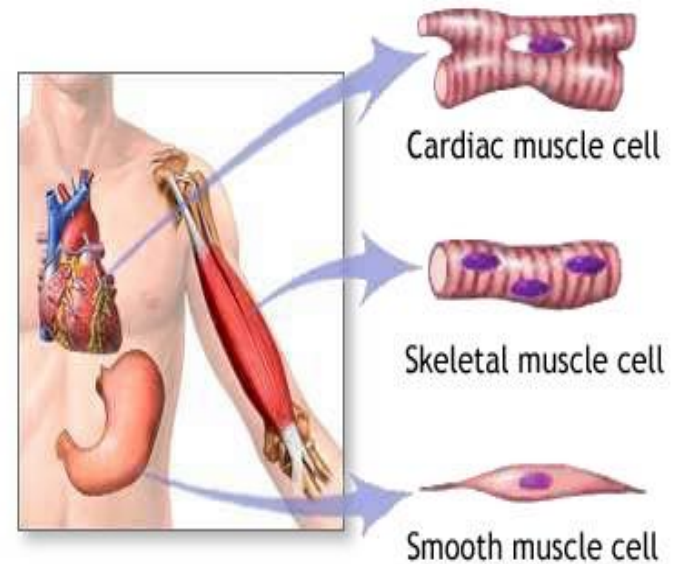
# Types of muscles

**Striated muscle**

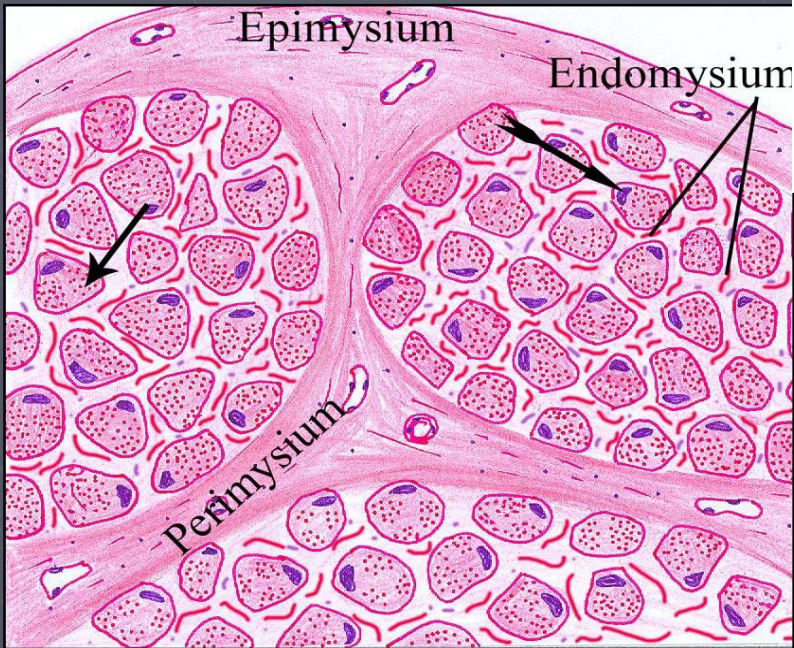
**Smooth muscle**

***Skeletal***

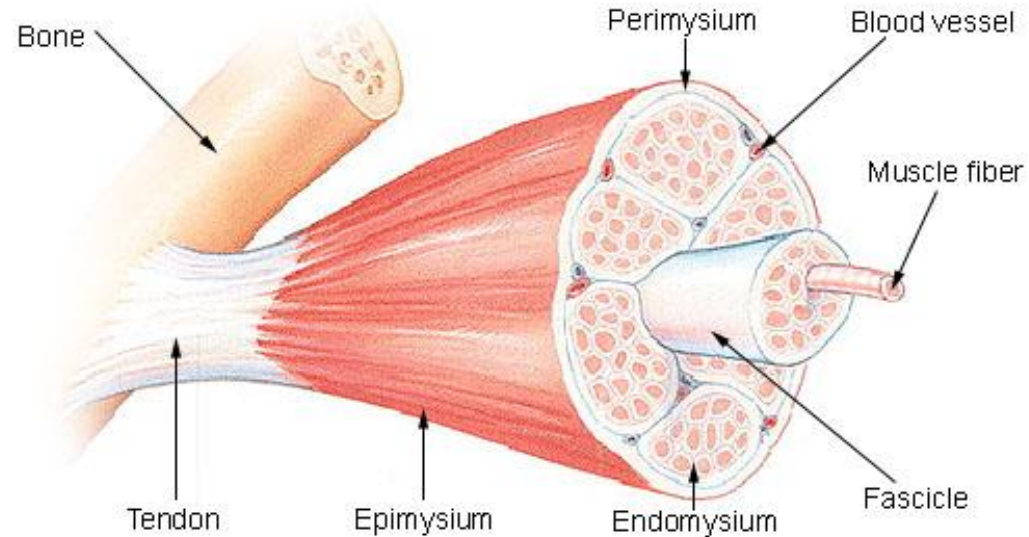
***Cardiac***



# The connective tissue component of the skeletal muscle



**Structure of a Skeletal Muscle**



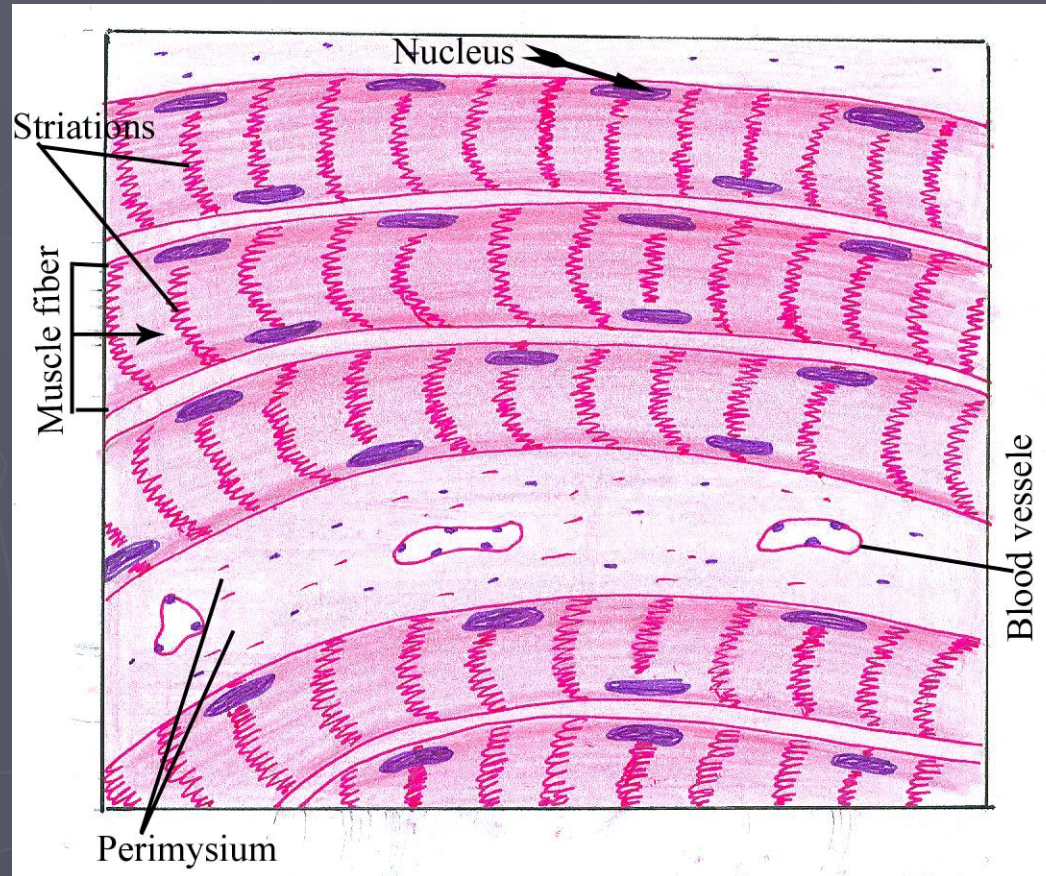
# L.S of skeletal muscle

## Skeletal muscle fibers (cells):

- long
- cylindrical in shape
- multinucleated with ovoid elongated nuclei located just beneath the sarcolemma ( cell membrane )

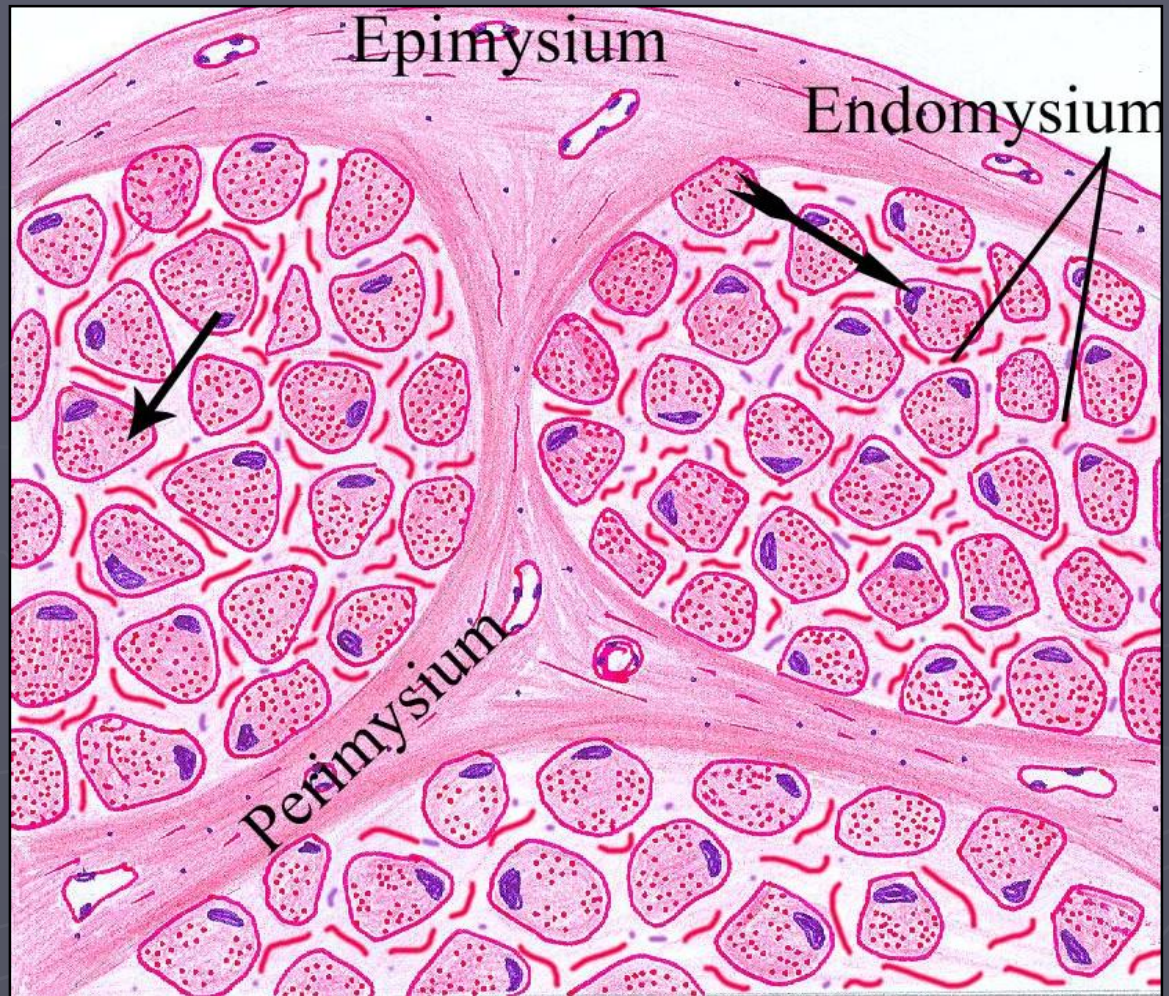
## *The sarcoplasm (cytoplasm) :*

- deeply acidophilic
- filled with long, cylindrical, parallel fibrils called myofibrils.

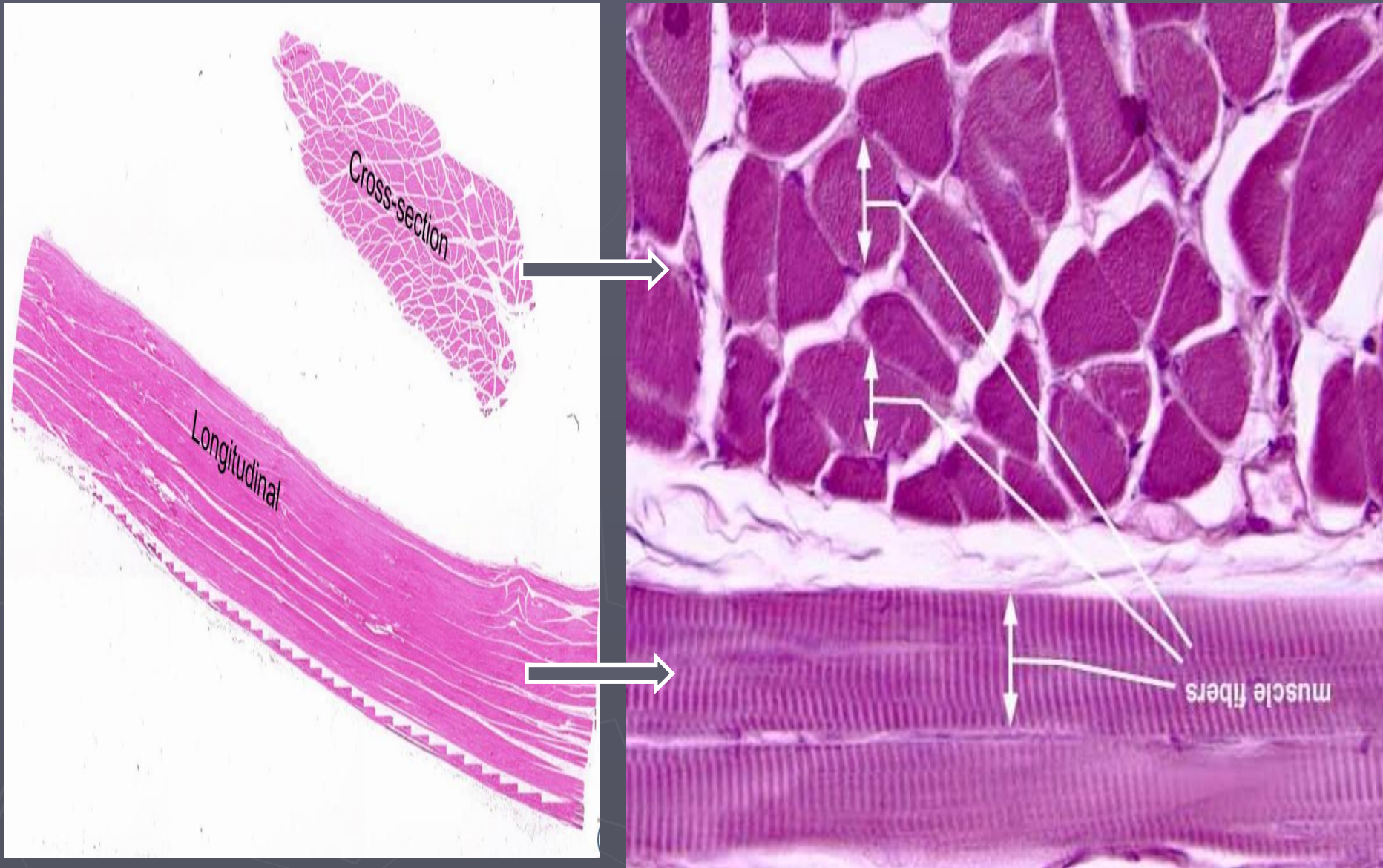


# T.S of skeletal muscle

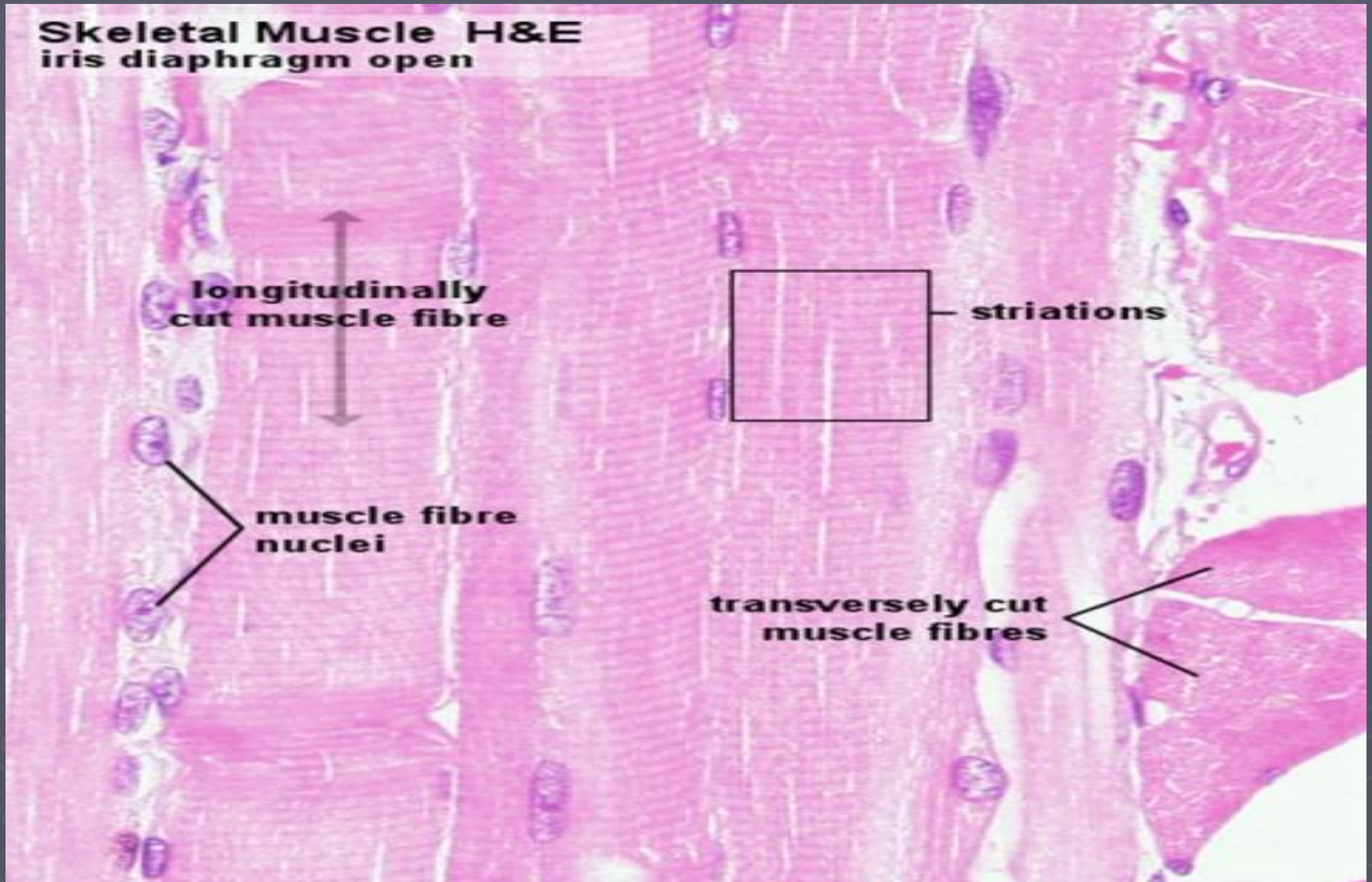
- Muscle fibers appear **rounded or polygonal** in shape.
- The myofibrils appear as **dots** arranged in groups.



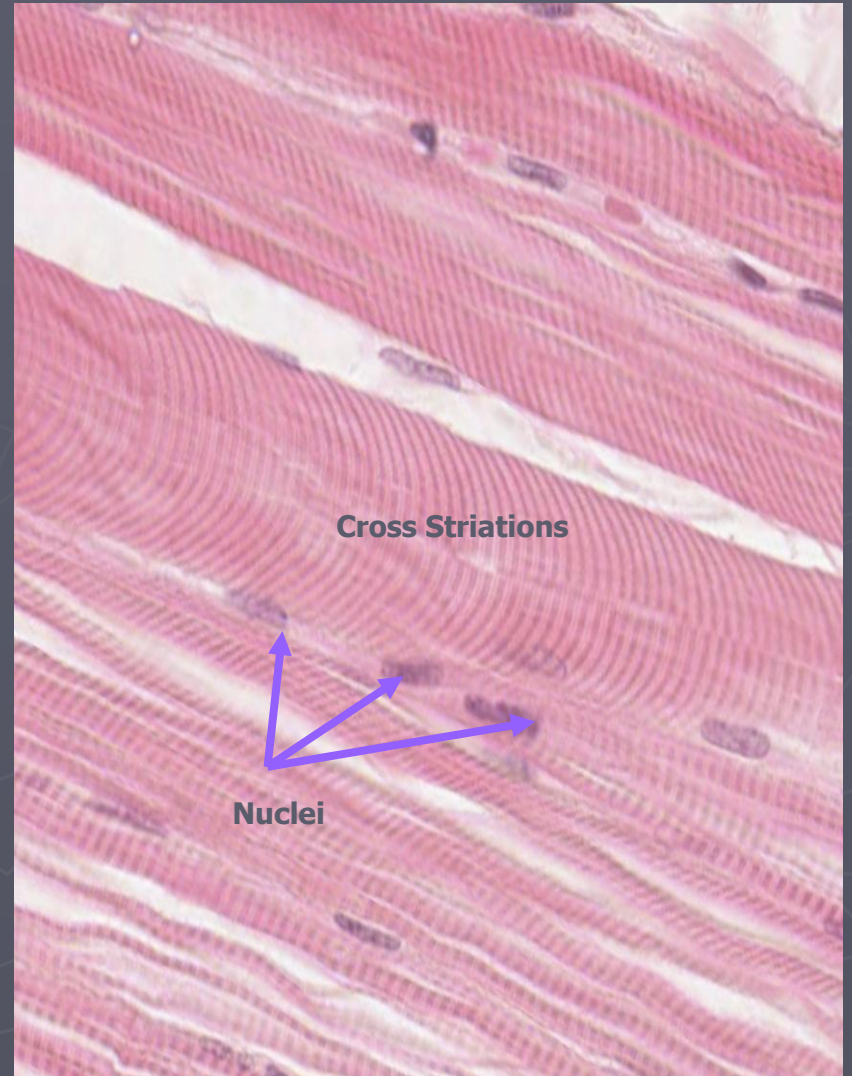
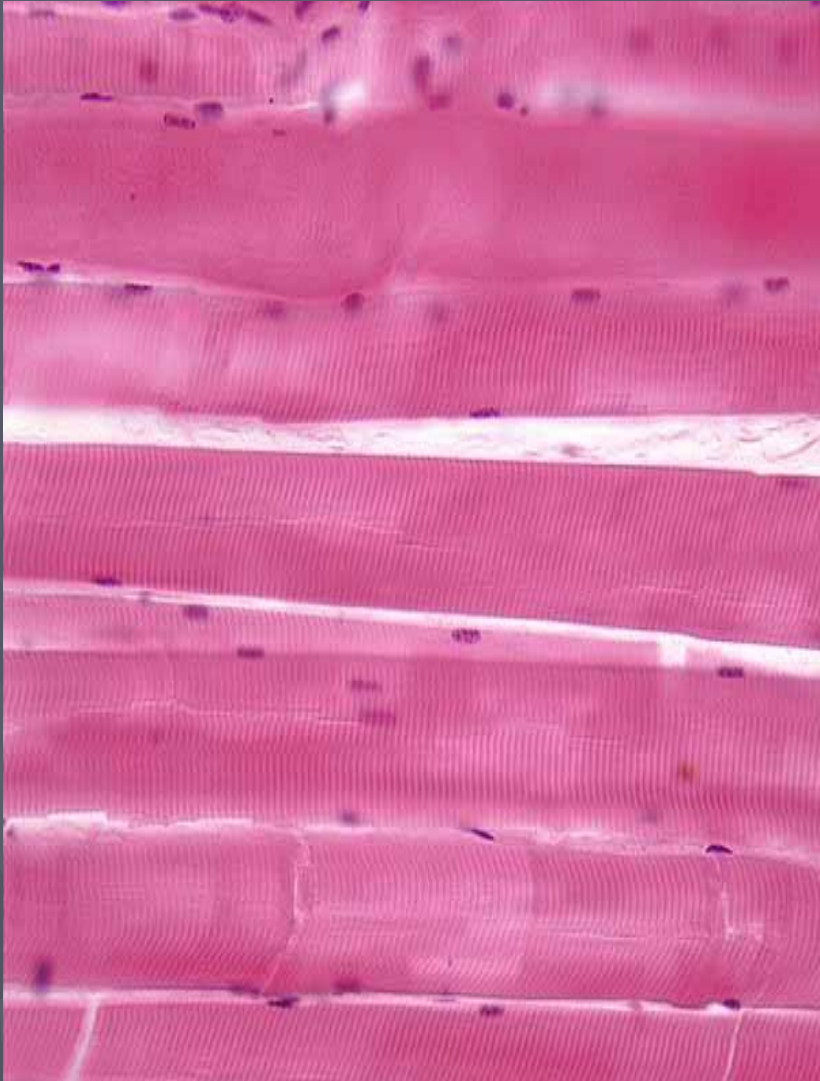
# Skeletal muscle



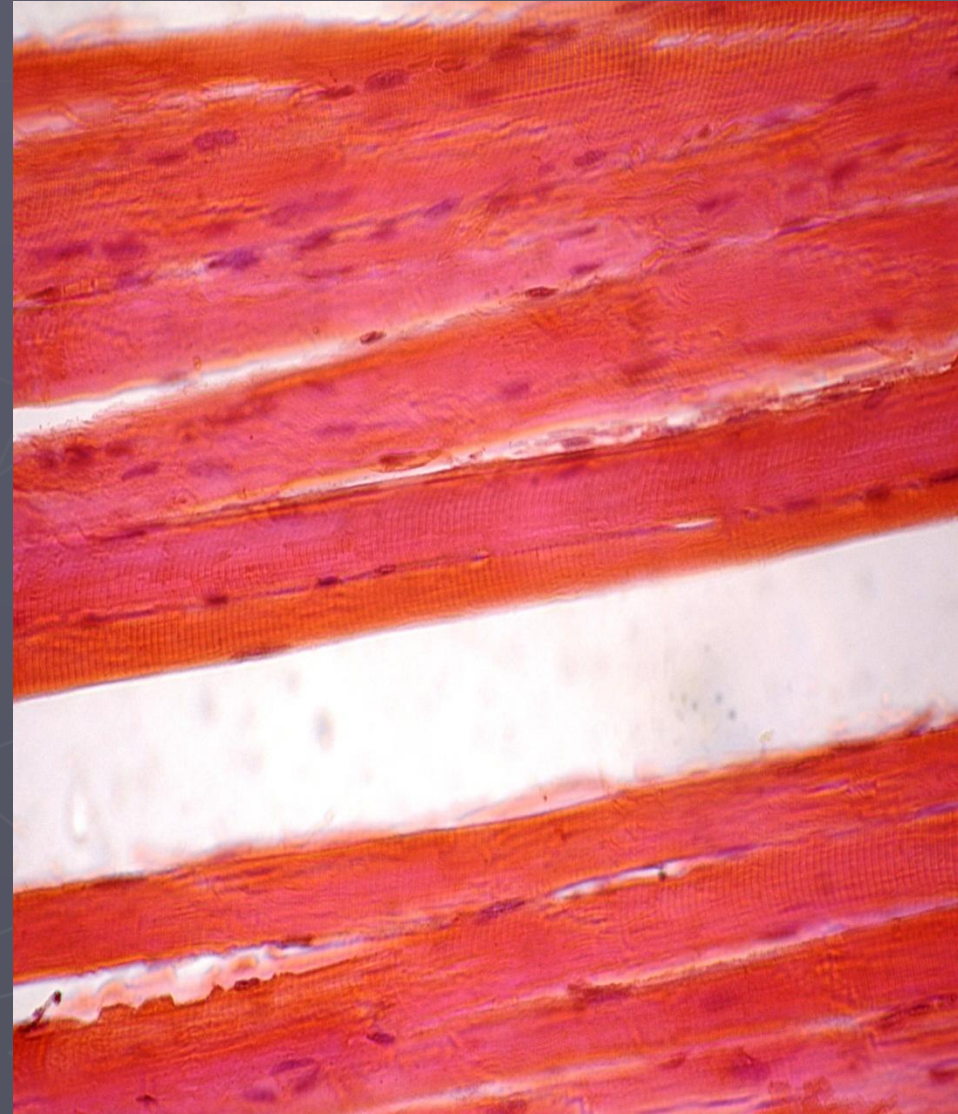
# Skeletal muscle



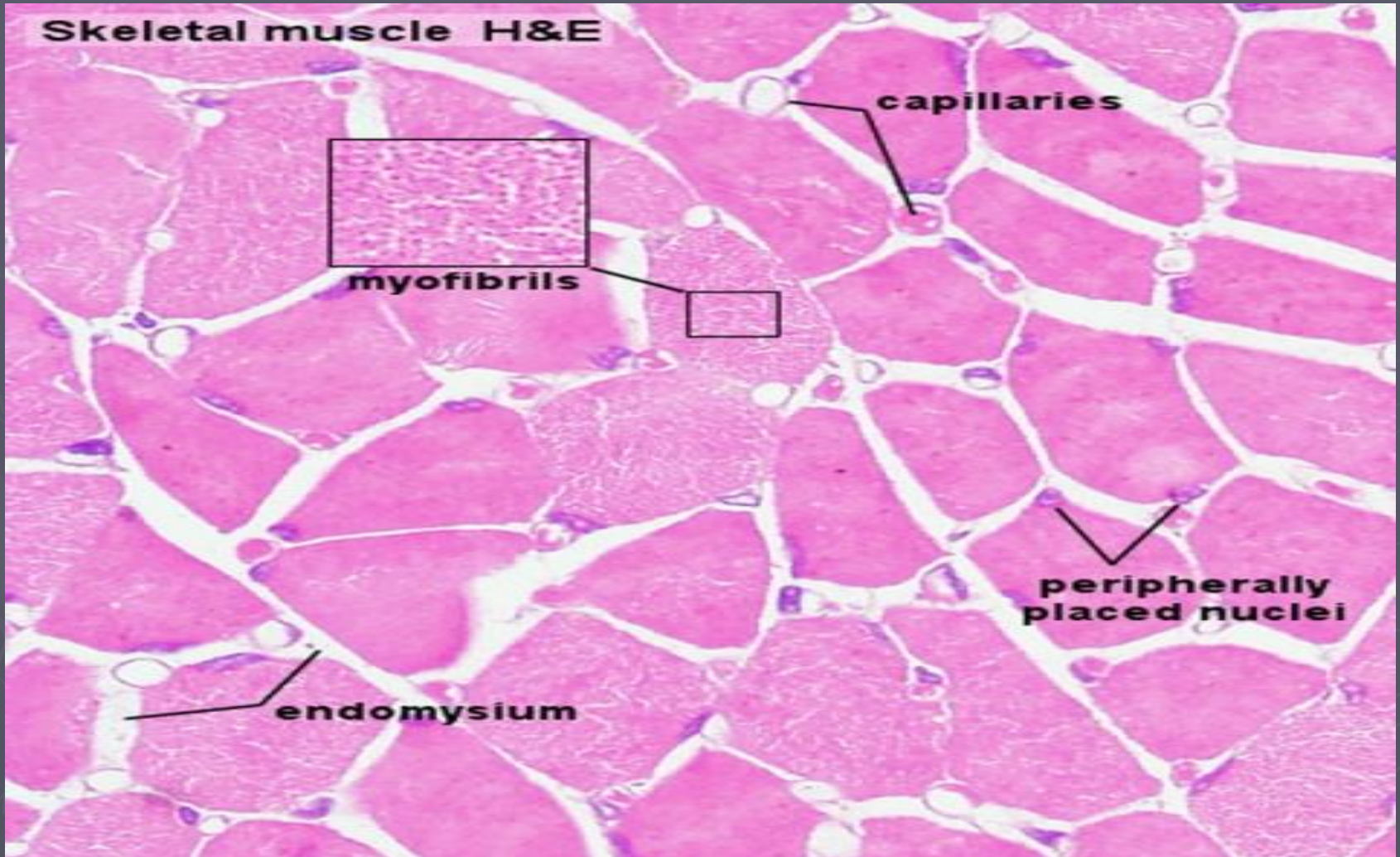
# L.S of skeletal muscle



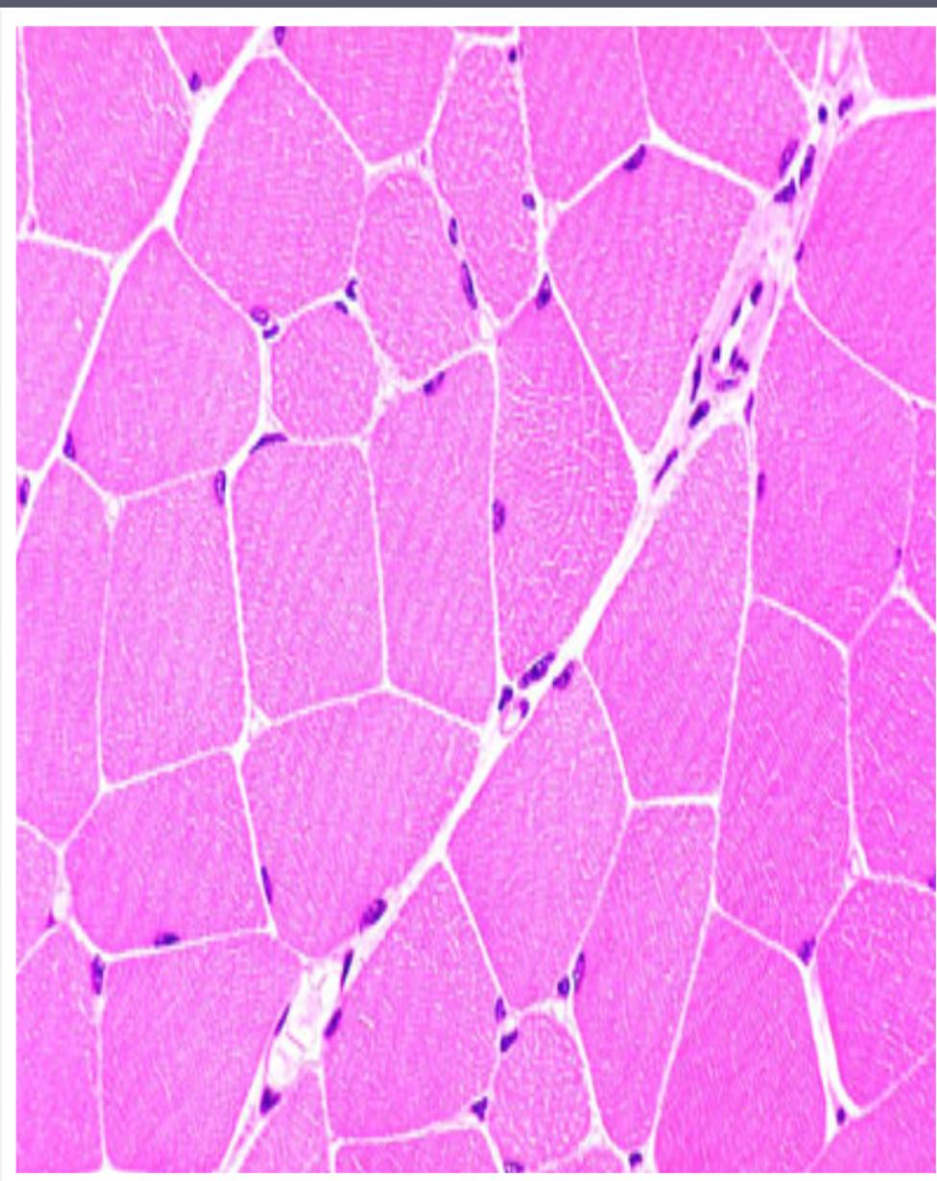
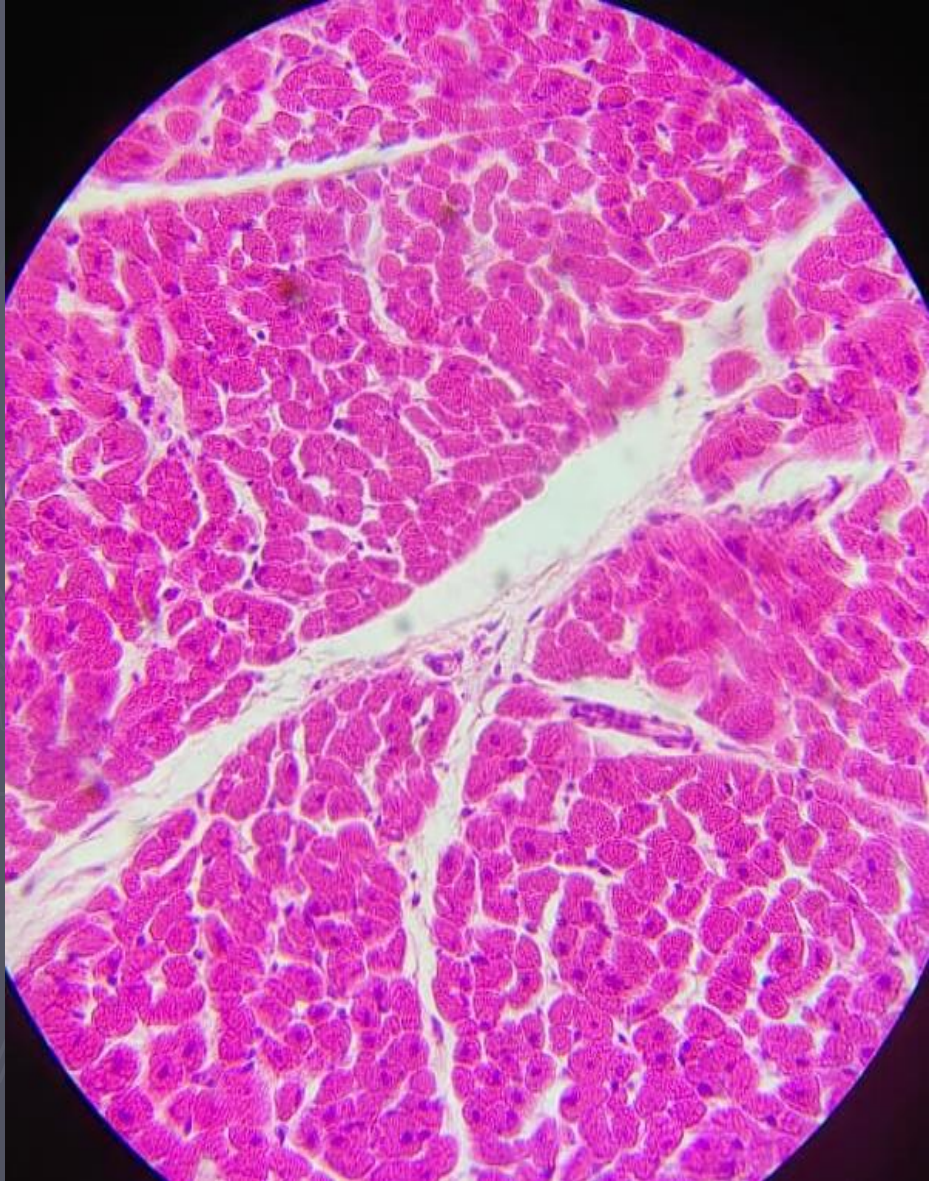
# L.S of skeletal muscle



# T.S of skeletal muscle



# T.S of skeletal muscle



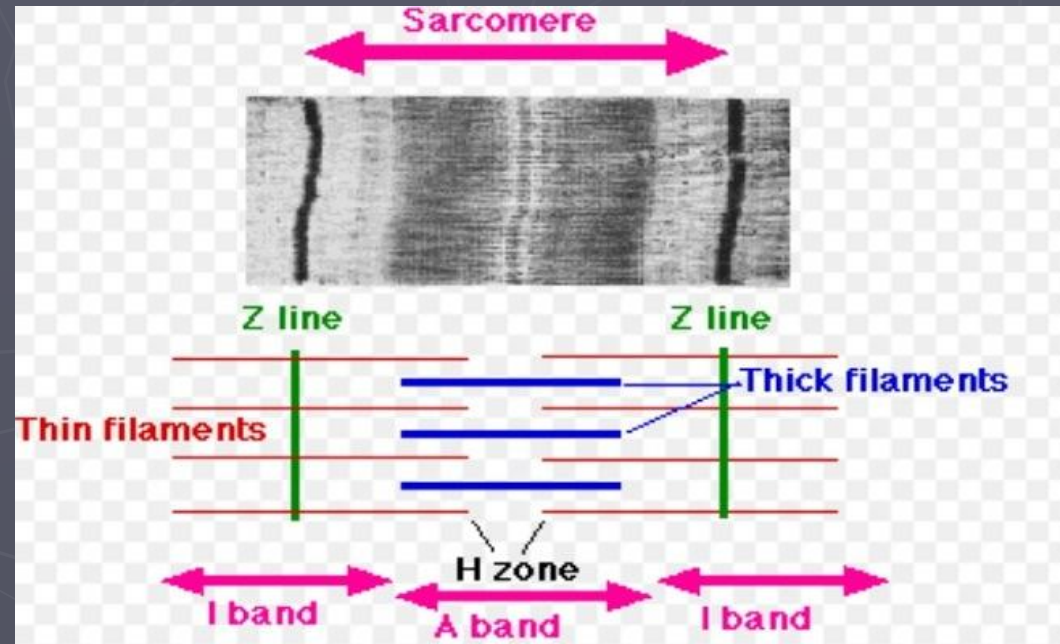
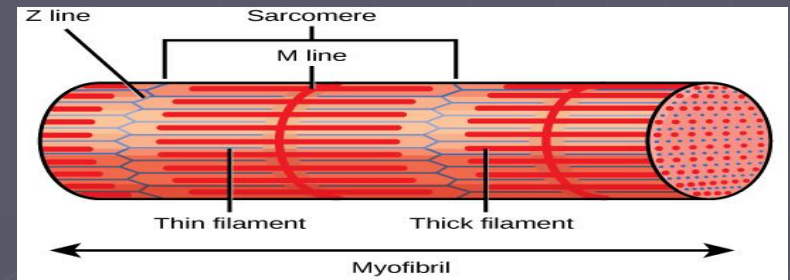
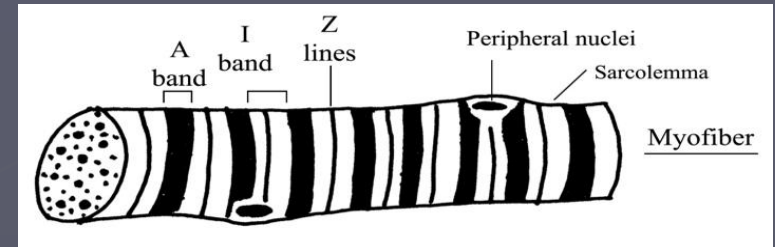
# Sarcomere of skeletal muscle

- Each muscle fiber (*myofiber*) contains *myofibrils* which composed of bundles of *myofilaments* which are the contractile elements of striated muscle. These myofilaments

1- Thin filaments (actin).

2- Thick filaments (myosin).

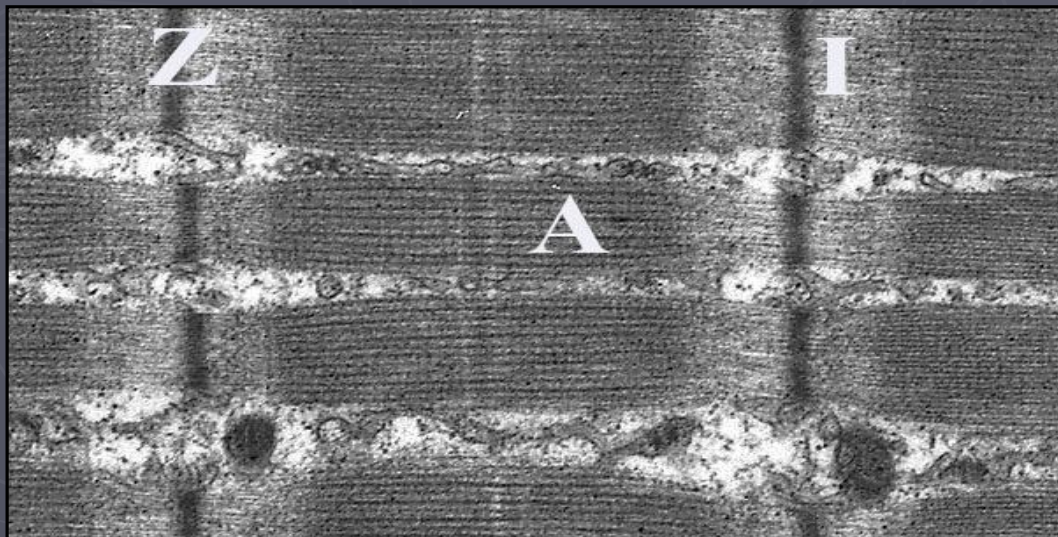
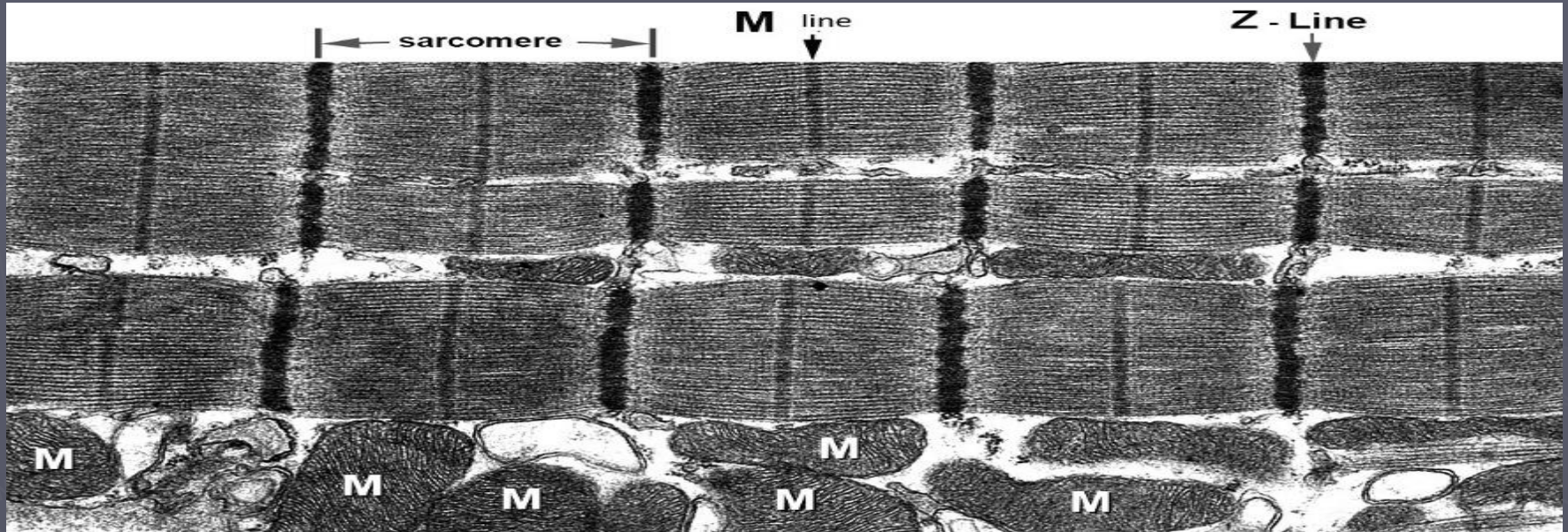
-The arrangement of actin and myosin filaments gives the myofibrils their *characteristic regular striation*



## Sarcomere

The smallest repetitive unit in LS of the myofibril is called sarcomere which extends from one Z line to the next.

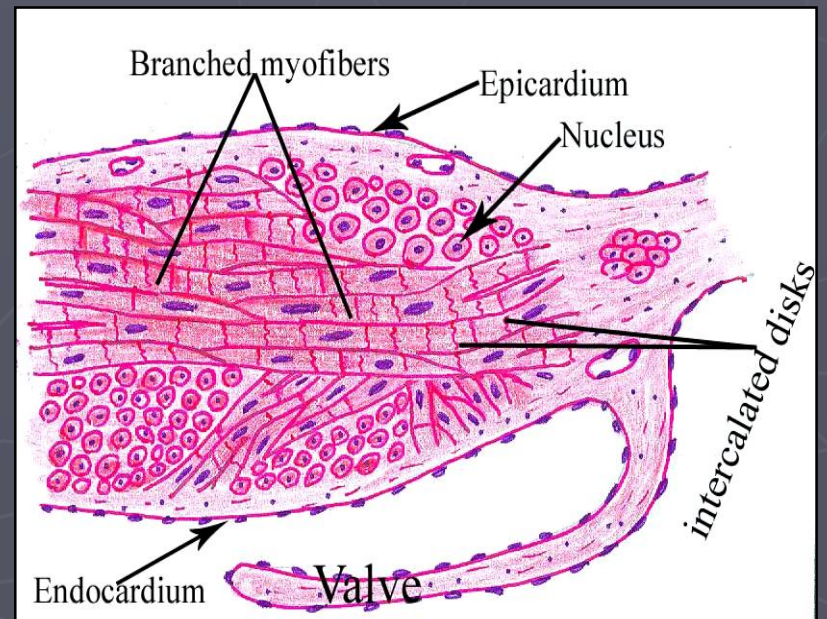
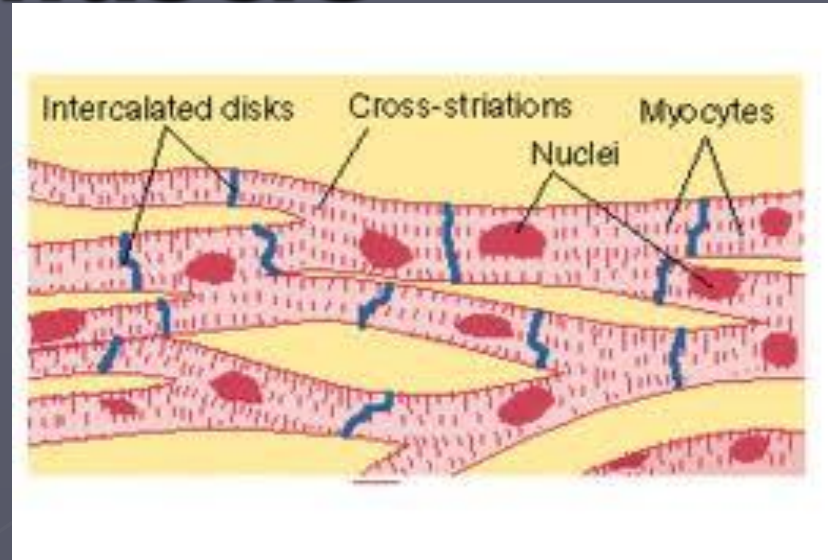
# Sarcomere of skeletal muscle



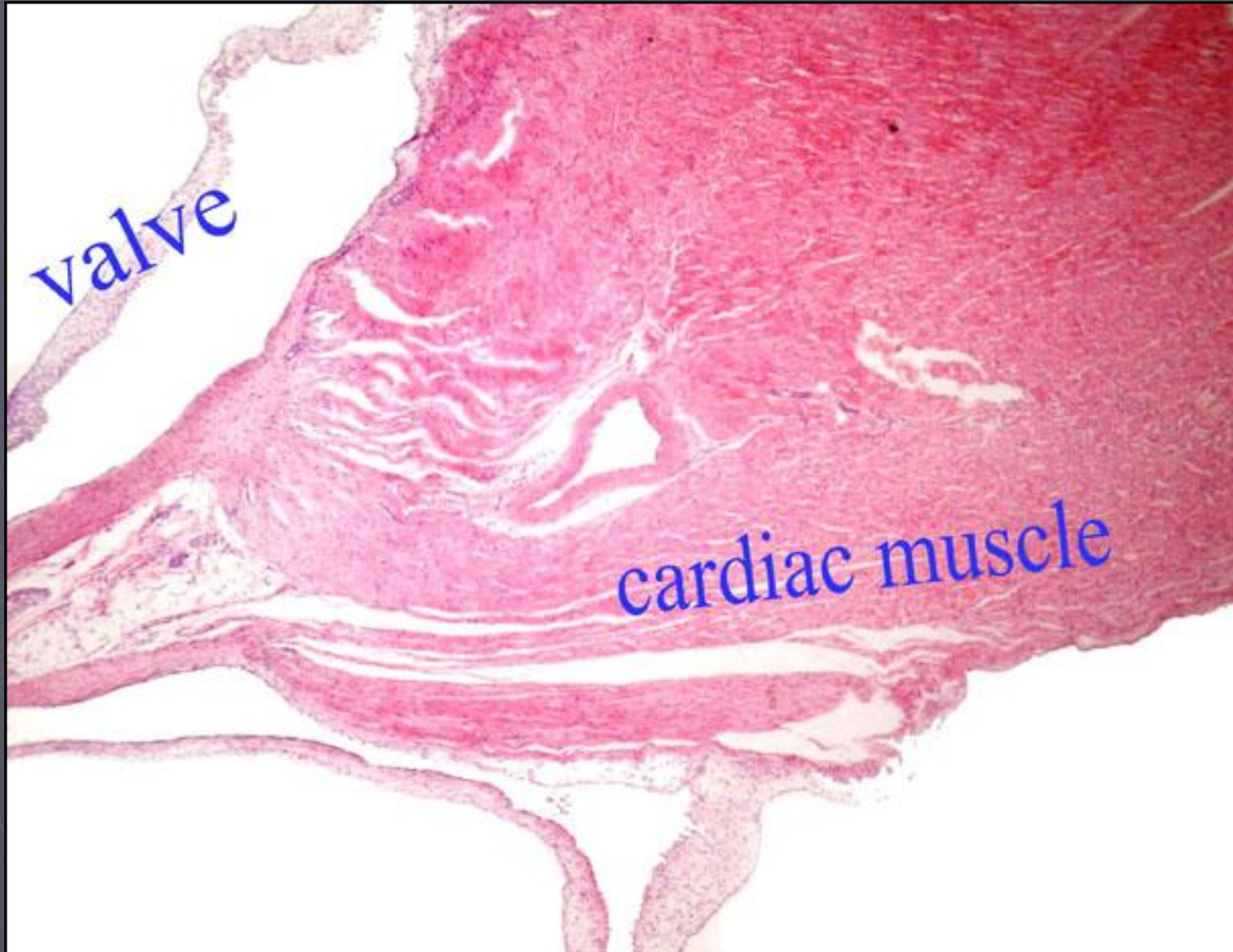
# Cardiac muscle

## Cardiac muscle fibers

- cylindrical in shape.
- They branch and anastomose with each other.
- composed of several cardiac muscle cells smaller than the skeletal one
- run in different directions
- cytoplasm**
- binucleated
- Less acidophilic



# Cardiac muscle & Valve



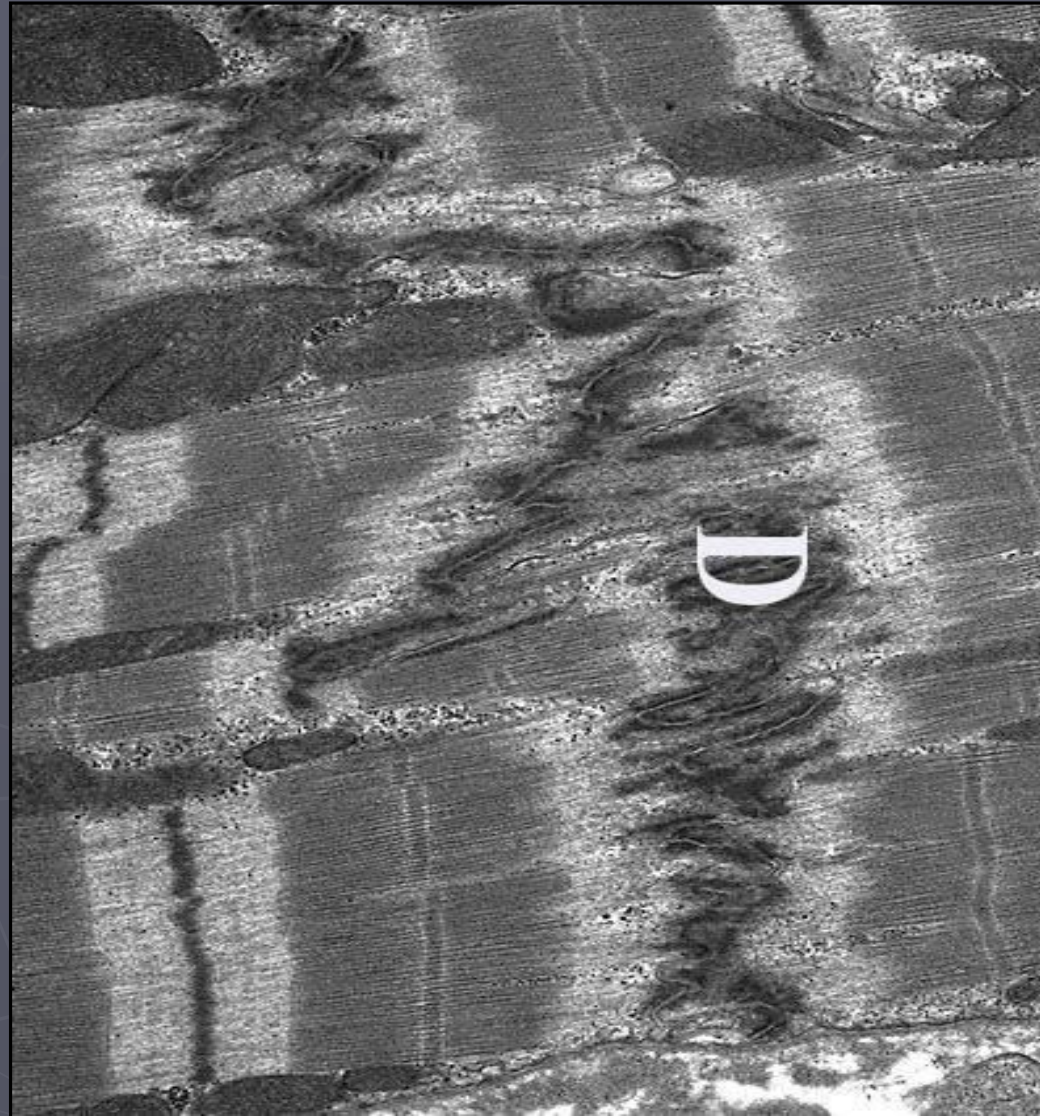
# Cardiac muscle



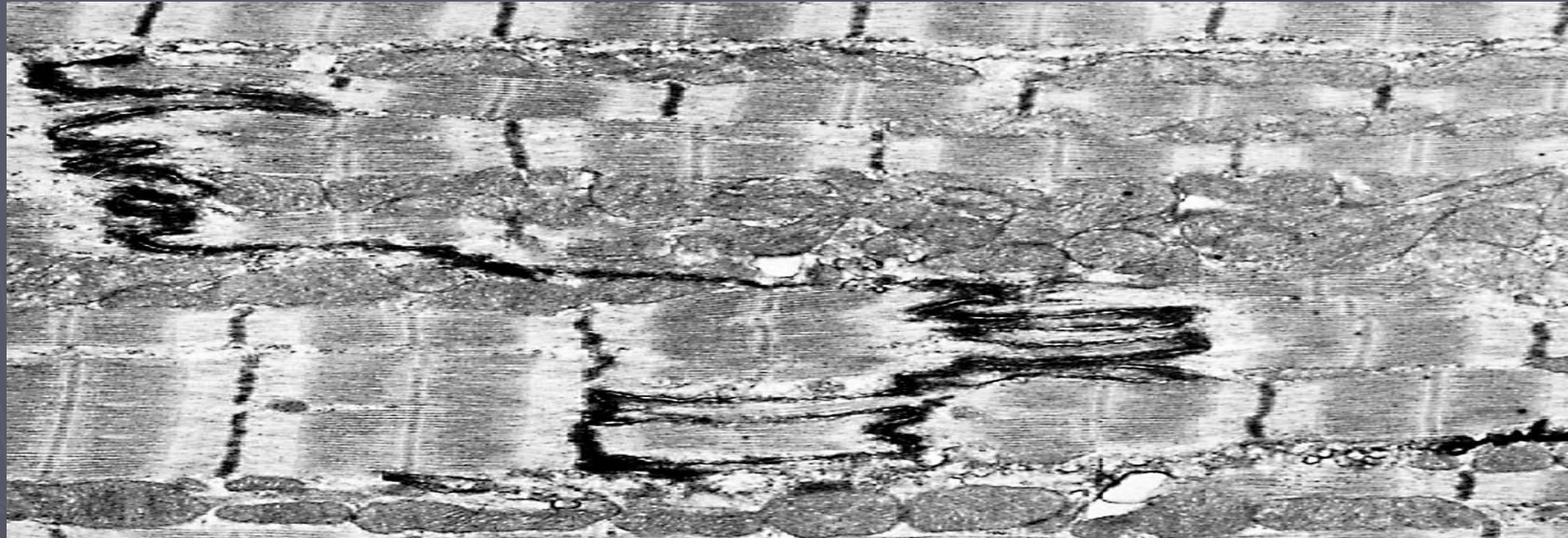
# Intercalated disc of cardiac muscle

*Cardiac muscle has the same types and arrangement of myofilaments (thick and thin filaments) as those of skeletal muscle.*

- **The intercalated disks (D)** represent the junctional complexes between the cell membranes of 2 successive cardiac muscle cells.



# Intercalated disc of cardiac muscle

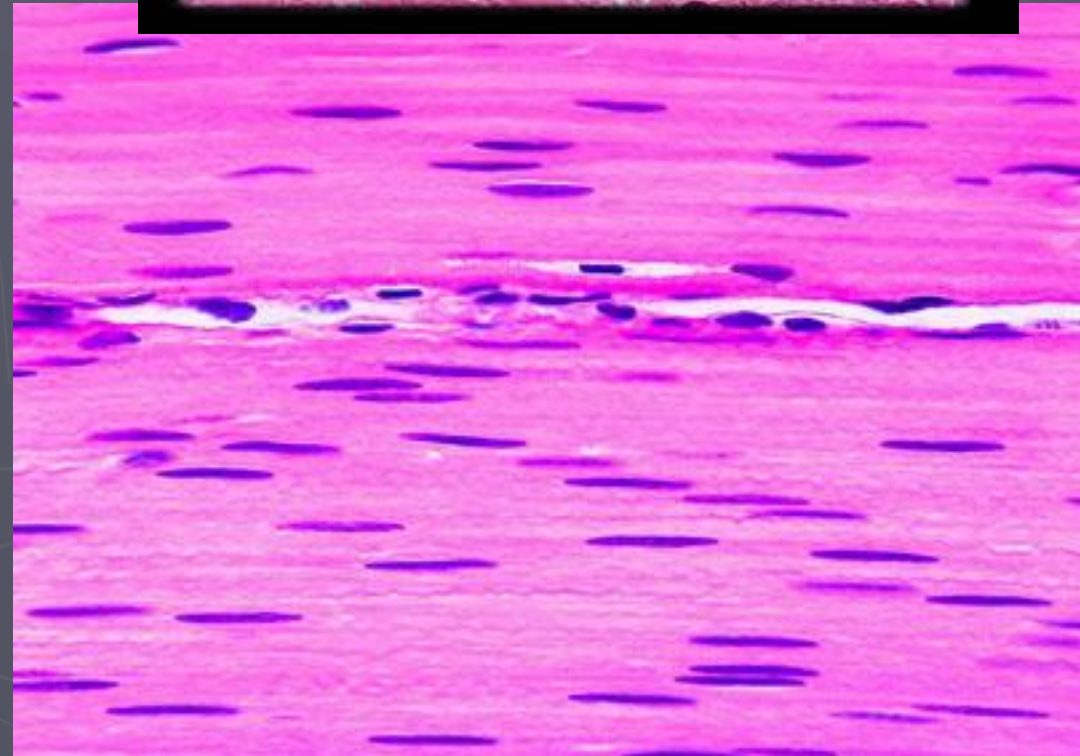
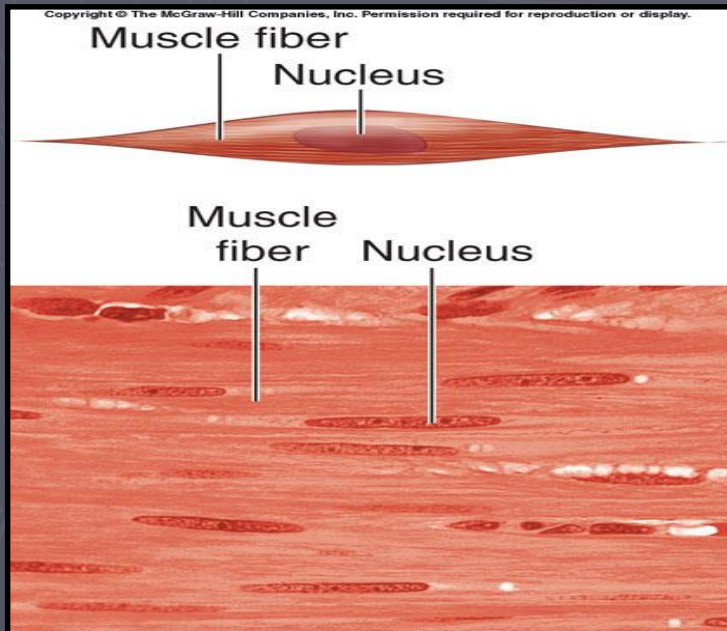
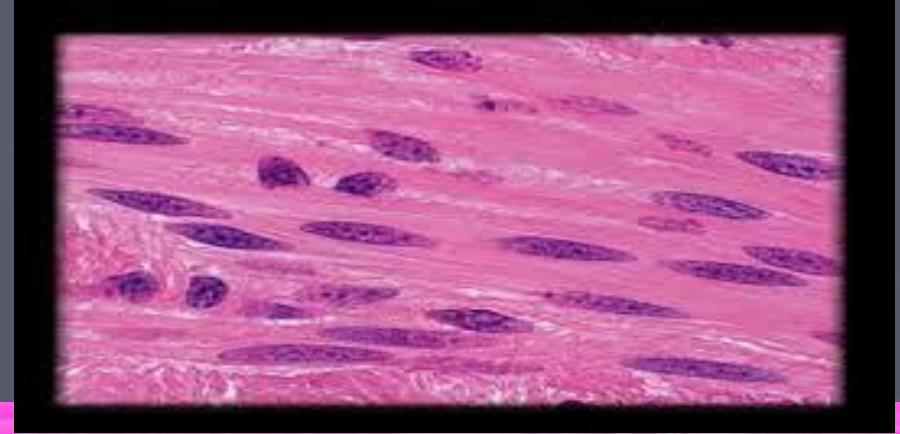


# Smooth muscle

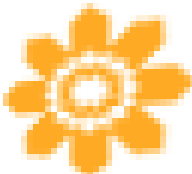
Fusiform elongated cells.

**Nucleus:** central single oval.

**Cytoplasm:** acidophilic.



THANKS!

a  bunch

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