

# Low power slides

*First year*

**Prof Menna Abdel-Dayem**

## **Low power slides may be one of the followings:**

1. Small fixed
2. Circular
3. Rounded or oval
4. Muscle (dark acidophilic)
5. Lymphatic organ (basophilic)
6. Skin (ker strat sq epithelium)
7. Special shapes
8. Special colors

# Small fixed slides

**Small: fixed, you can see the whole structure on the field**

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# According to the stain

## 1- **Osmic acid:**

dark grey>>>> nerve trunk

## 2- **H&E:**

nerve trunk

basilar artery

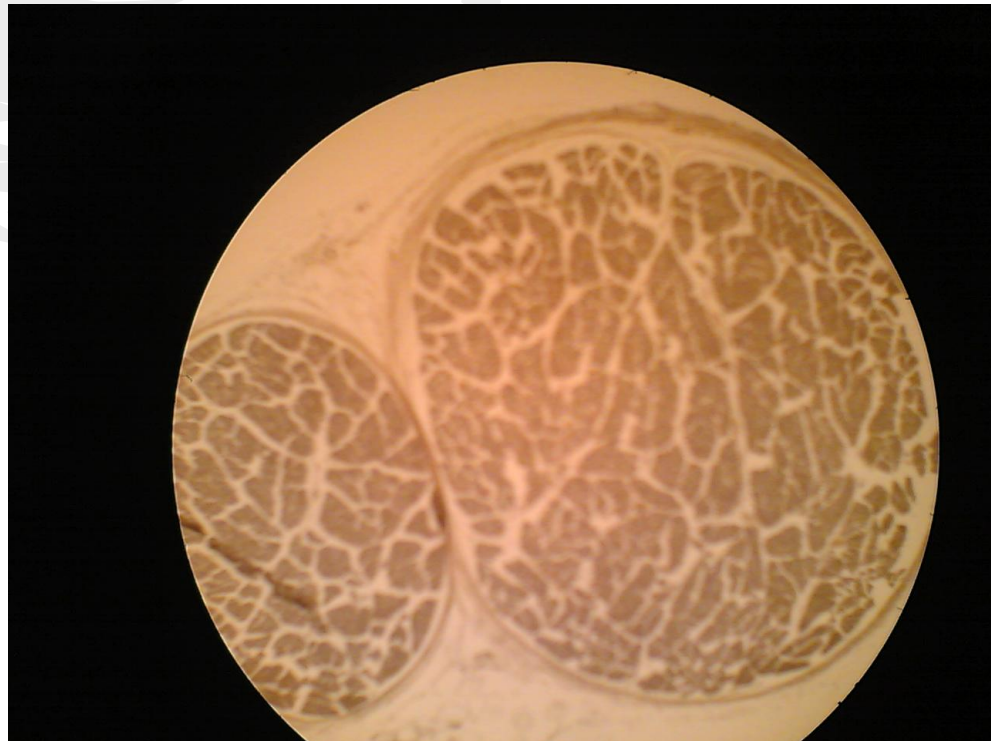
moderator band

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# 1) Special stain (osmic acid)

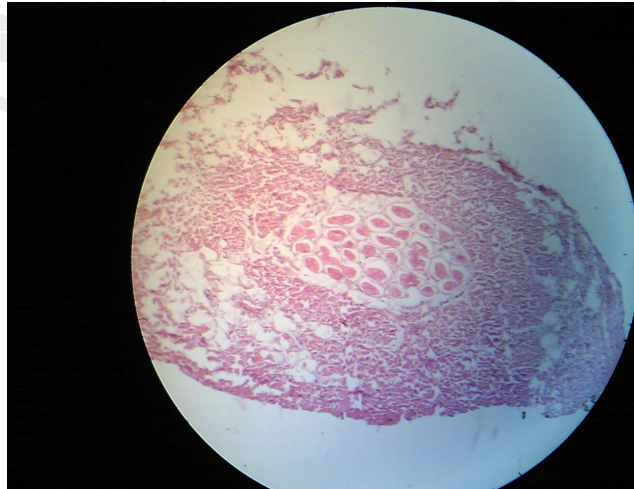
Nerve trunk osmic acid

Two or three nerve bundles



## 2) H&E

- 1- Nerve trunk: Two or three nerve bundles
- 2- Basilar artery: small rounded structure with a prominent internal elastic lamina
- 3- Moderator band: TS muscle fibers with a group larger pale muscle fibers



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# Circular structures

## **Circular hollow structures with a lumen**

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# According to the number of the structures:

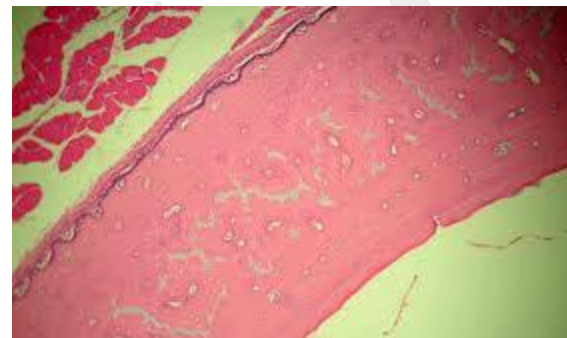
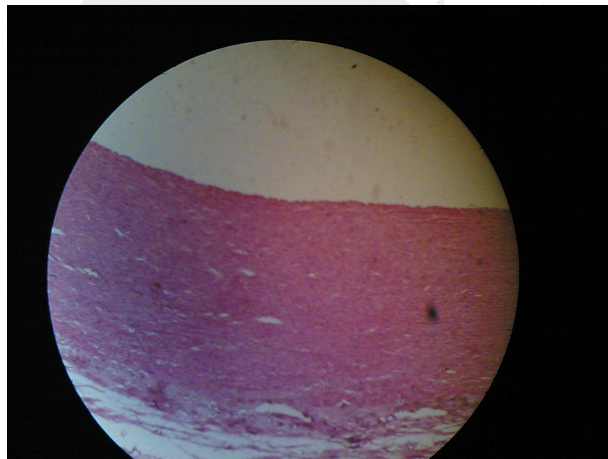
## 1- Single:

**Aorta:** rounded empty lumen with many elastic fibers, look to the stain:

Brown and no other color "no nuclei"= **orcein**

Pink and blue nuclei= **H&E**

**Decalcified compact bone:** rounded irregular with bone marrow in the cavity



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# According to the number of the structures:

## 2- Two structures:

### Medium sized artery and vein:

Two rounded structures one is collapsed with a thin wall and the other is rounded with a thick wall surrounded by loose areolar connective tissue



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Rounded or oval structures

**Large or small**

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1- Large one or more surrounded by skeletal muscle:

**Hyaline (costal) cartilage:**

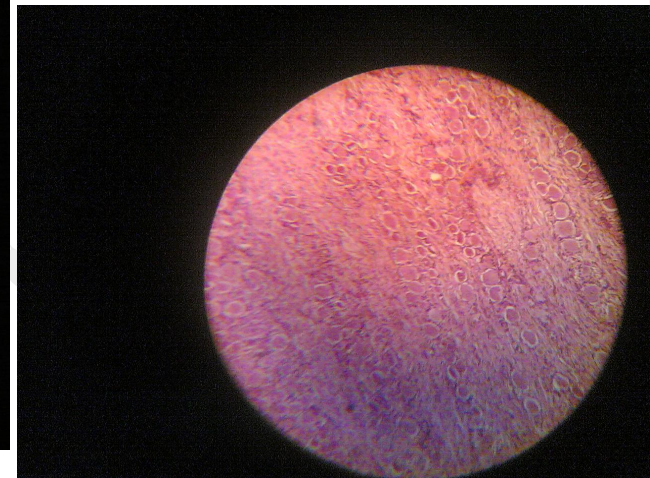
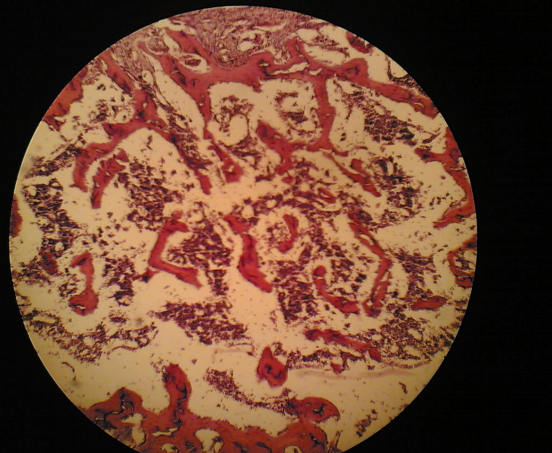
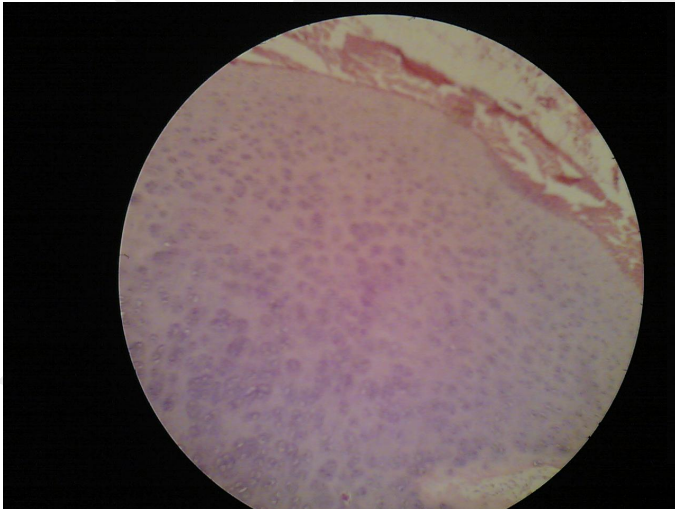
Homogenous basophilic matrix

**Spongy bone (rib):**

sponge-like with bone marrow cavities

2- Small:

**Spinal ganglion**



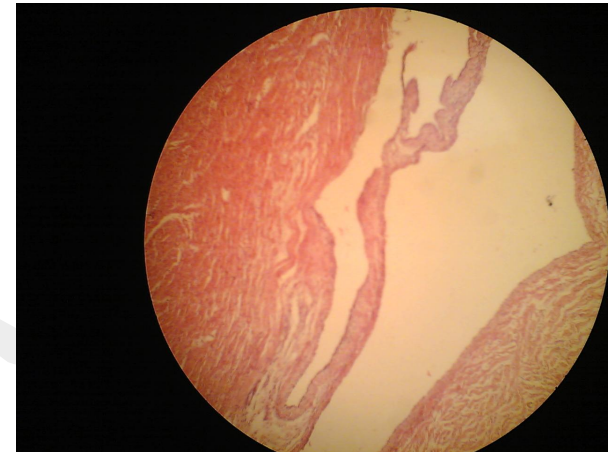
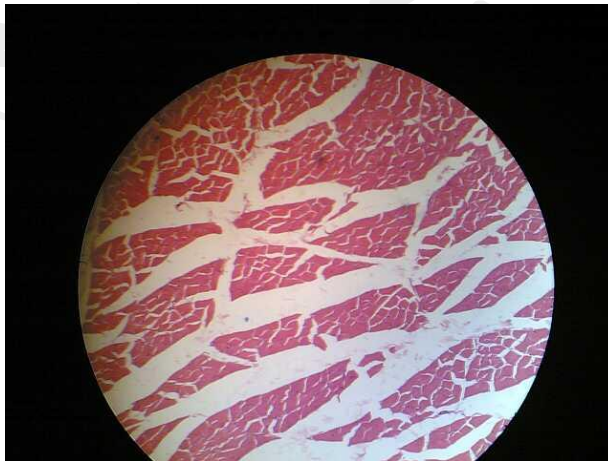
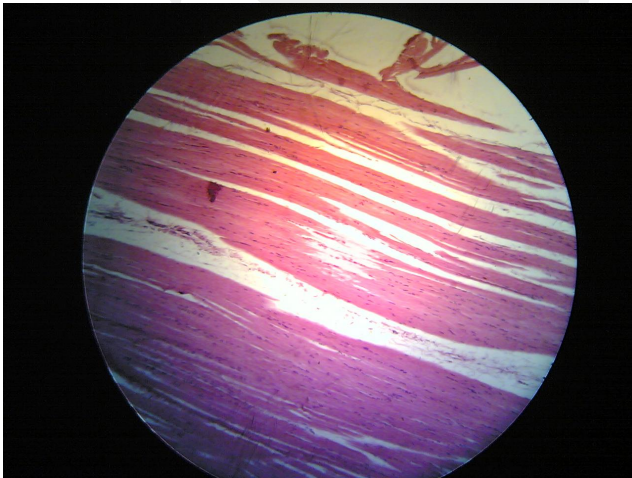
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Muscle

**Darkly acidophilic**

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- 1- Parallel fibers: **LS skeletal muscle**
- 2- Muscle fibers all TS arranged in bundles separated by CT: **TS skeletal muscle**
- 3- Small fibers in different directions + valve = **Cardiac muscle and valve**



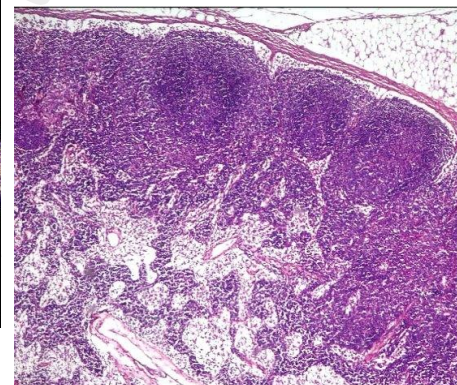
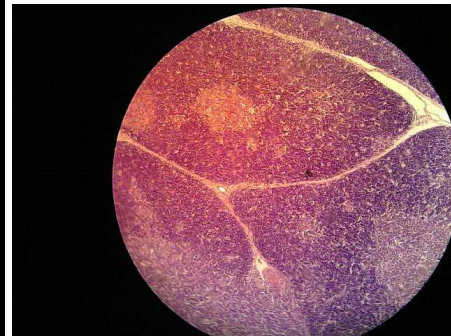
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# Lymphatic organs

**Darkly basophilic**



- 1- S-shaped with diffuse basophilia covered by stratified squamous epithelium: **palatine tonsil**
- 2- Lozenge shaped acidophilic structure with scattered rounded basophilic structures and thick septa: **spleen**
- 3- Separate lobules peripheral dark basophilic and central pale regions: **thymus**
- 4- cortex deep basophilic with spongy wide medulla: **lymph node**



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# Skin

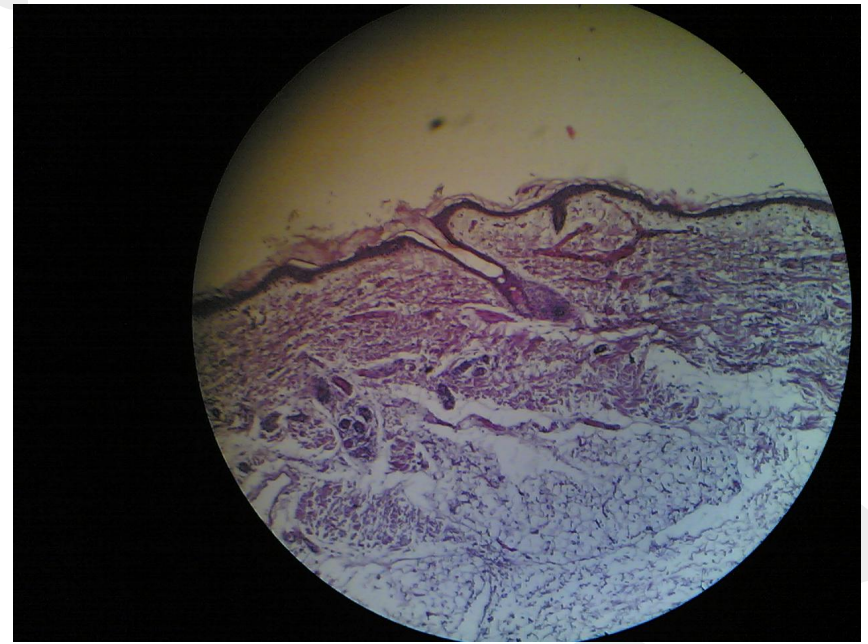
**Keratinized stratified squamous  
epithelium**

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**Thick skin:** thick keratin and sweat glands

**Thin skin:** thin keratin and hair follicles



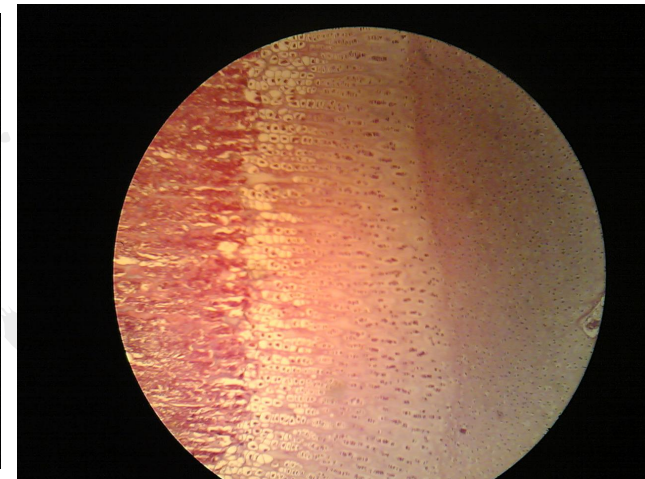
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# Special shapes

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# Special shapes

- 1- Umbilical cord: three vessels
- 2- Ear pinna: curved plate of cartilage covered by skin from both sides
- 3- Growing end of a long bone: Tennis racket shaped



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Special colors

**Not the usual H & E colors**

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# May be stained or unstained

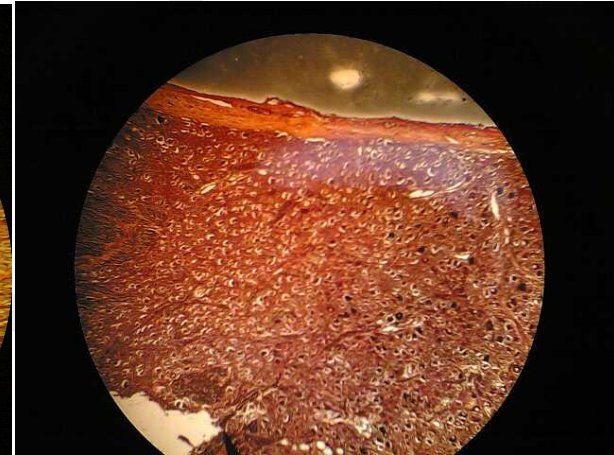
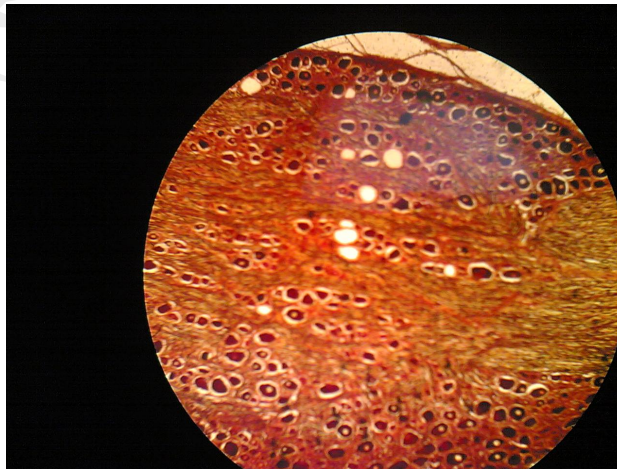
## **1- Unstained:**

ground compact bone: yellowish in color

## **2- Silver (brown):**

Spinal ganglion: variable sized grouped nerve cells

Sympathetic ganglion: small scattered nerve cells



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THANK YOU

