

# **HISTOLOGY LAB**

## **MSS**

**Ass. Prof Dr. Heba Hassan Abd El-Gawad**

# **SKELETAL MUSCLE**

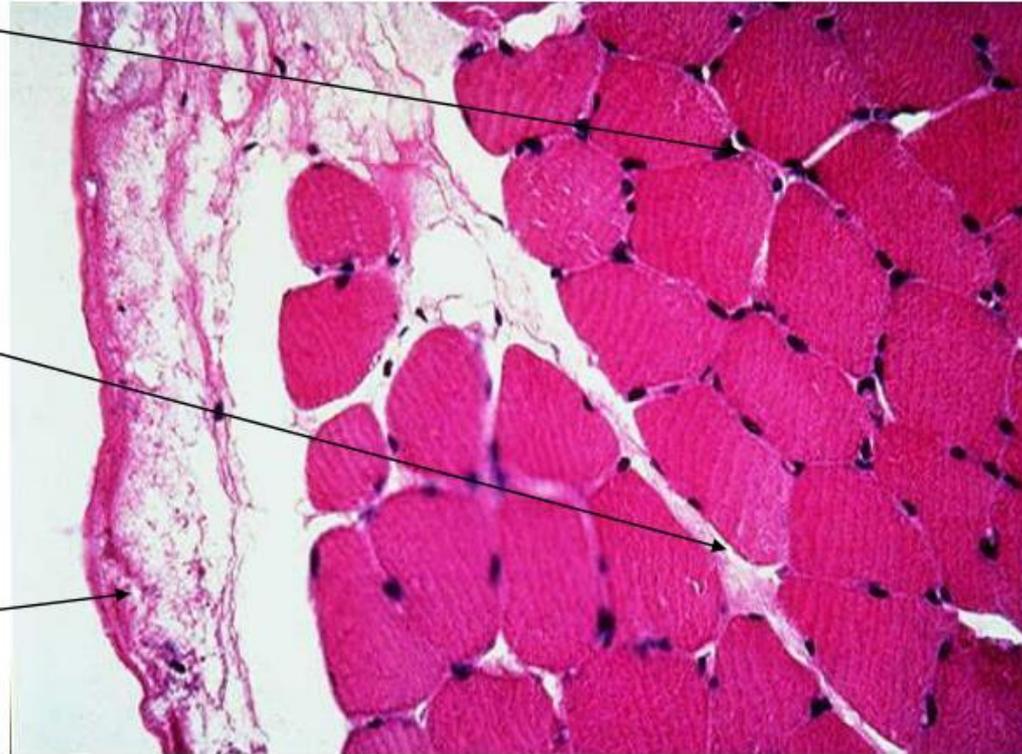
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# Skeletal Muscle Cross section

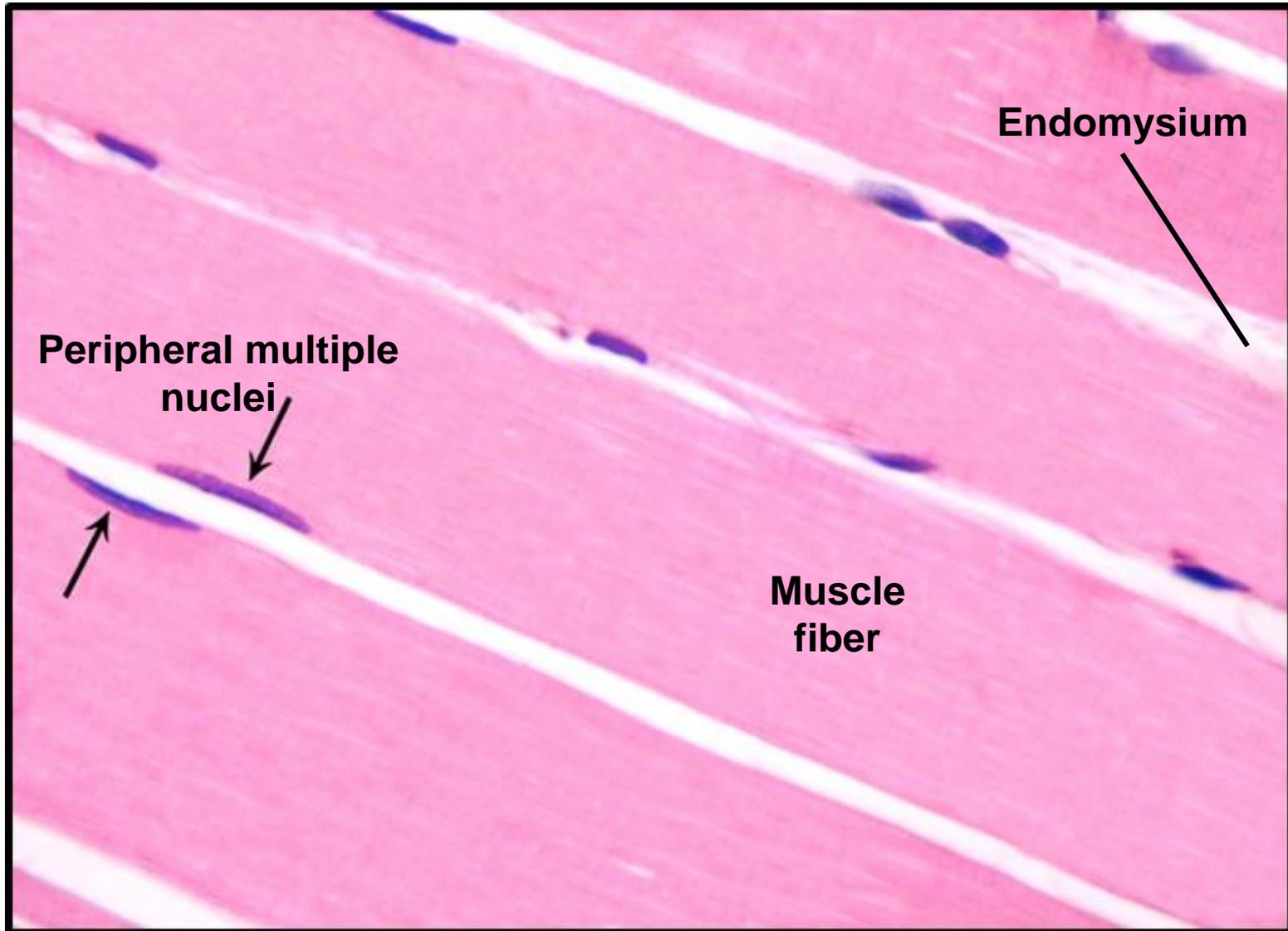
- Endomysium

- Perimysium

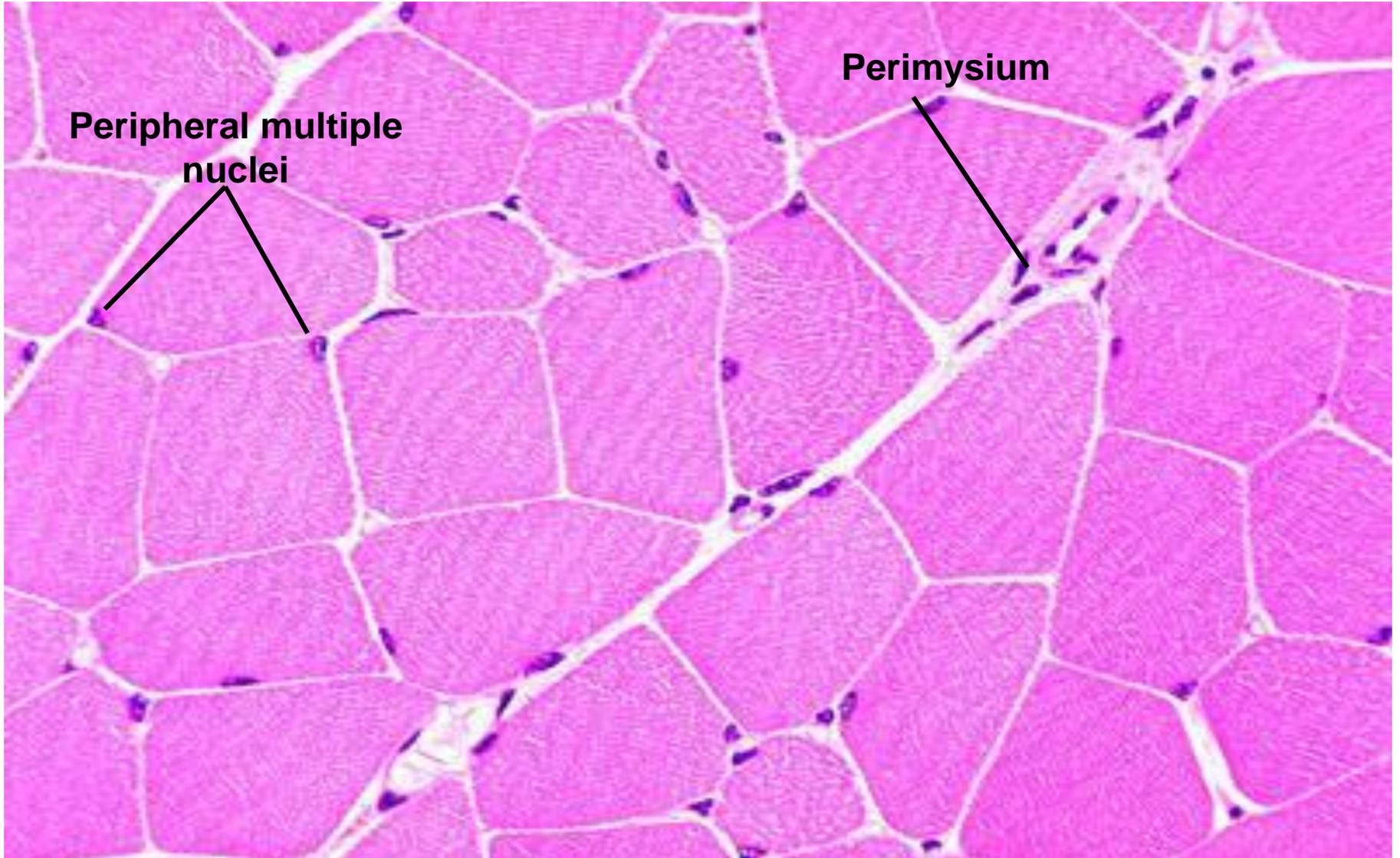
- Epimysium



# L.S skeletal muscle

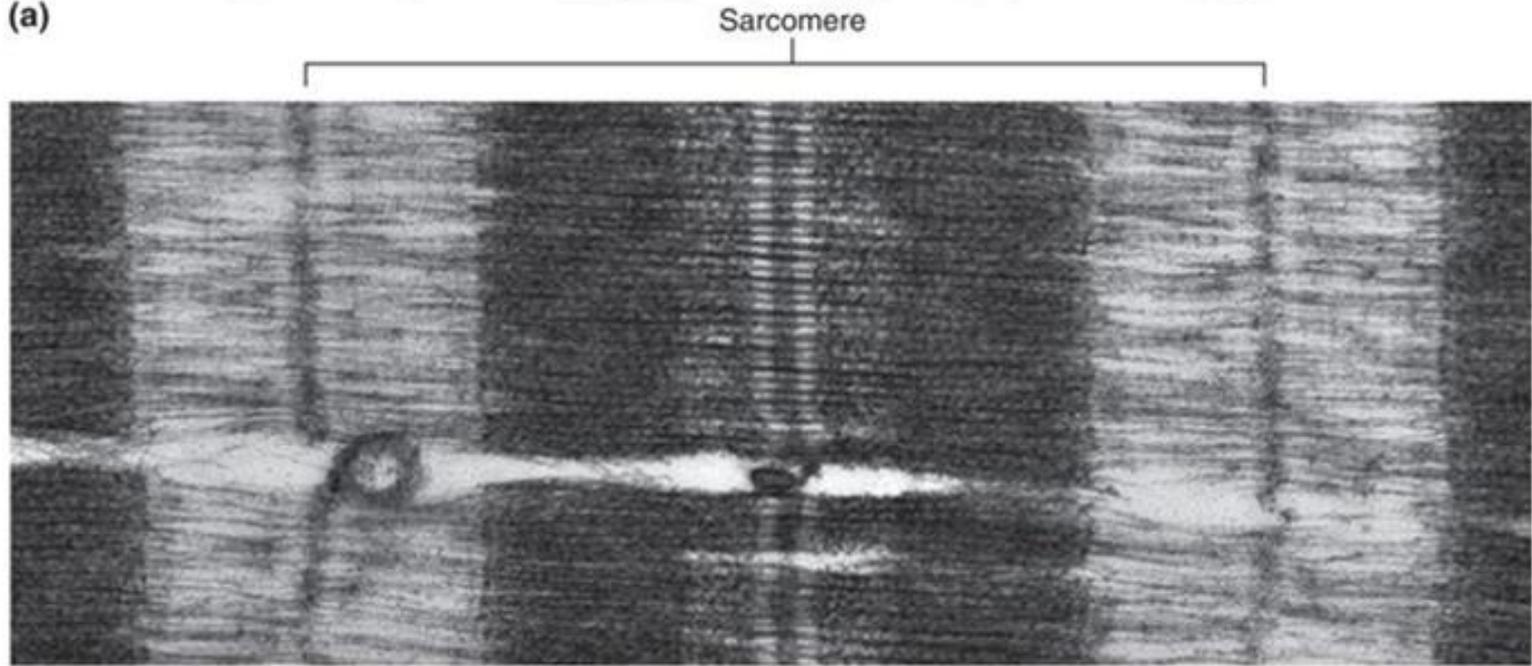


# TS skeletal muscle

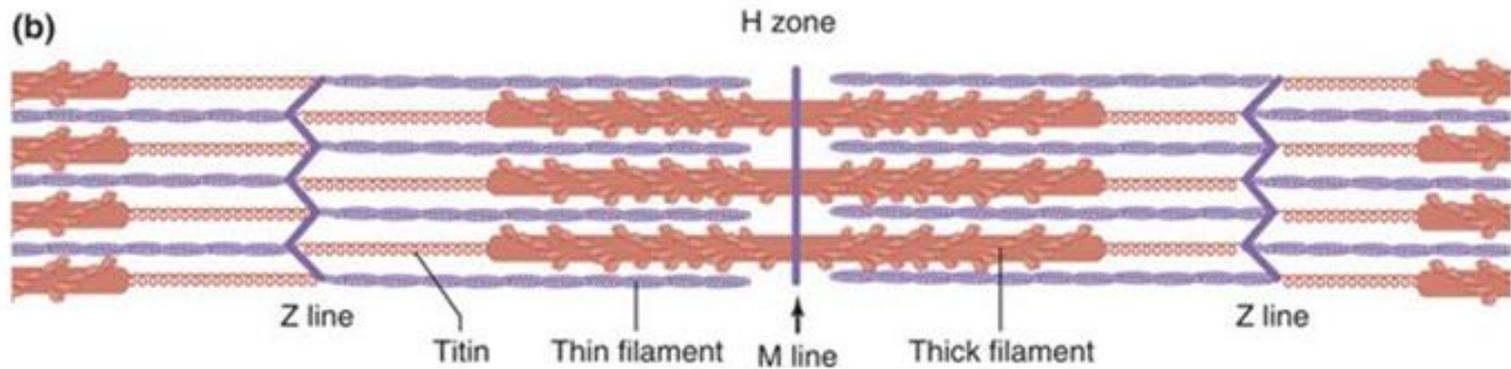


# EM of L.S skeletal muscle

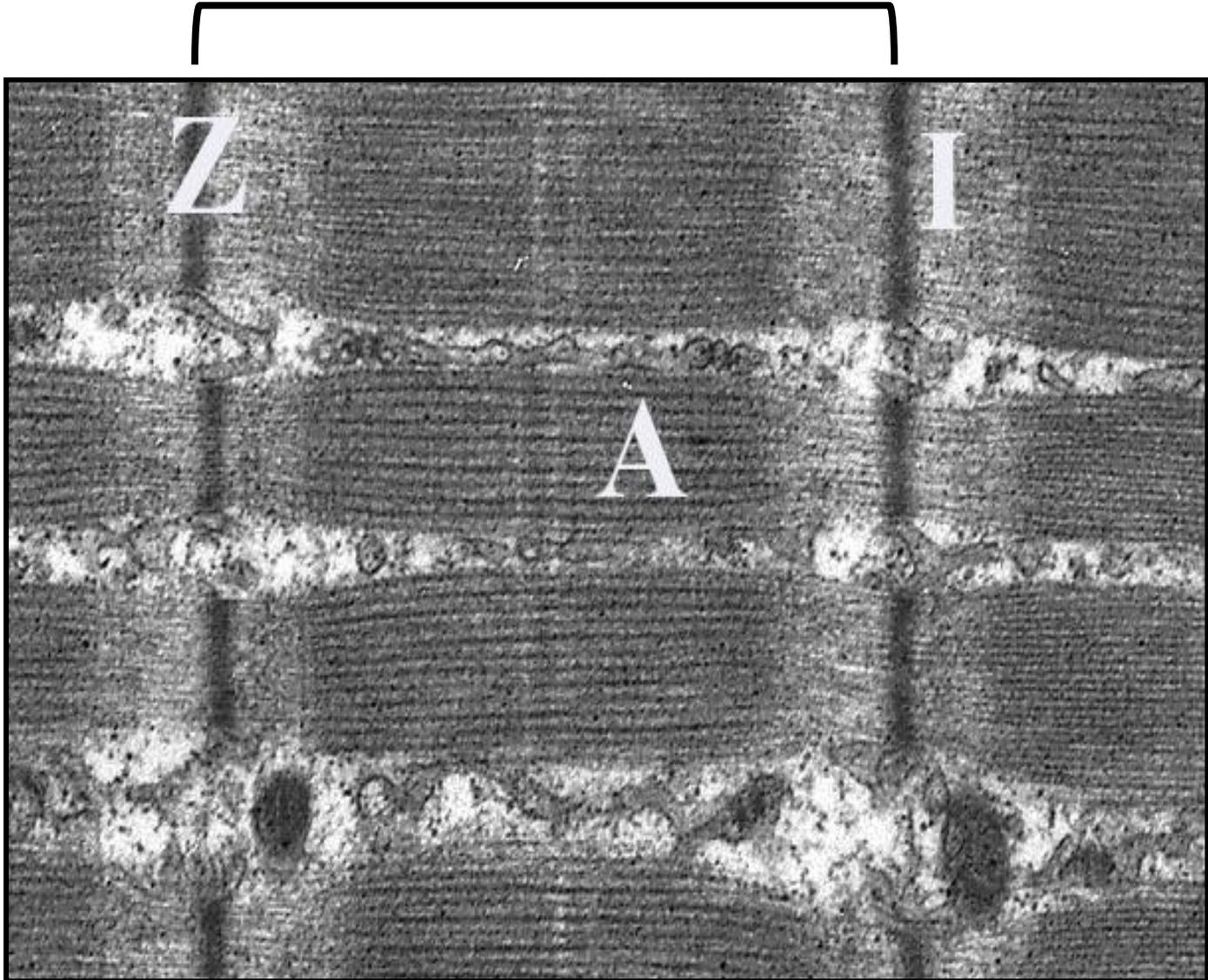
(a)

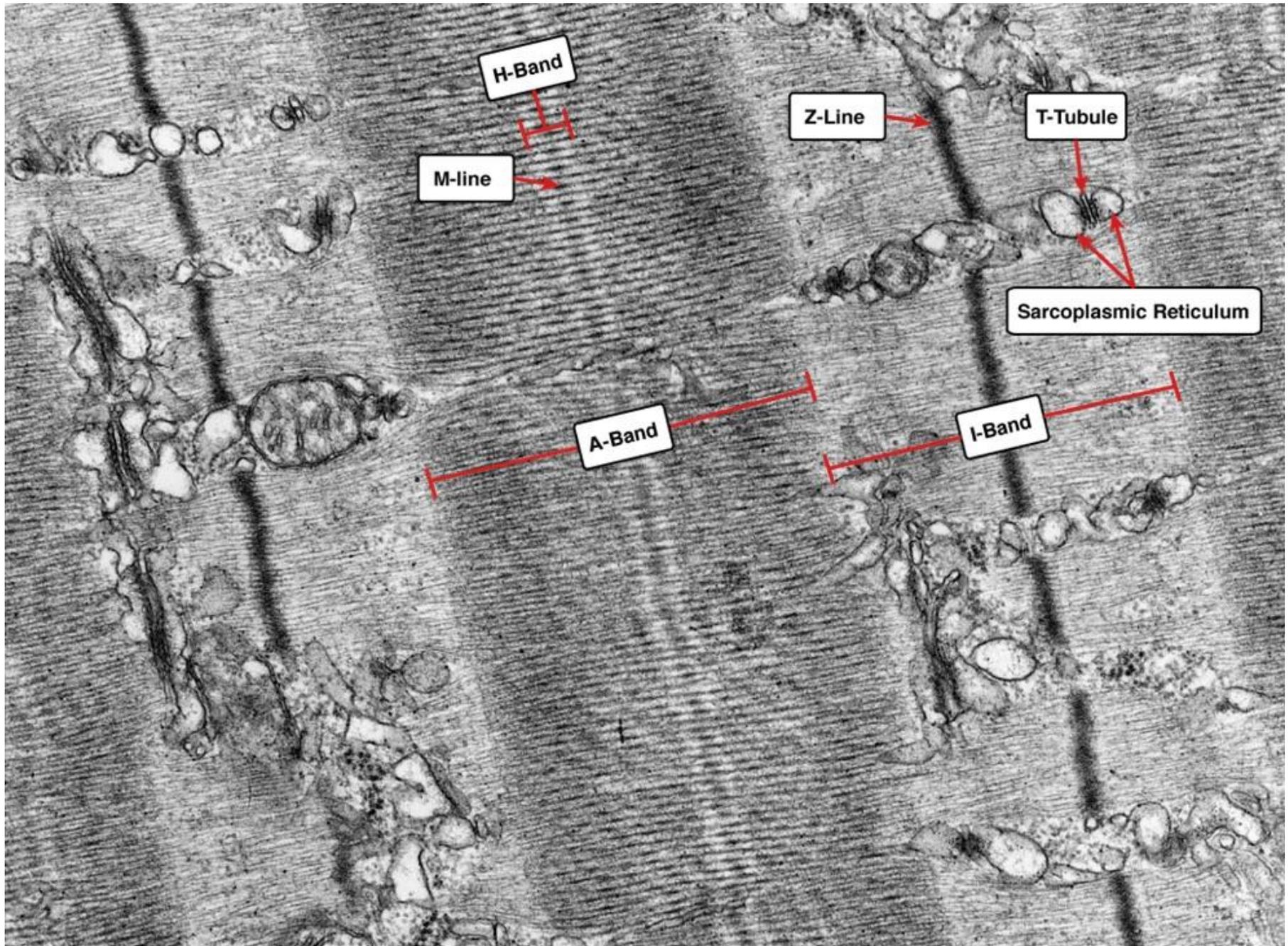


(b)

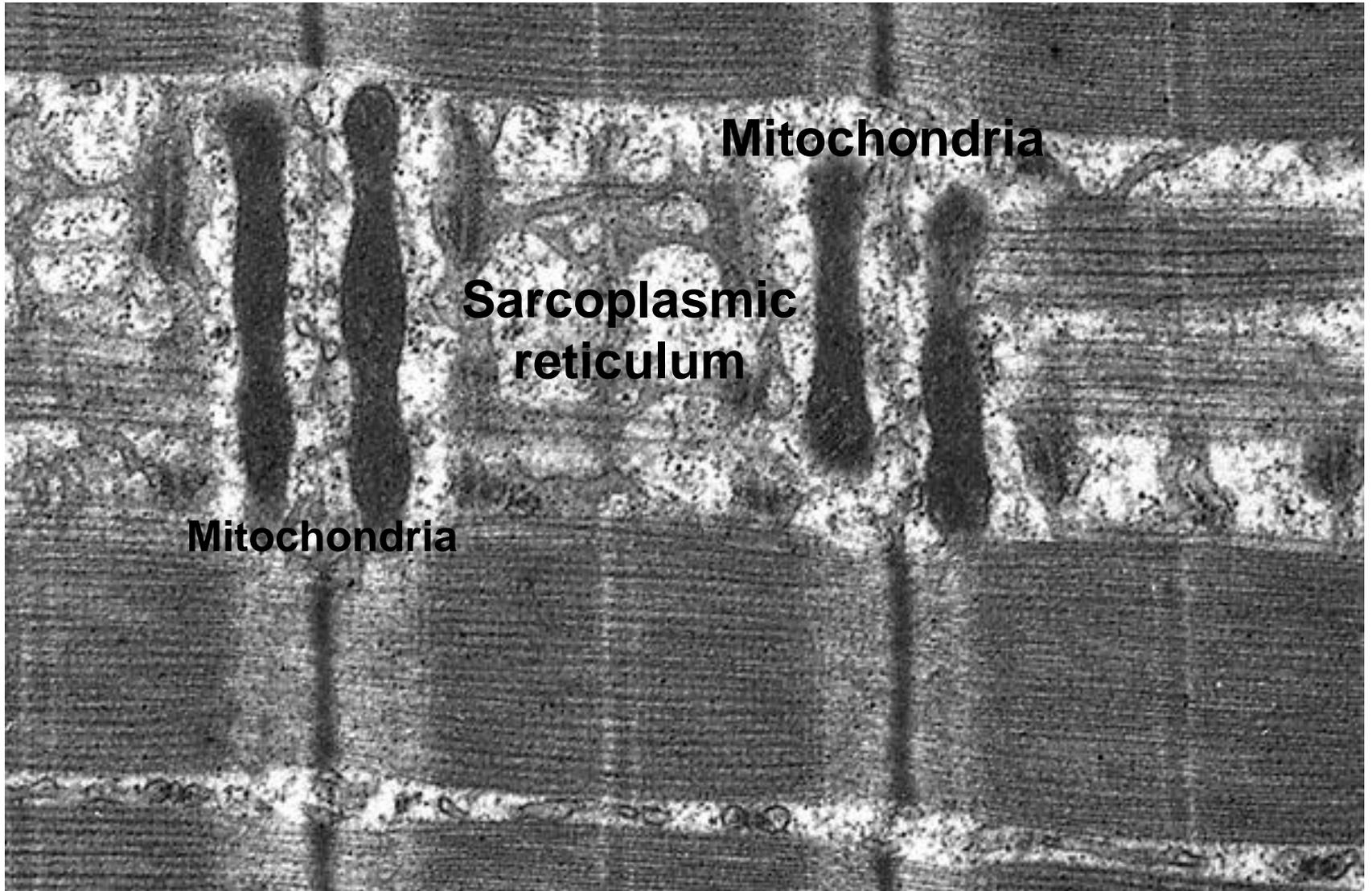


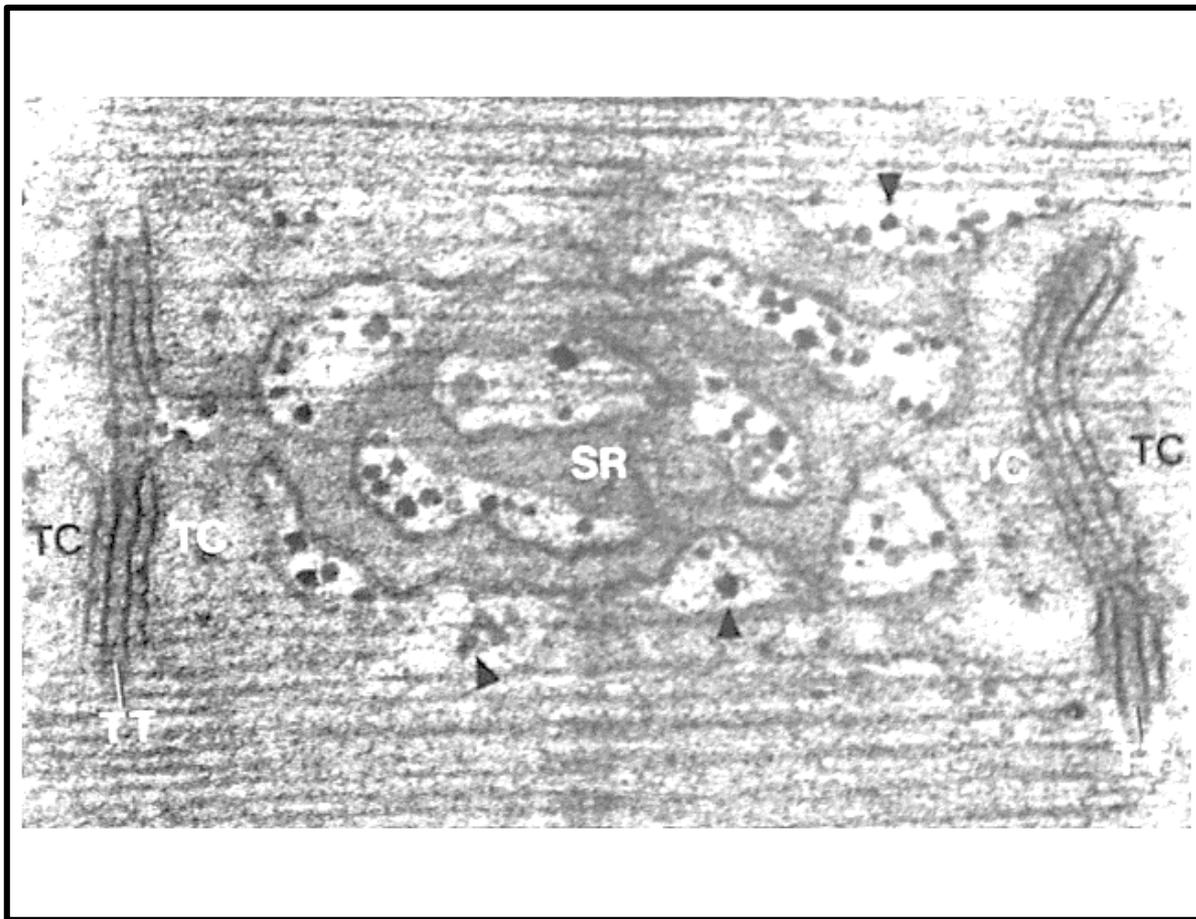
# LS skeletal ms showing sarcomere





# EM of L.S skeletal muscle





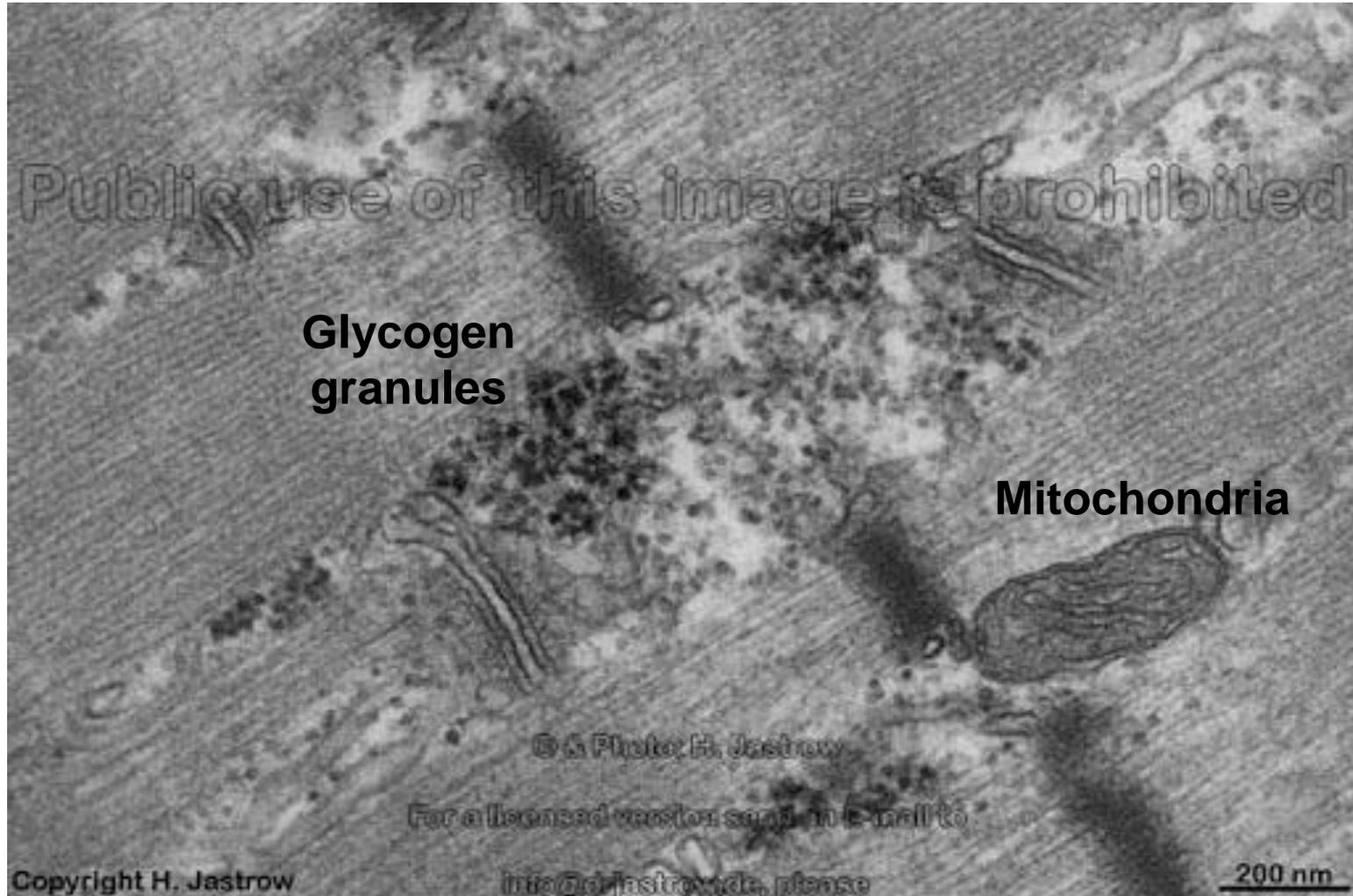
**SR= sarcoplasmic reticulum**

**TT= T-tubule**

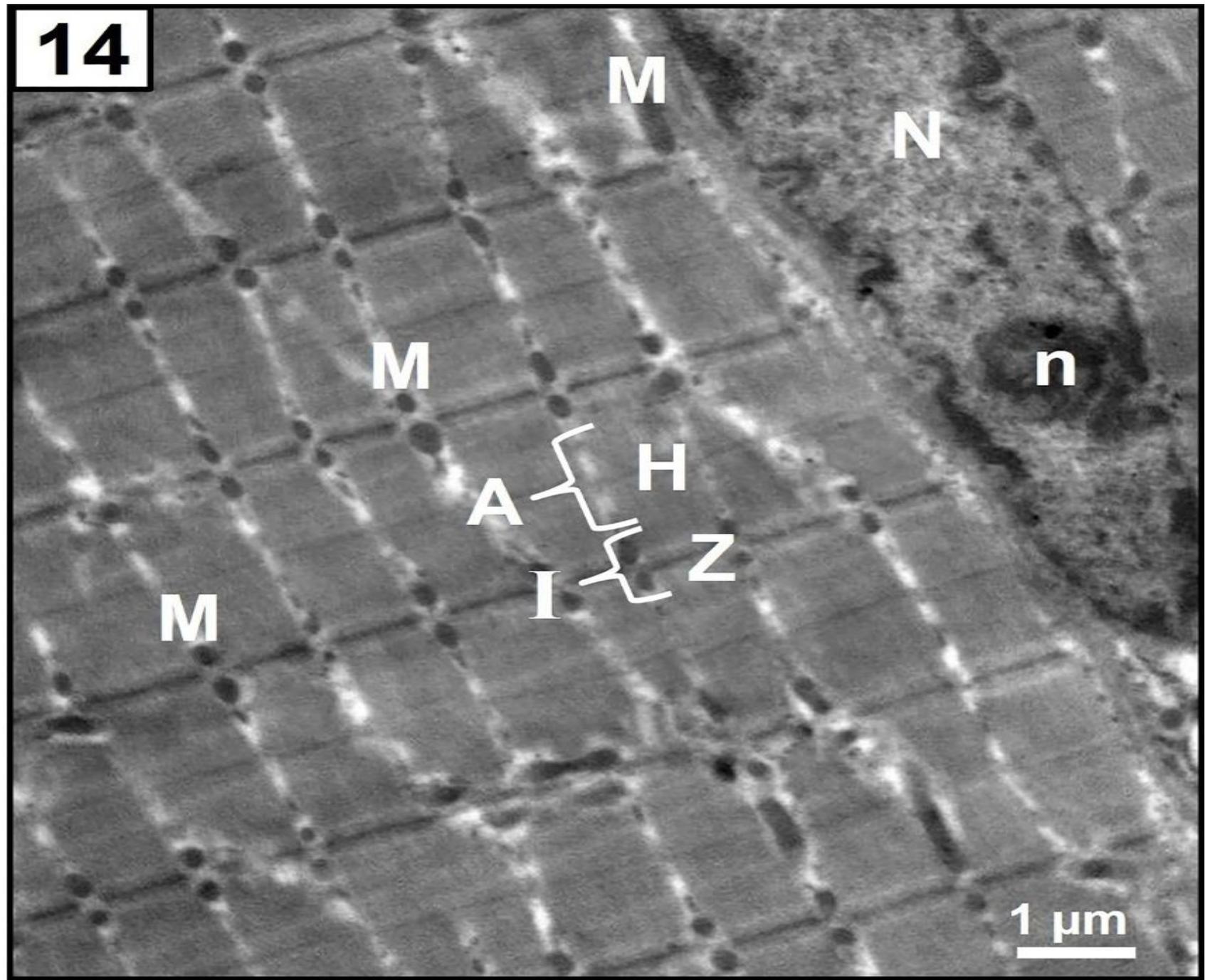
**TC= terminal cisternae**

**arrow head =calcium ions**

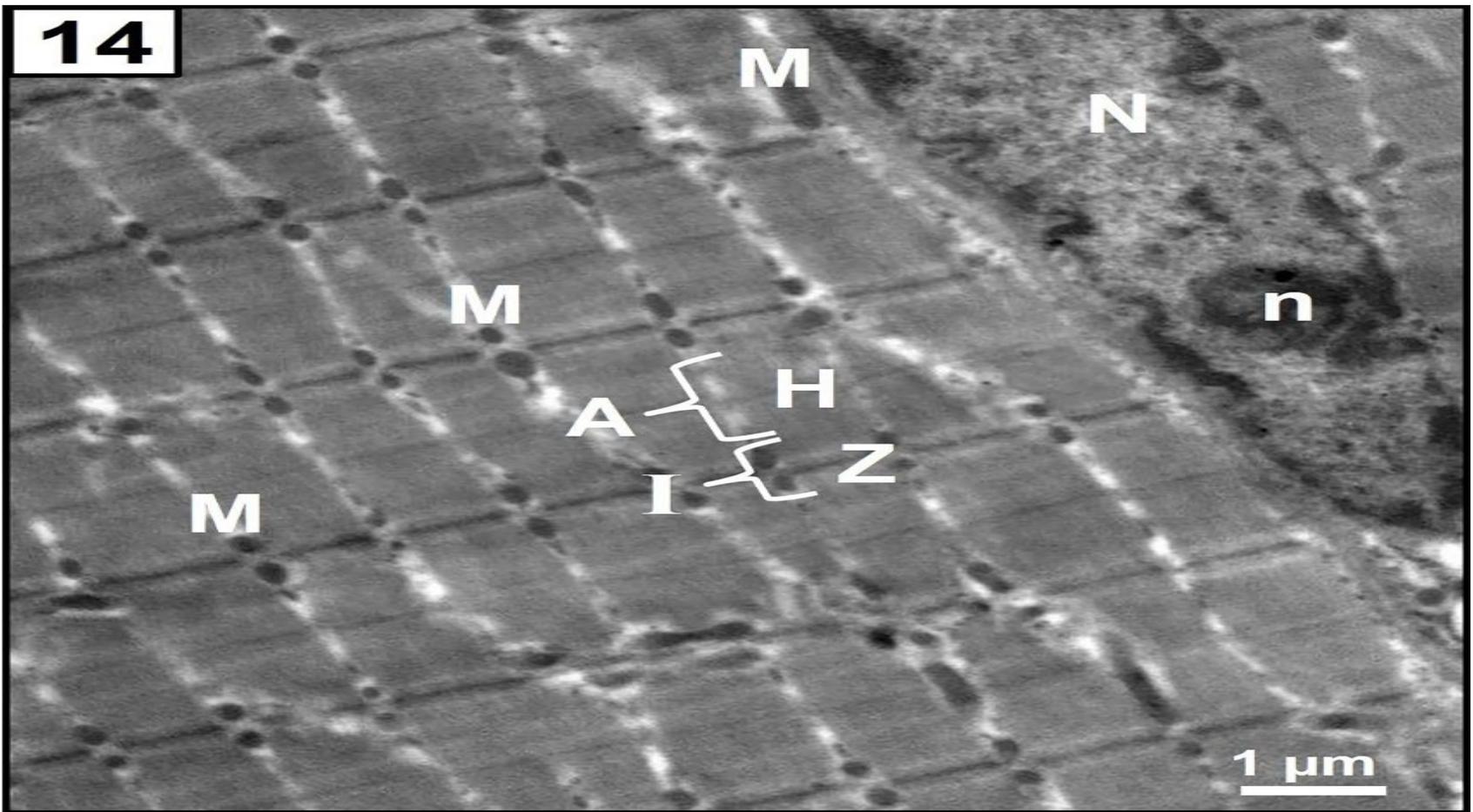
# EM of L.S skeletal muscle



14

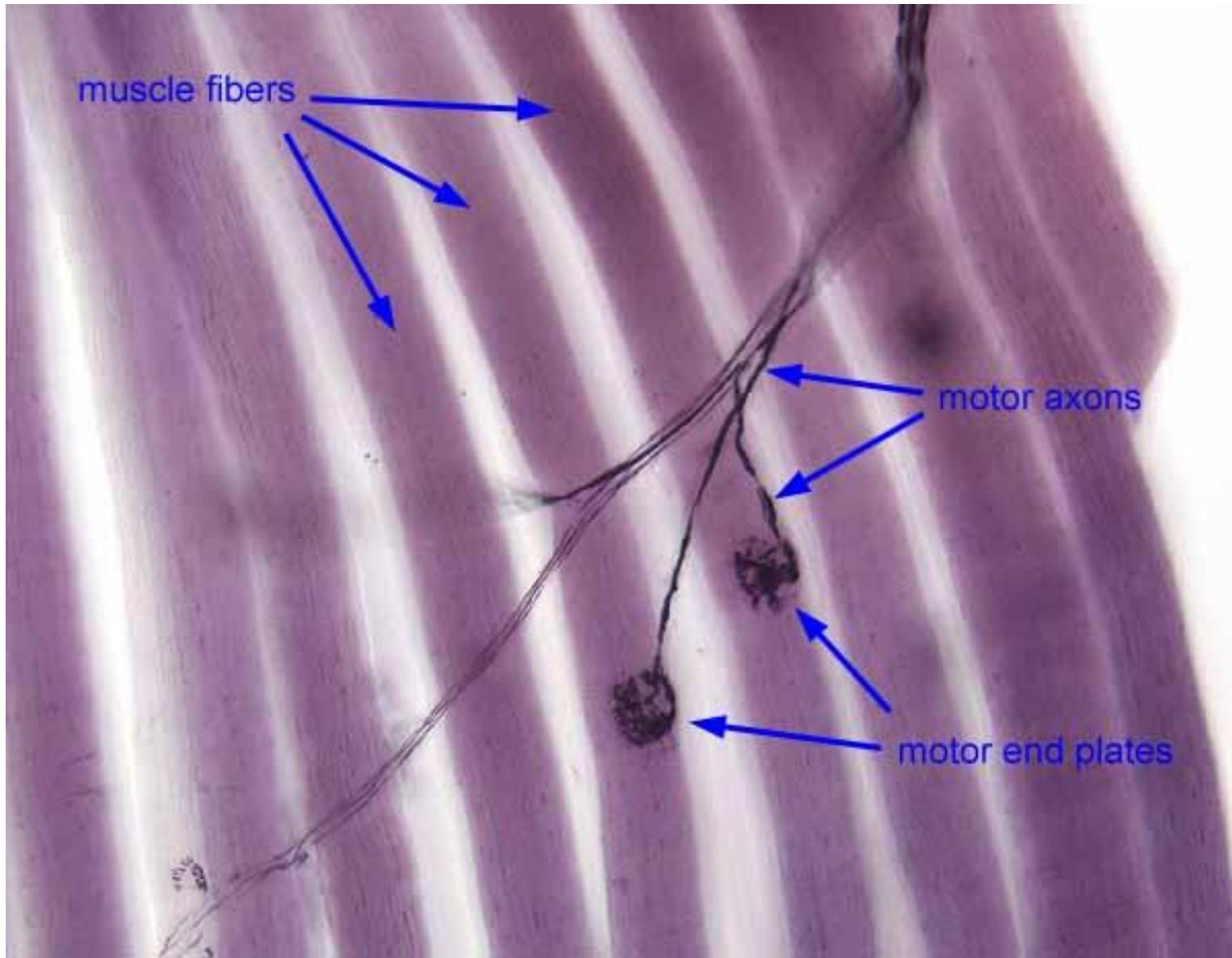


14



- N=nucleus
- M= mitochondria
- n=nucleolus

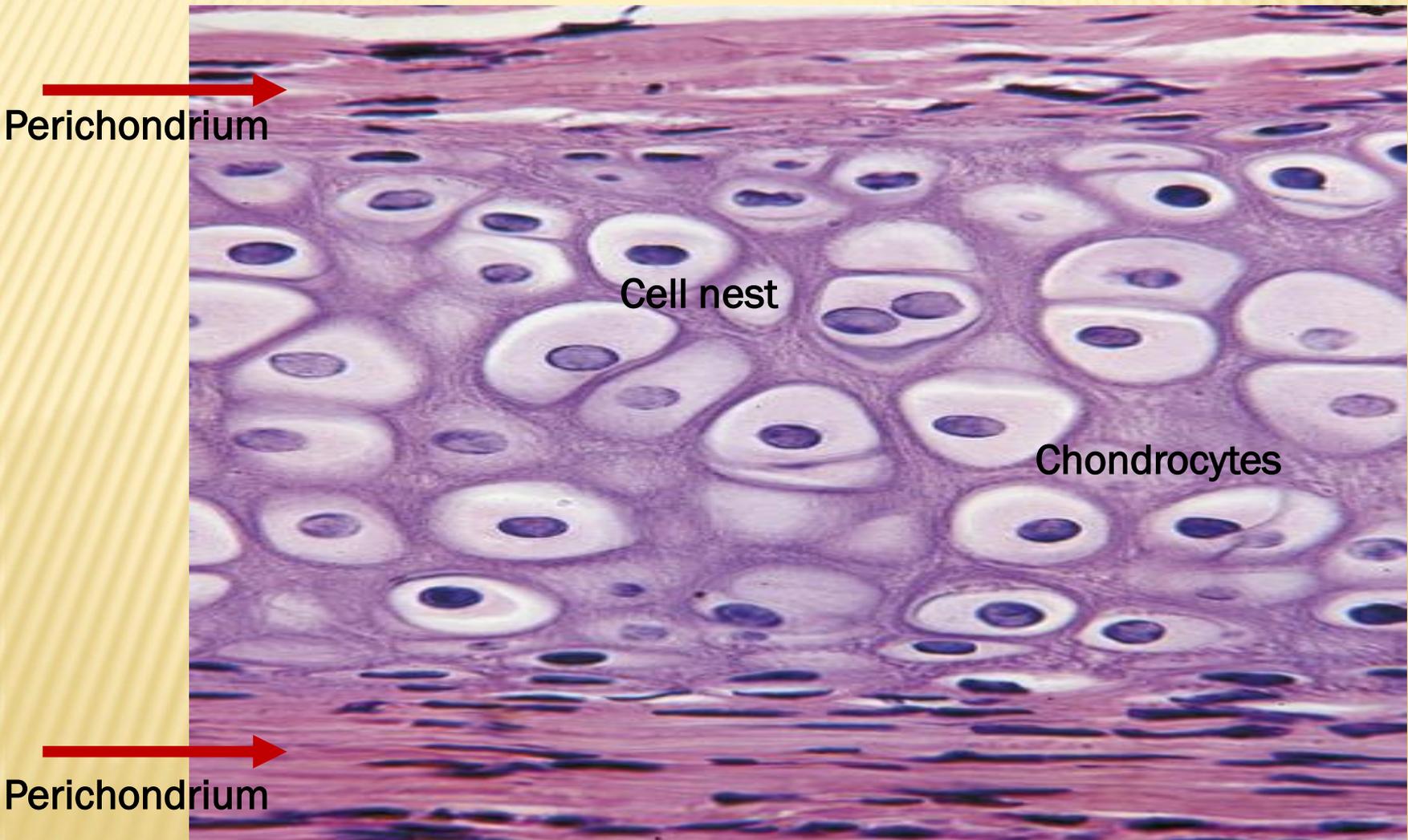
# Motor end plate



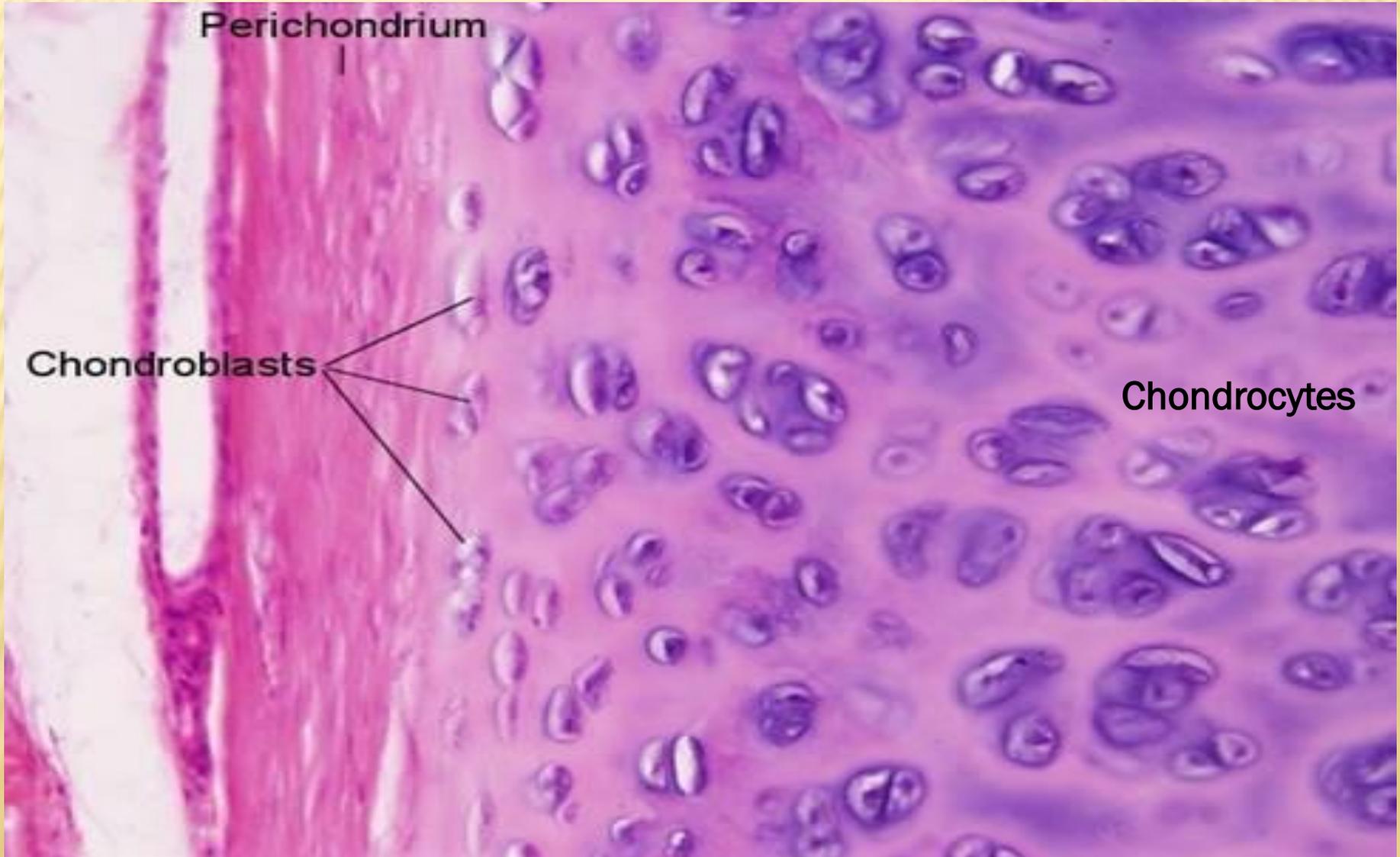
# CARTILAGE

CARTILAGE

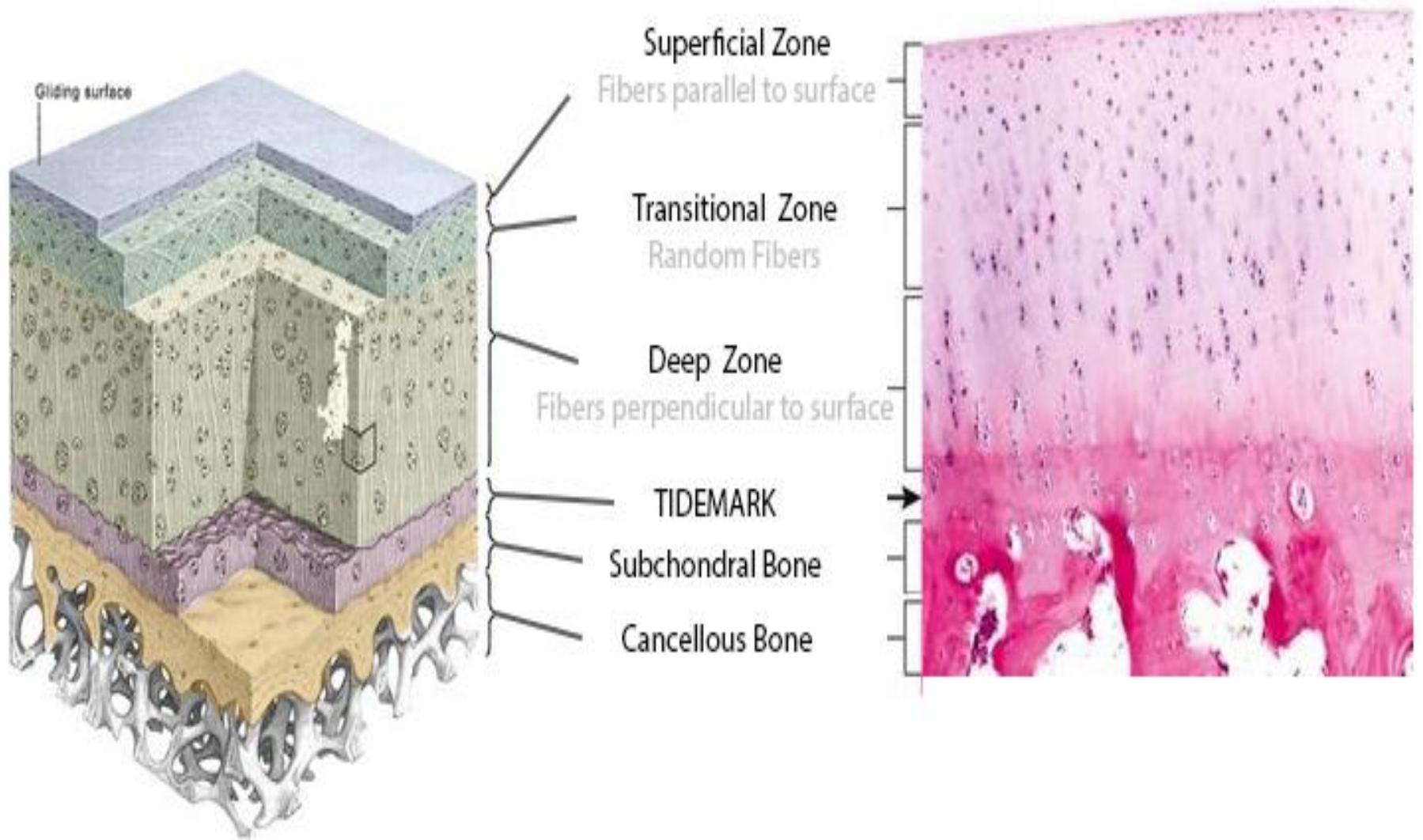
# HYALINE CARTILAGE



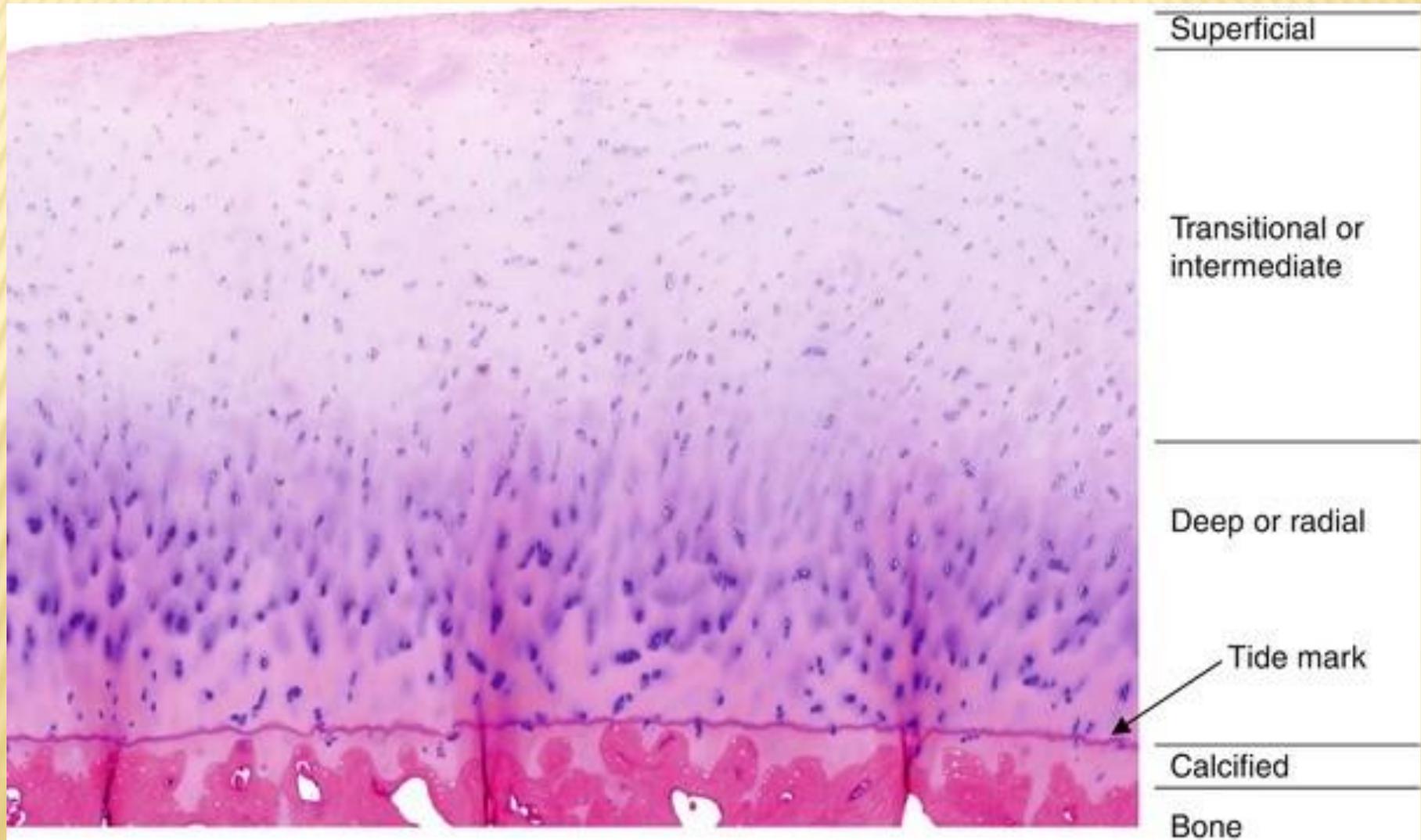
# HYALINE CARTILAGE



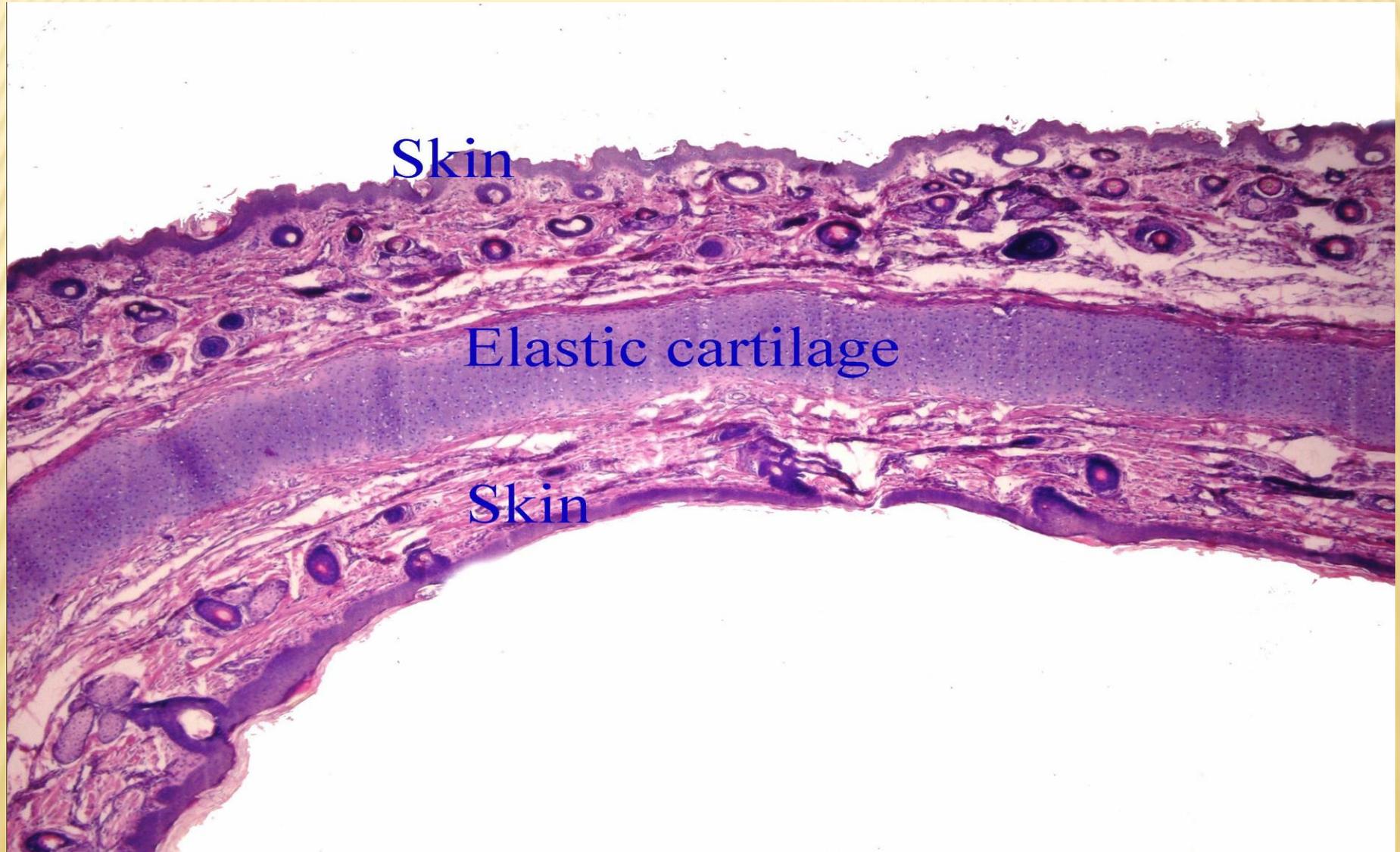
# ARTICULAR HYALINE CARTILAGE



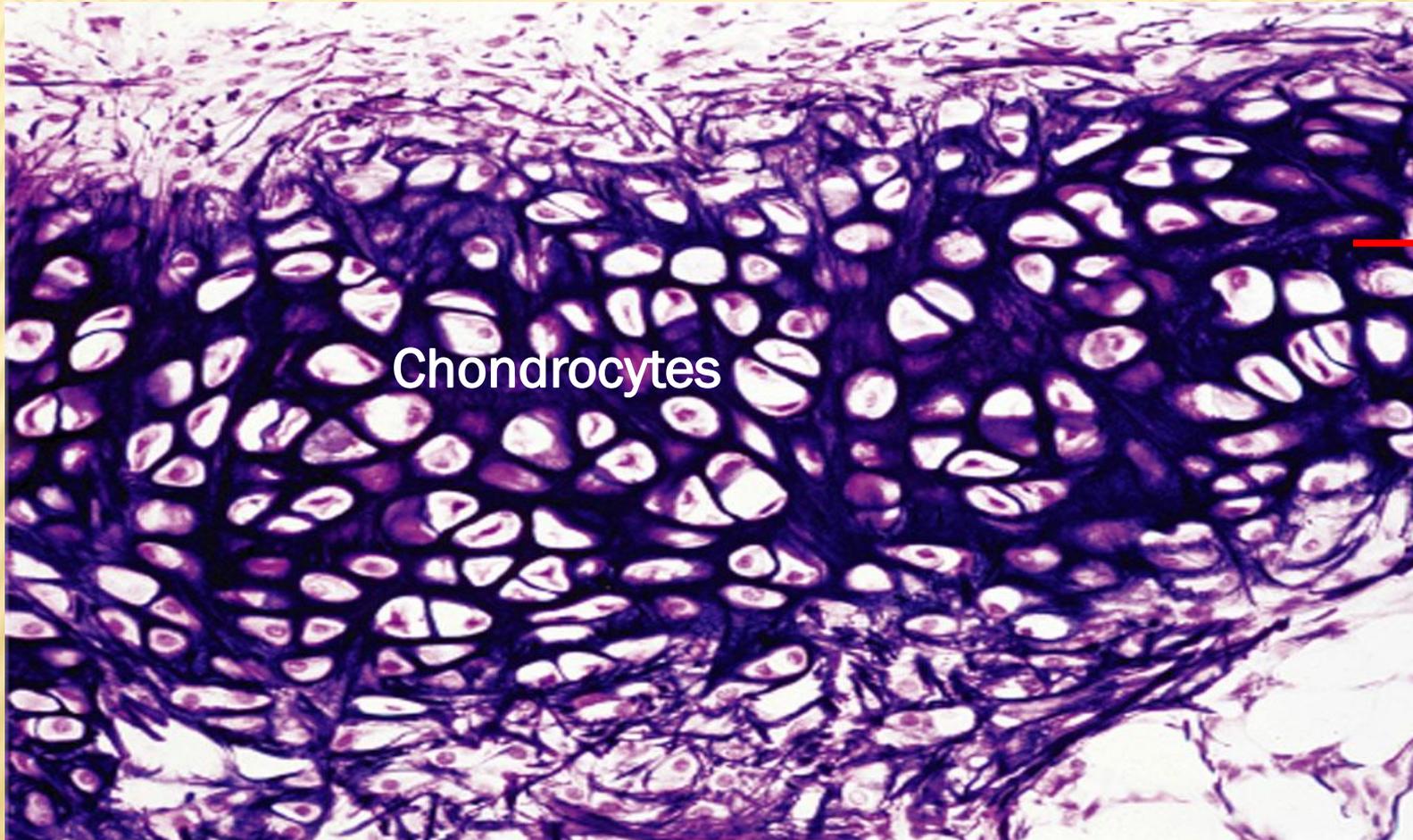
# ARTICULAR HYALINE CARTILAGE



# ELASTIC CARTILAGE



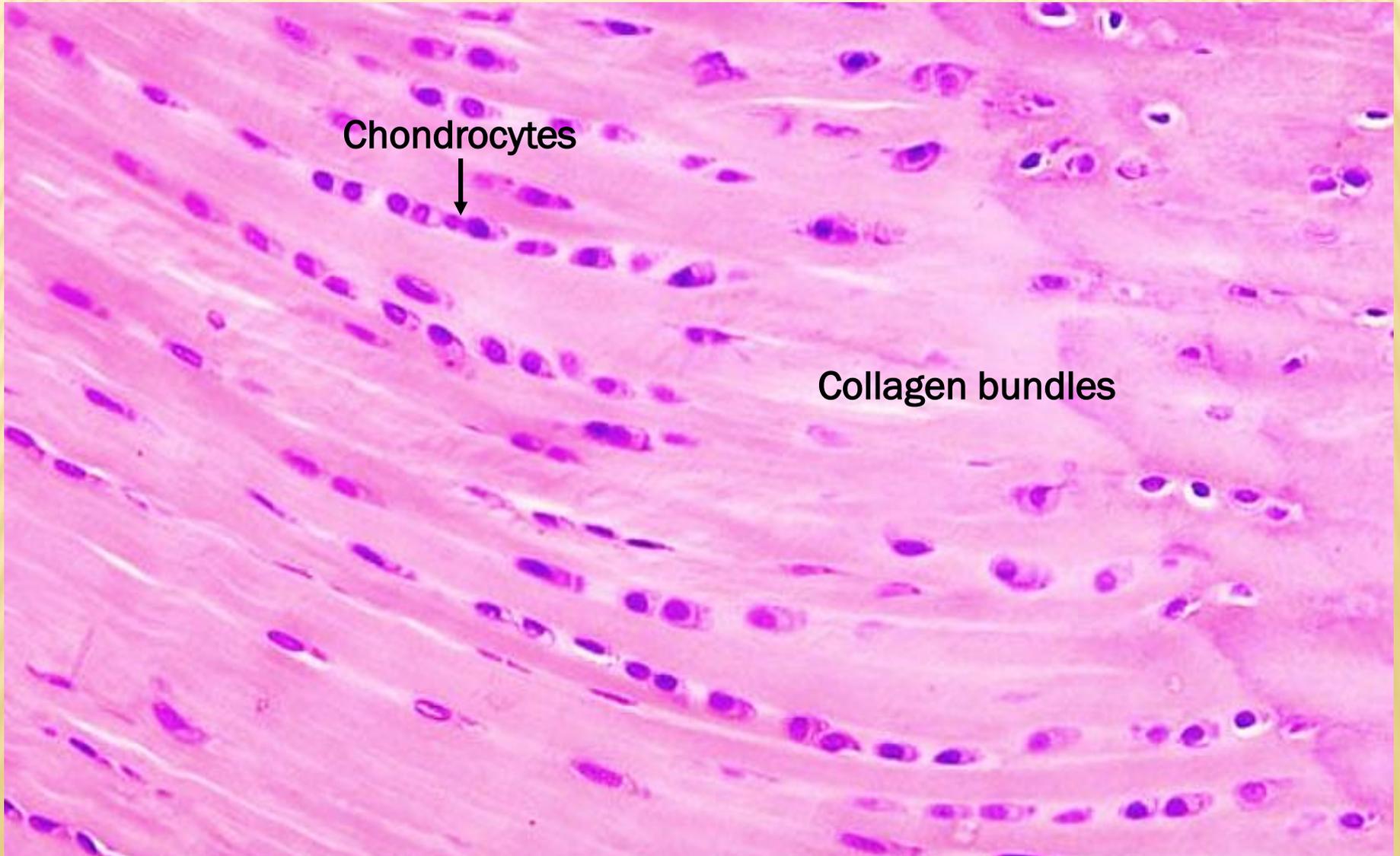
# ELASTIC CARTILAGE (VERHOEFF VAN GIESON)



Chondrocytes

Elastic  
fibers  
stained  
black

# FIBROCARILAGE



# BONE

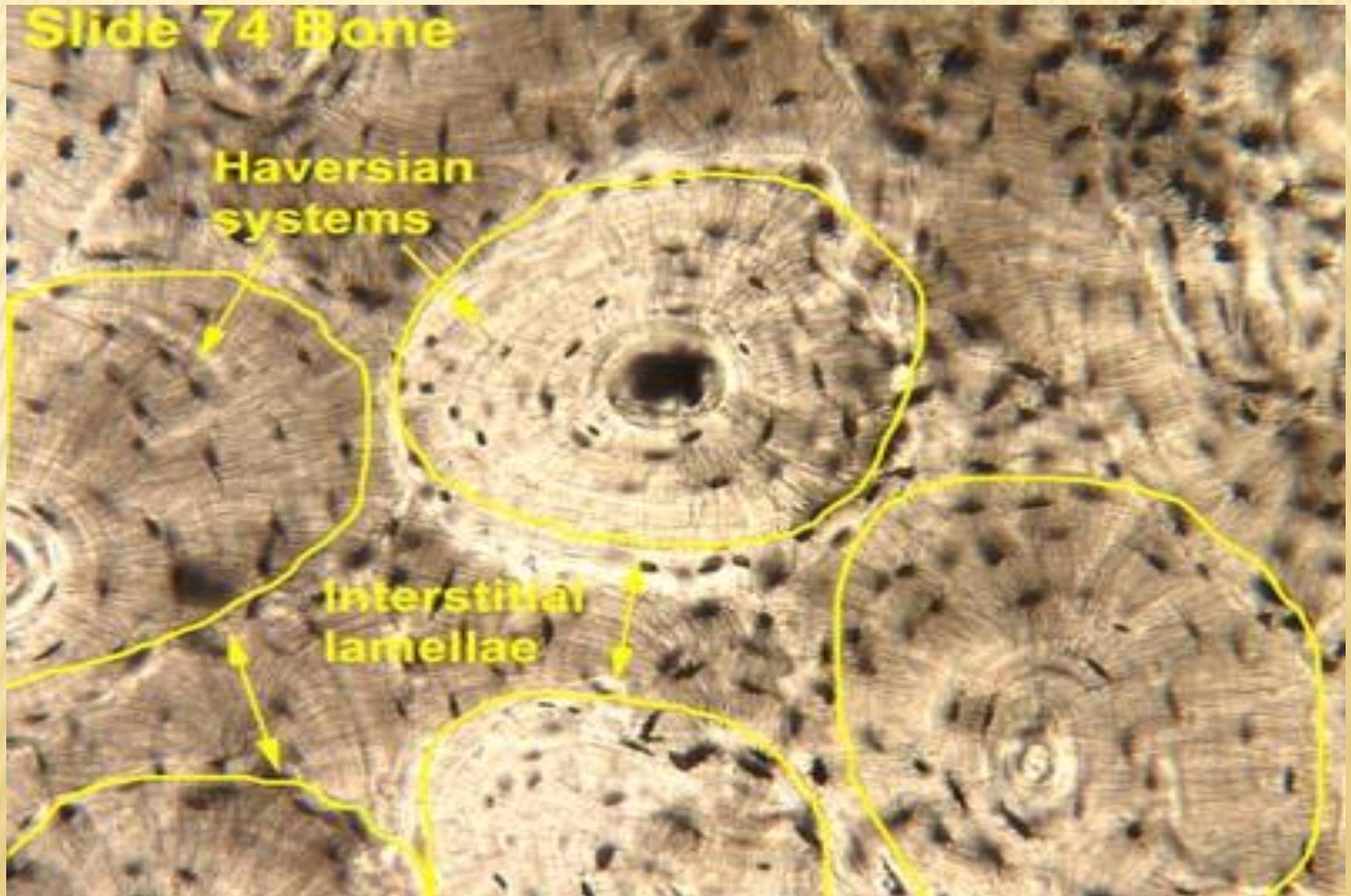
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## ✘ Preparation of bone tissue for microscopic examination:

✘ Because bone is a hard tissue there are two methods to prepare it for microscopic study.

- **Decalcified sections:** the bone is treated with dilute acid solution (5% nitric acid) to remove the inorganic component. Then thin sections are prepared and stained in ordinary manner. In this method the cells and the organic components of bone are preserved.
- **Ground section:** It is carried out by grinding a thin piece of bone until it become transparent. Sections are obtained and examined with the microscope. No stains can be used and the bone cells are destroyed, so lacunae and canaliculi appear black due to the entrapped air.

# Compact Bone (ground preparation)

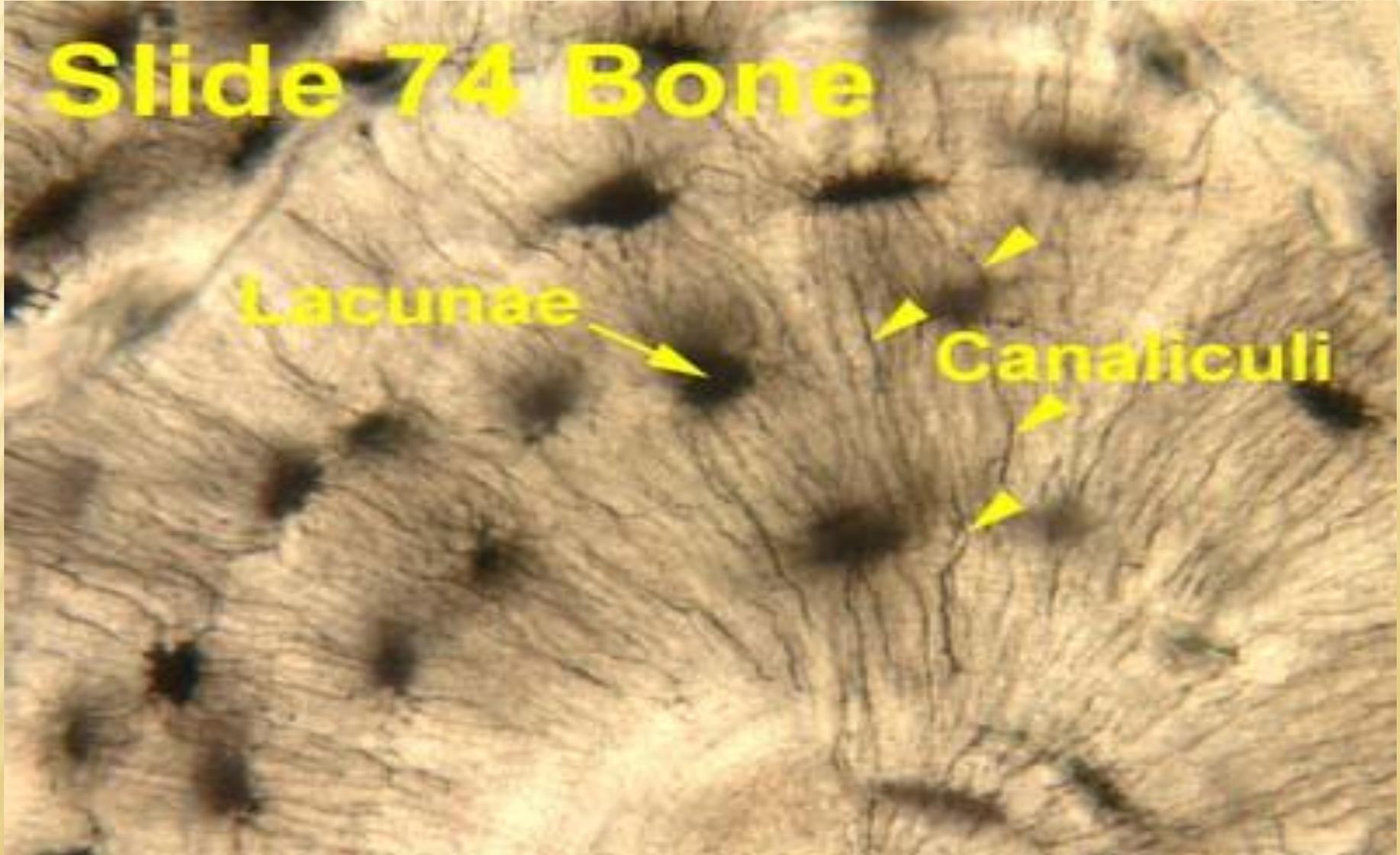


# Compact Bone (ground preparation)

**Slide 74 Bone**

**Lacunae**

**Canaliculi**

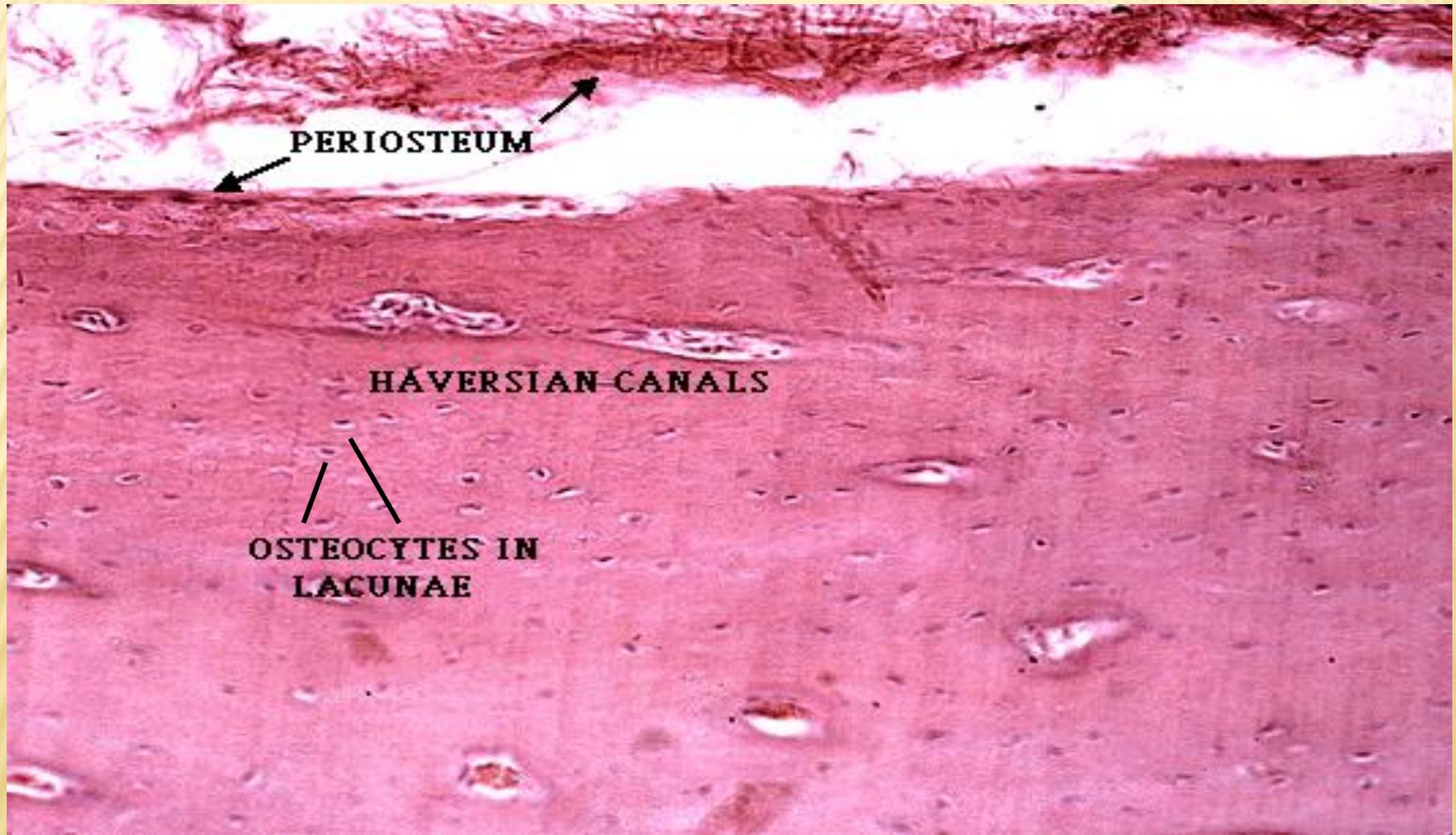


# Decalcified Compact Bone

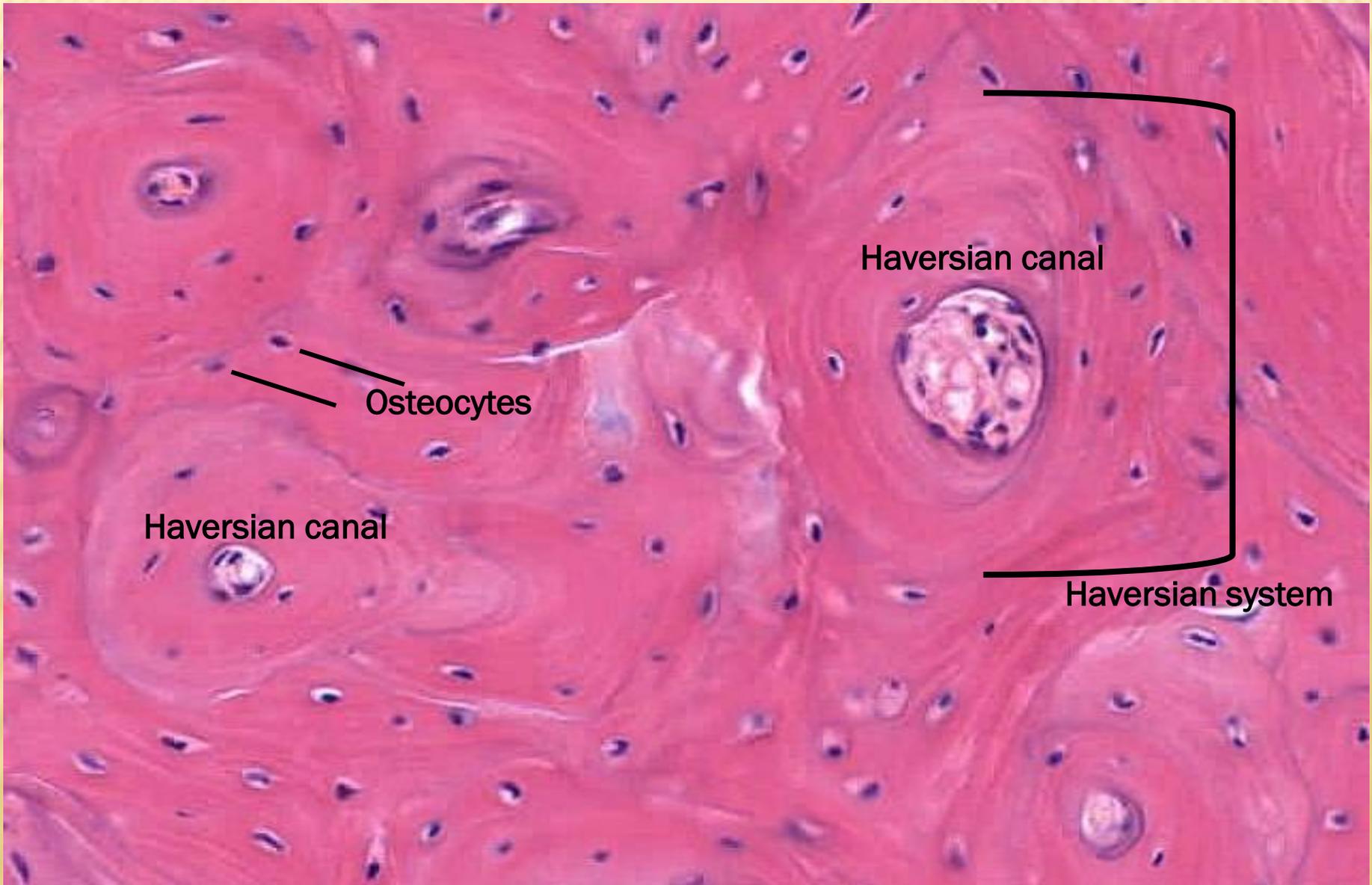
Slide 69 Bone, Femur



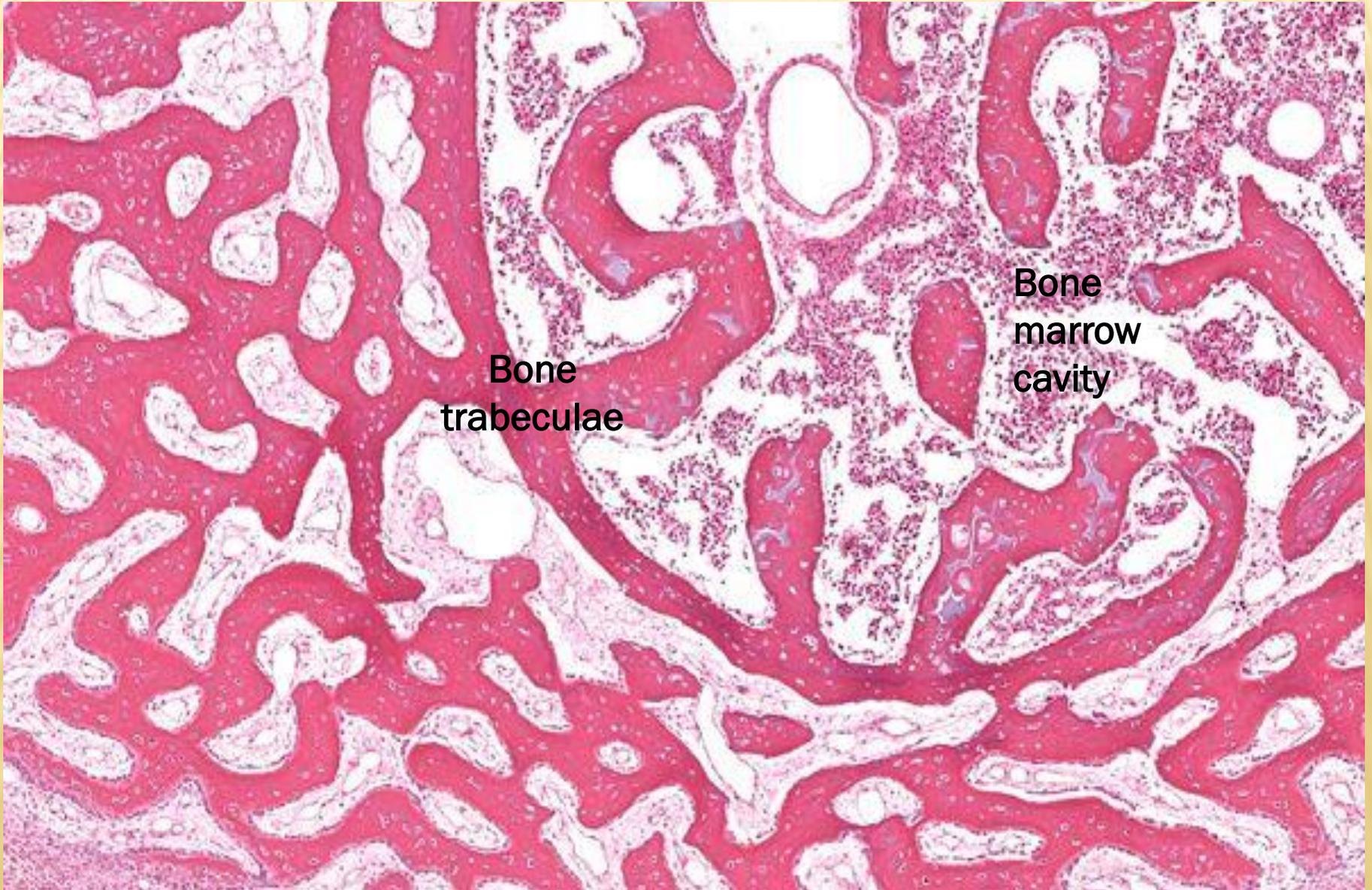
# Decalcified Compact Bone



# Decalcified Compact Bone



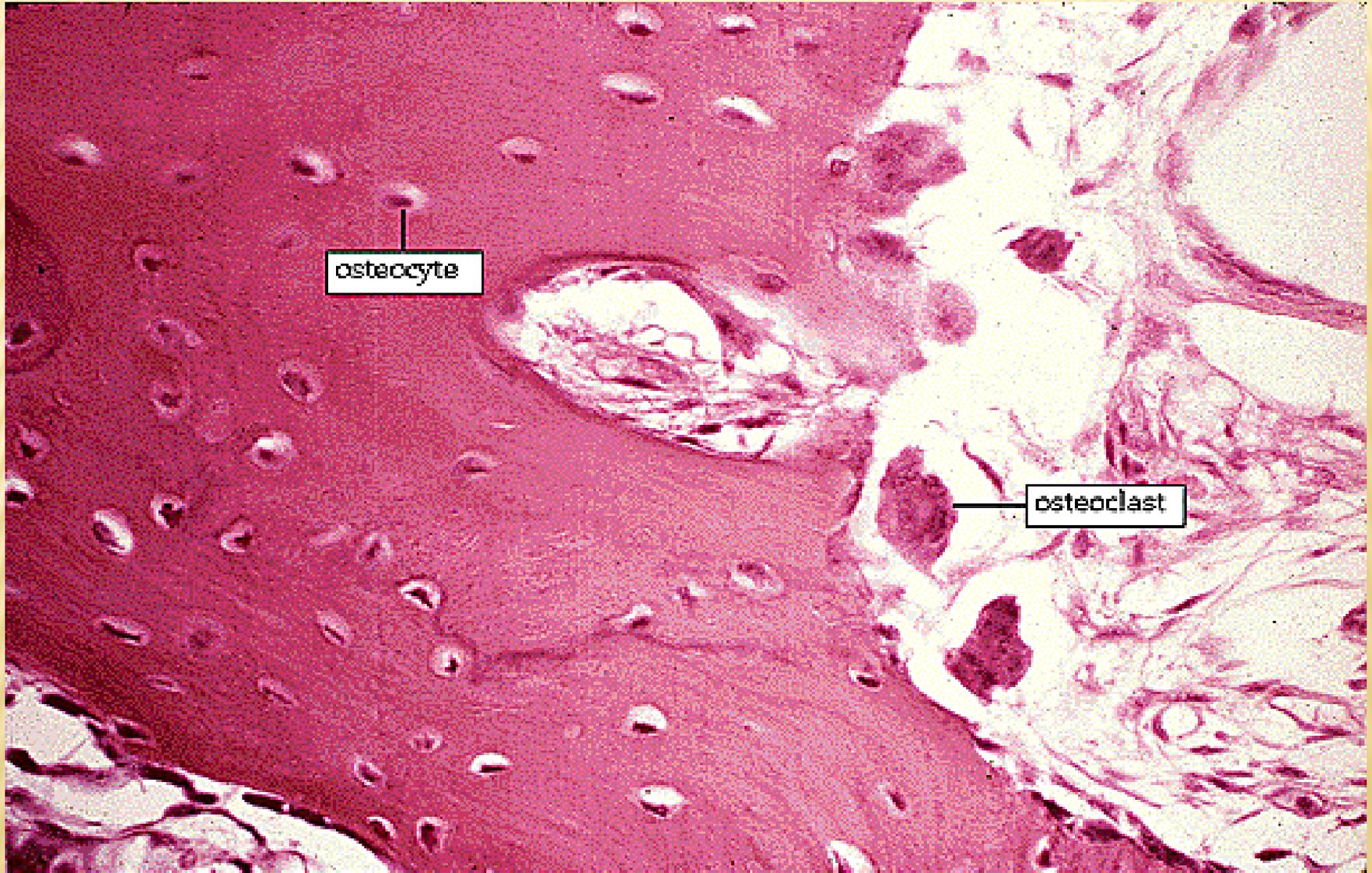
# Cancellous Bone



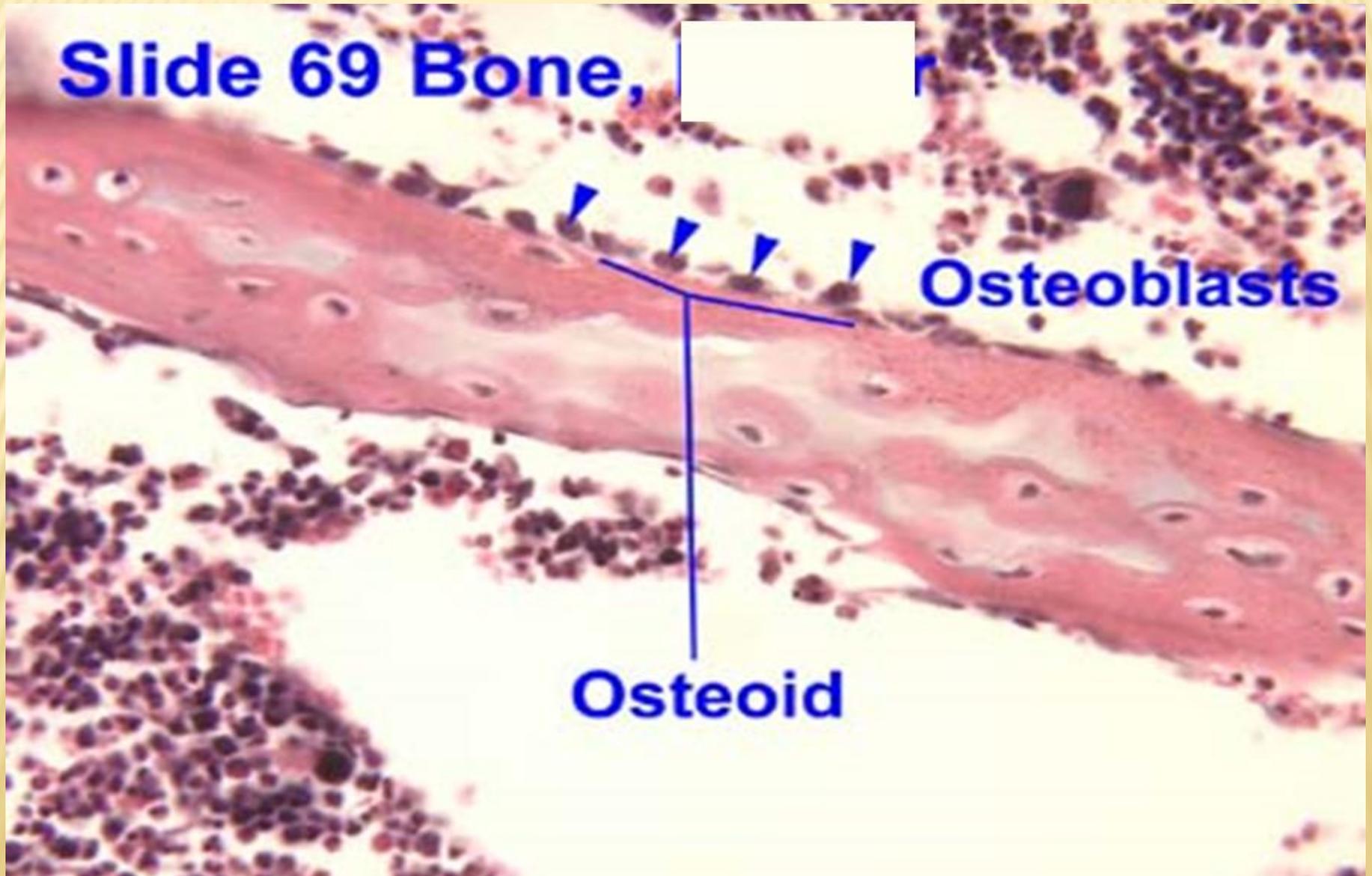
Bone  
trabeculae

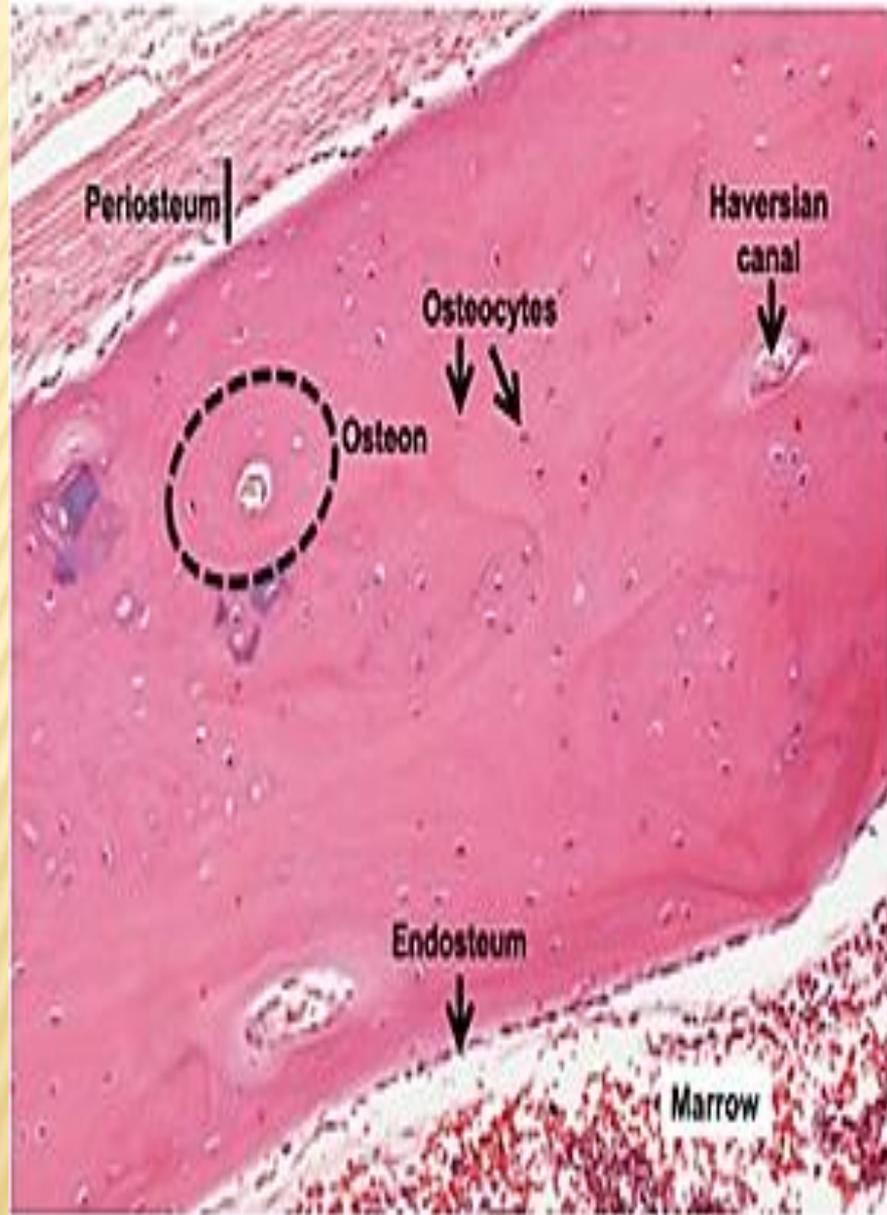
Bone  
marrow  
cavity

# Cancellous Bone

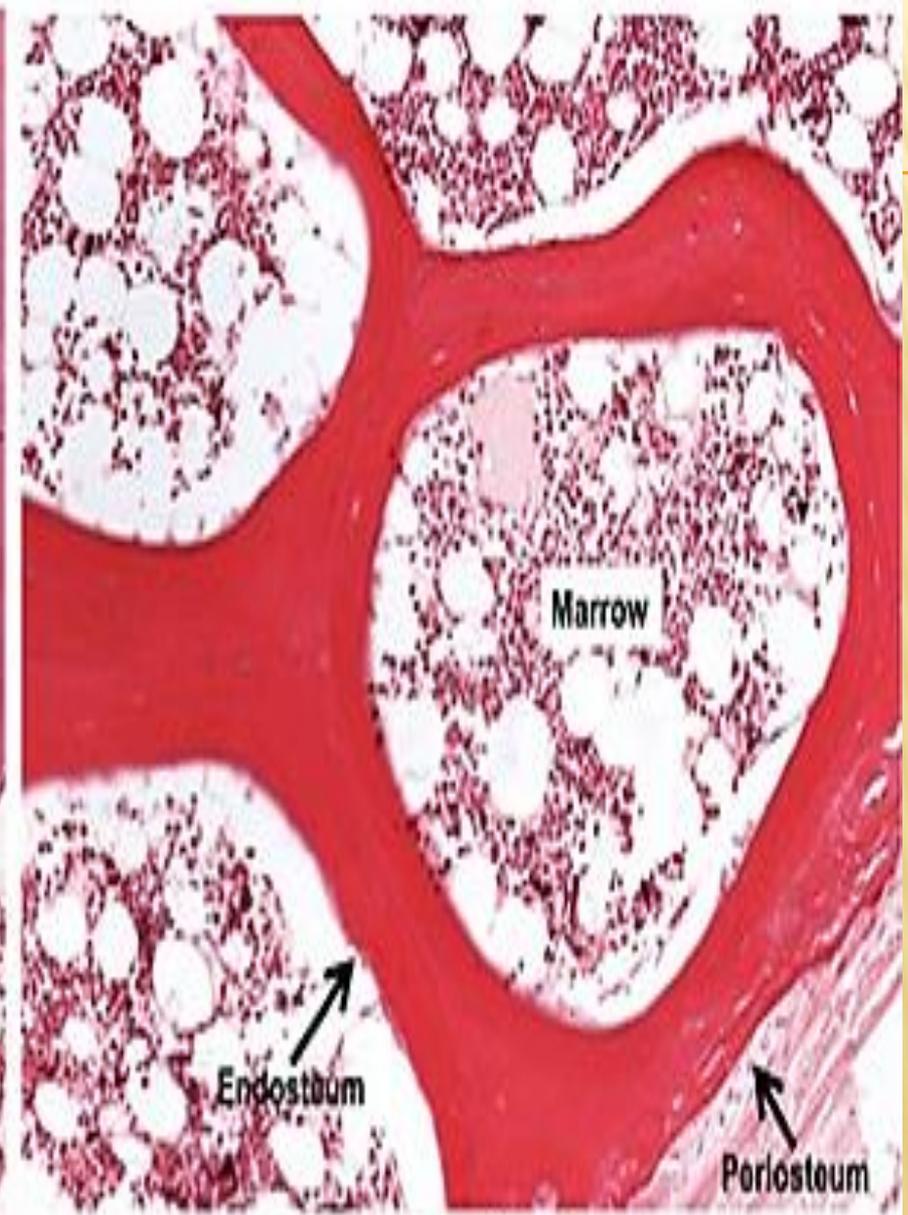


# Cancellous Bone

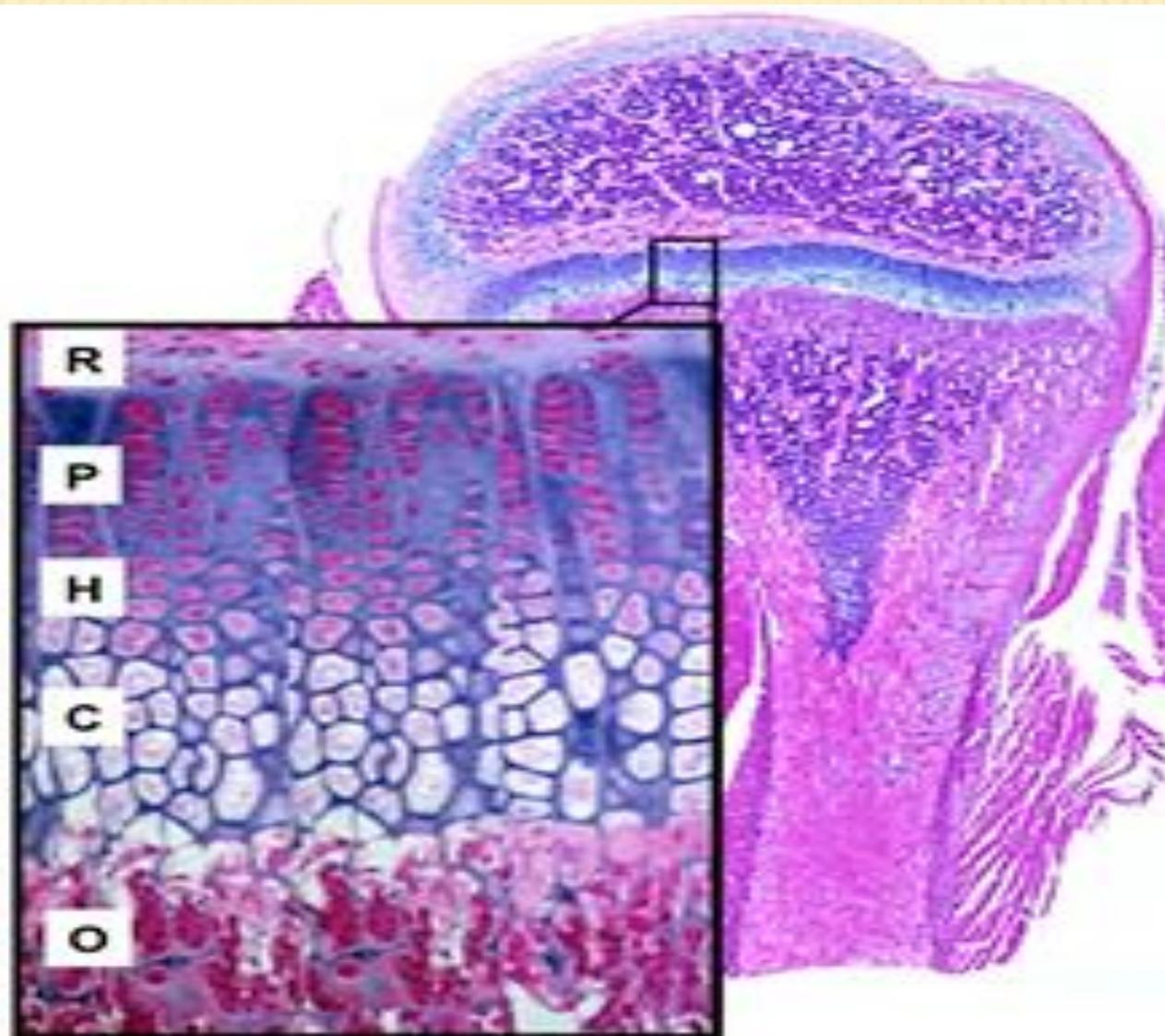




**Compact bone**



**Trabecular bone**

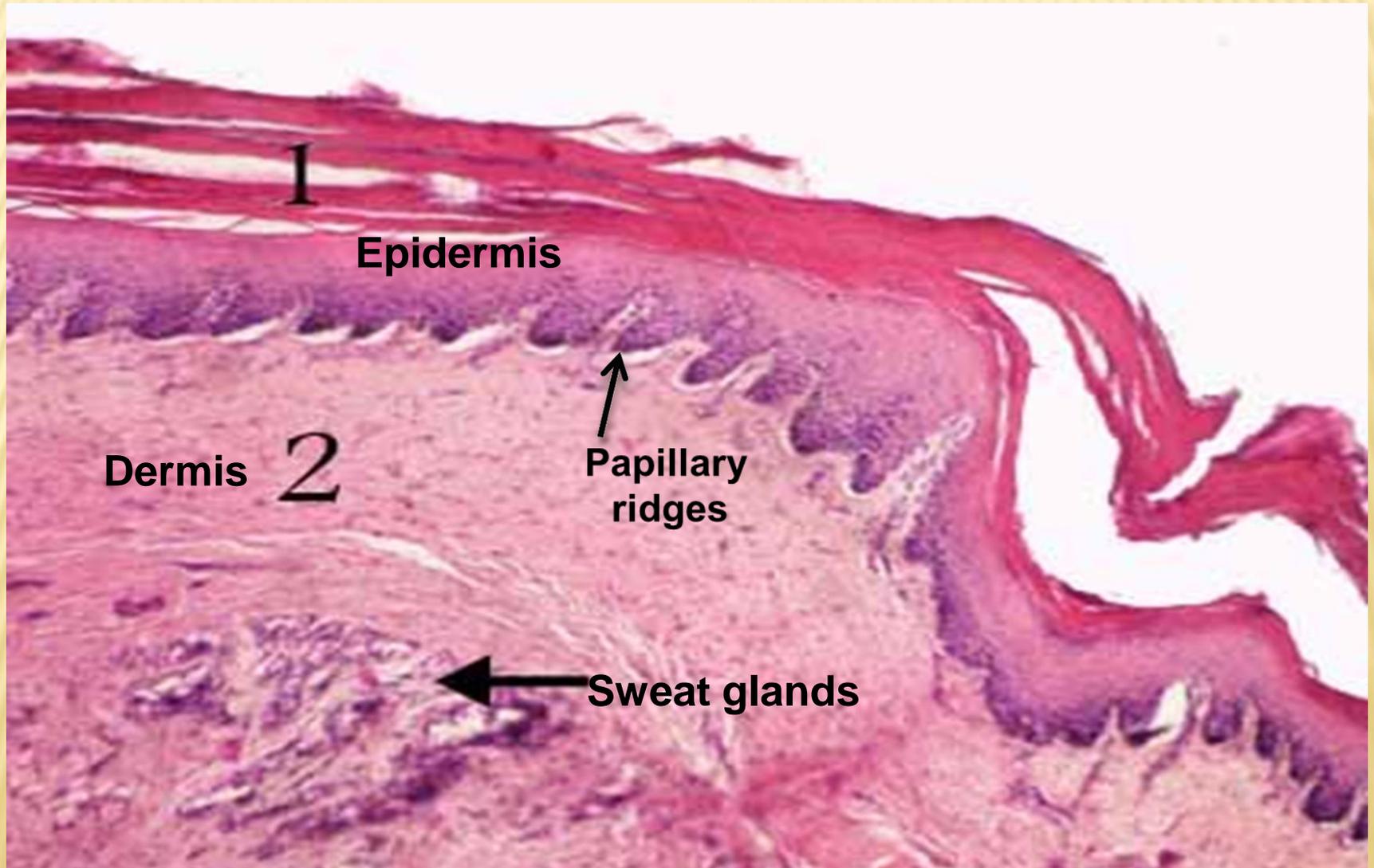


**Endochondral ossification**

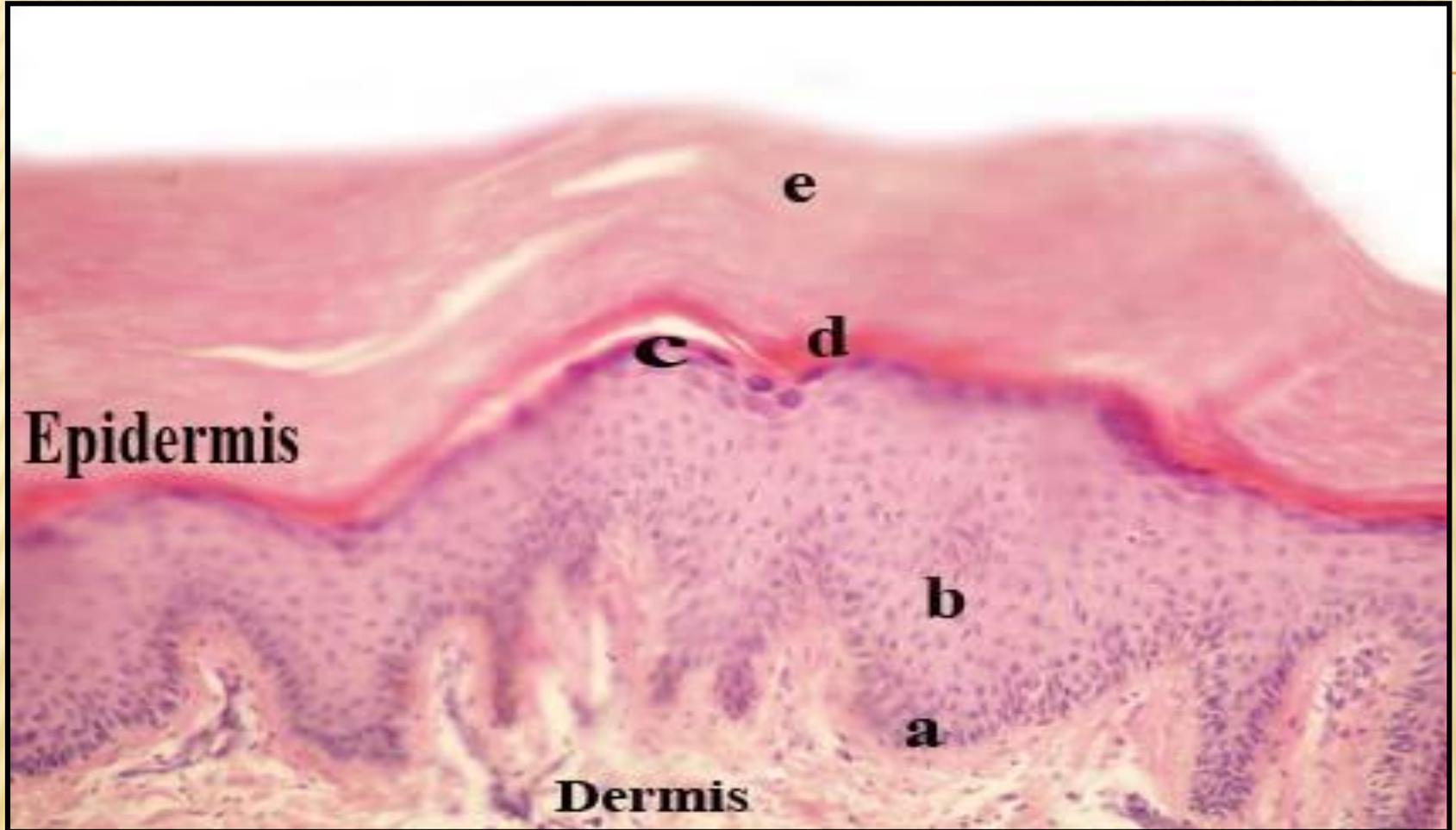
**SKIN**

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# THICK SKIN



# THICK SKIN



a- Stratum basale

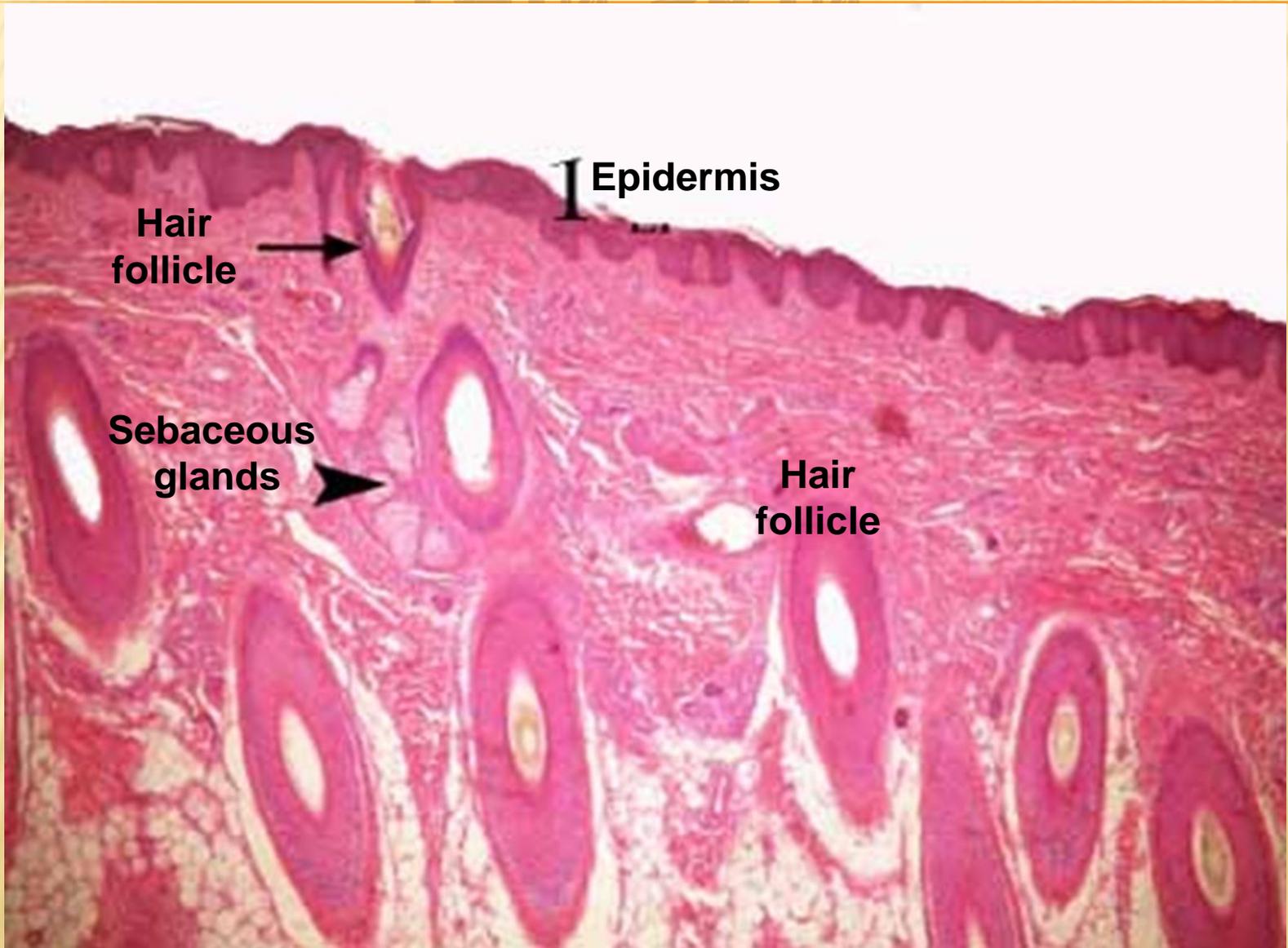
b- Stratum spinosum

c- Stratum granulosum

d- Stratum lucidum

e- Stratum corneum

# THIN SKIN



# THIN SKIN



# THIN SKIN



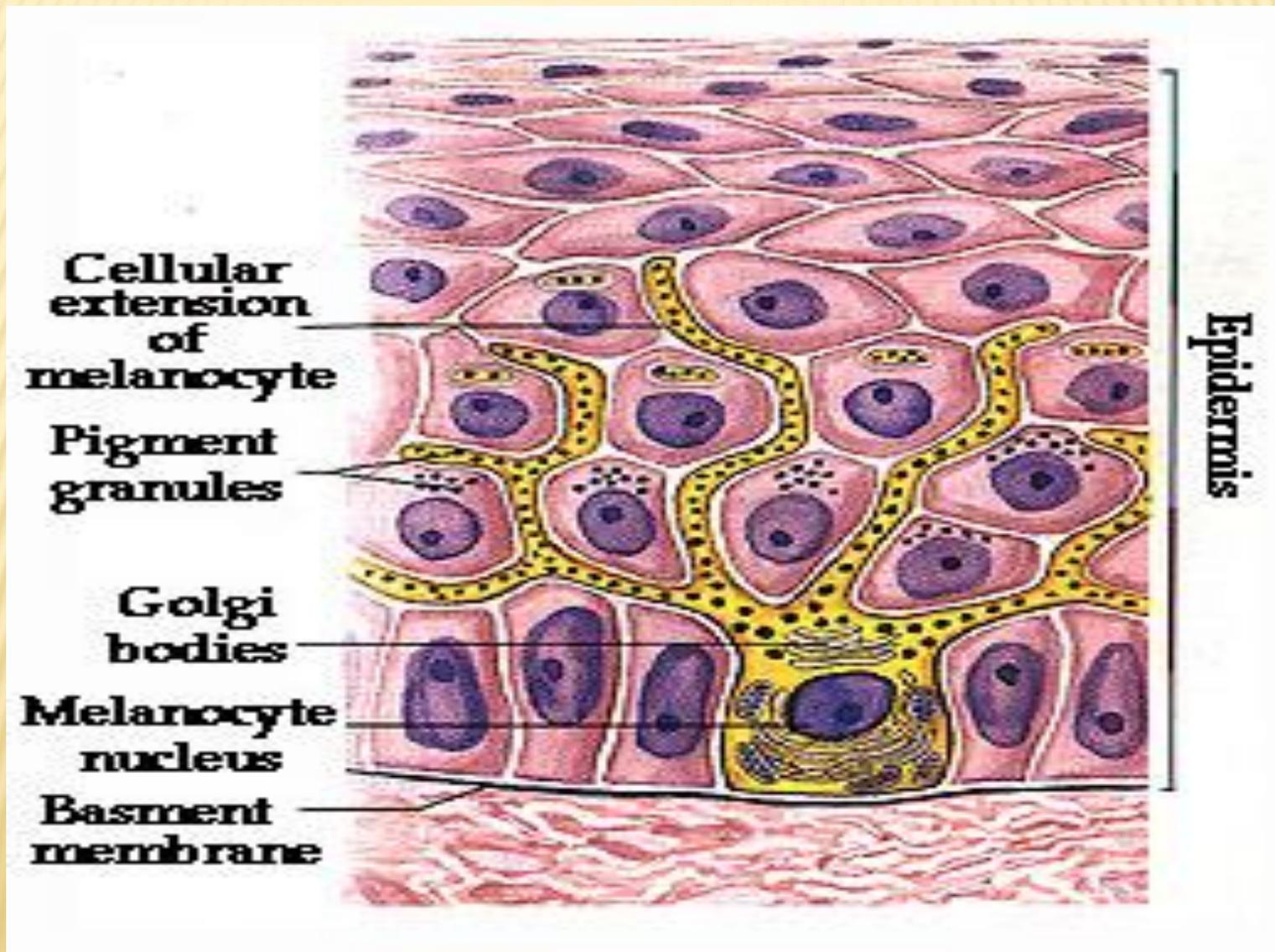
1. Epidermis (k.st.sq.epith.)

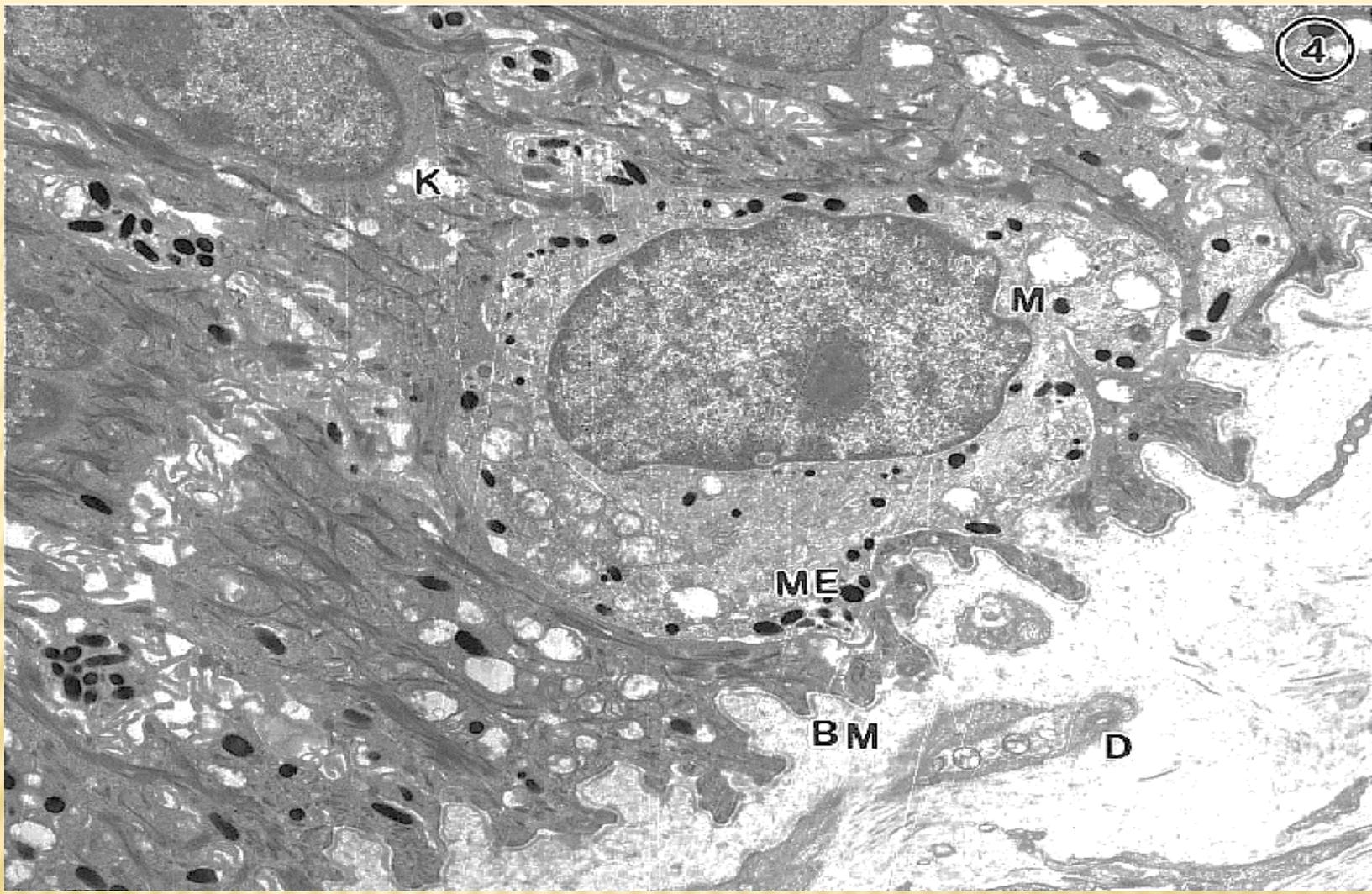
2. dermis

3. hair follicle

4. erector pilli muscle

# MELANOCYTES





**ME= MELANOCYTE**  
**BM= BASMENT MEMBRANE**

**M= MELANOSOMES**  
**K= KERATINOCYTES**