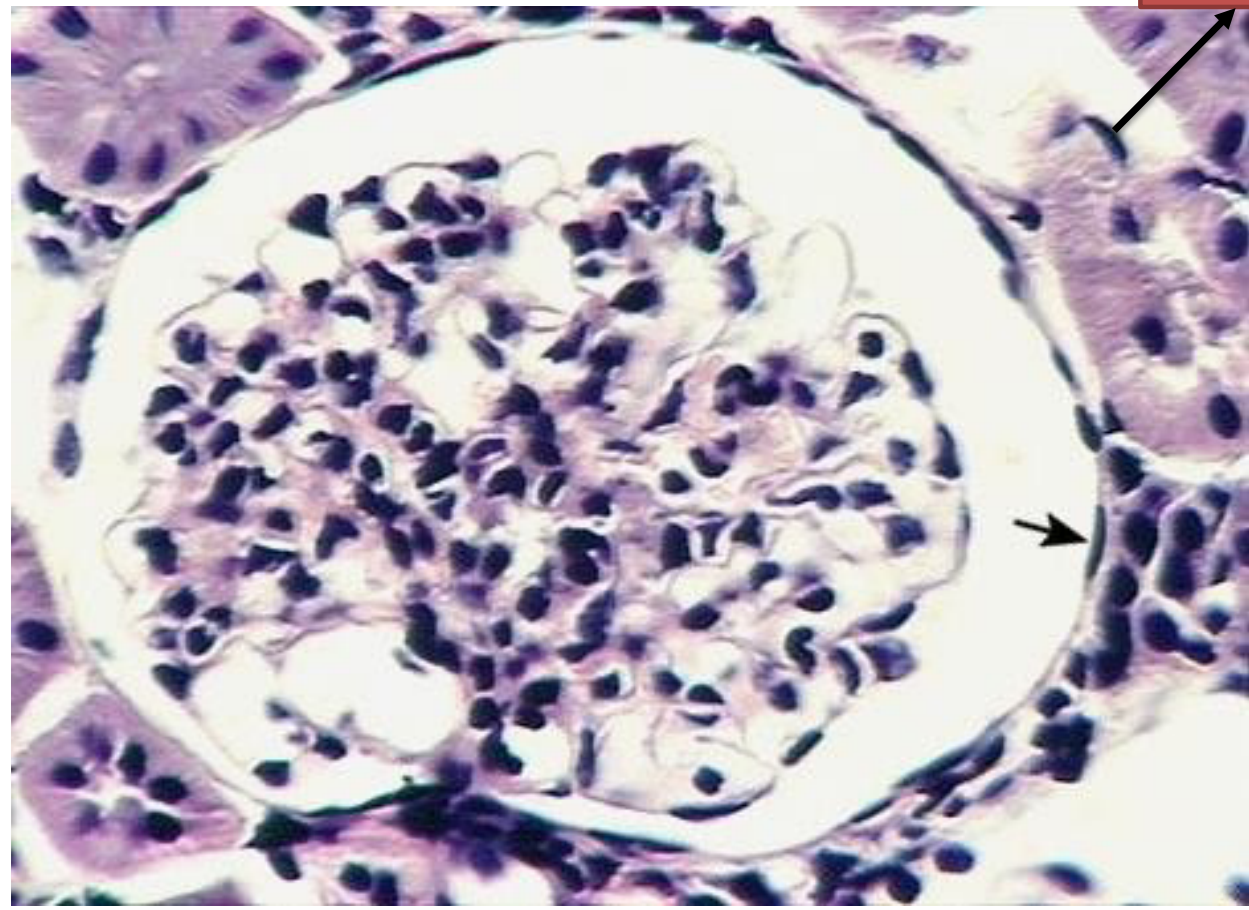


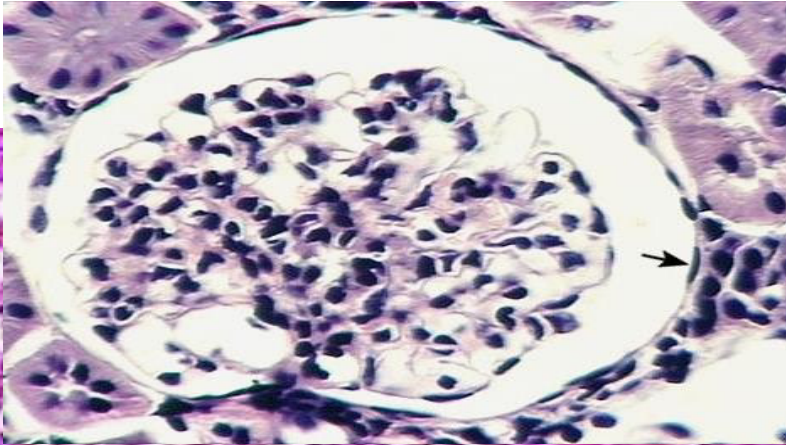
Type of tissue  
:Simple  
squamous  
epithelium

# Bowman's capsule

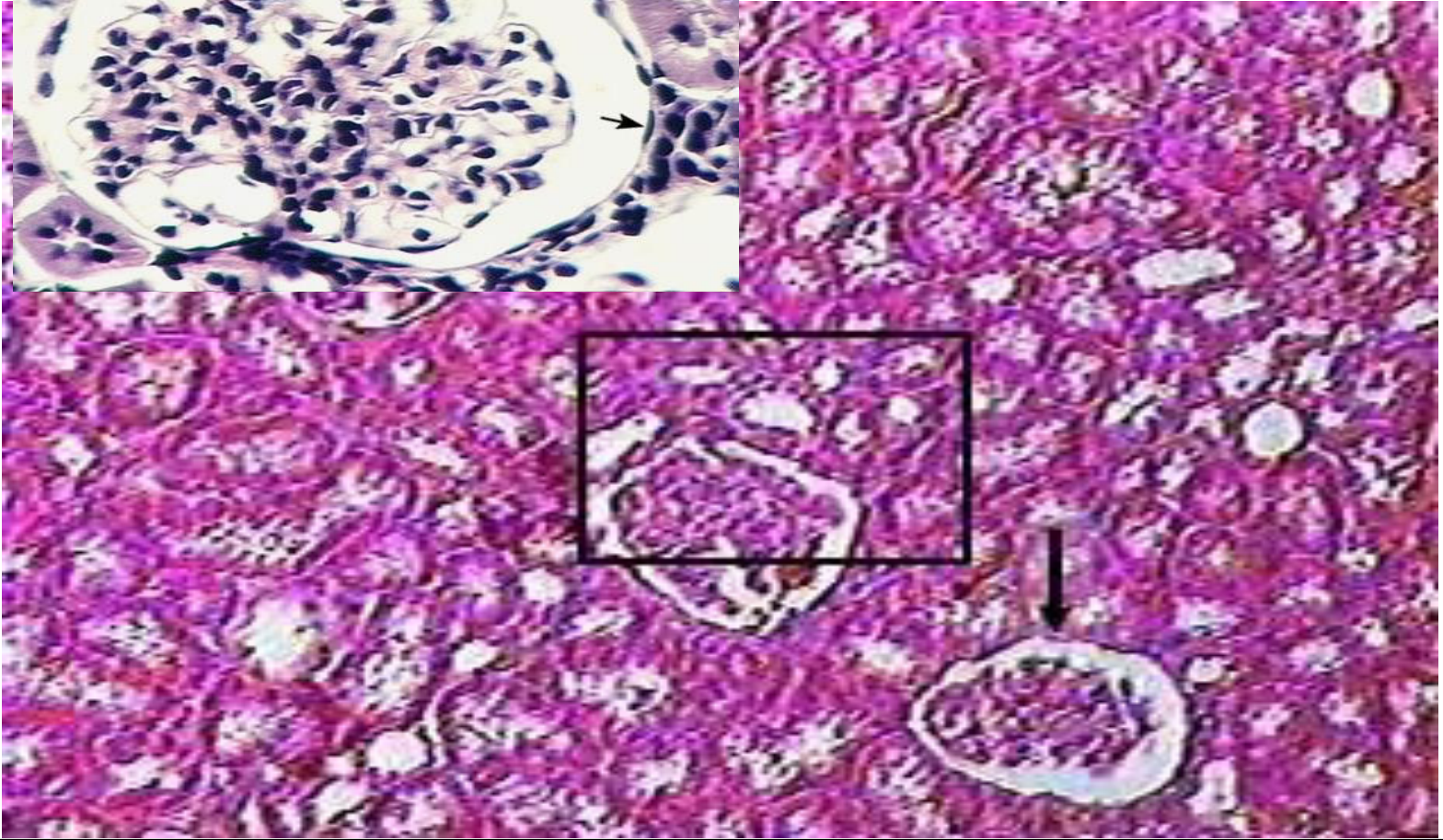
Flat cell



# Bowman's capsule

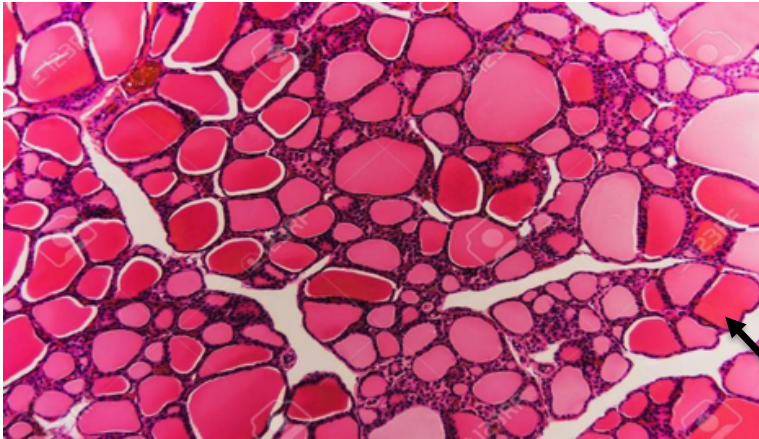


  
Bowman's capsule

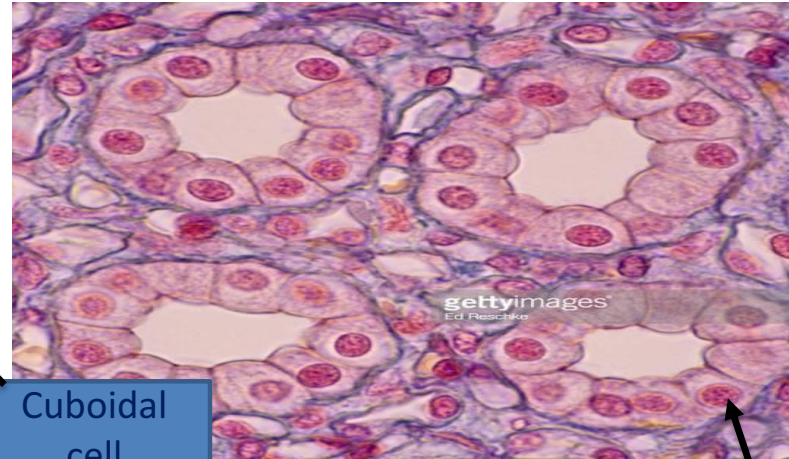


# Simple cuboidal

Thyroid gland

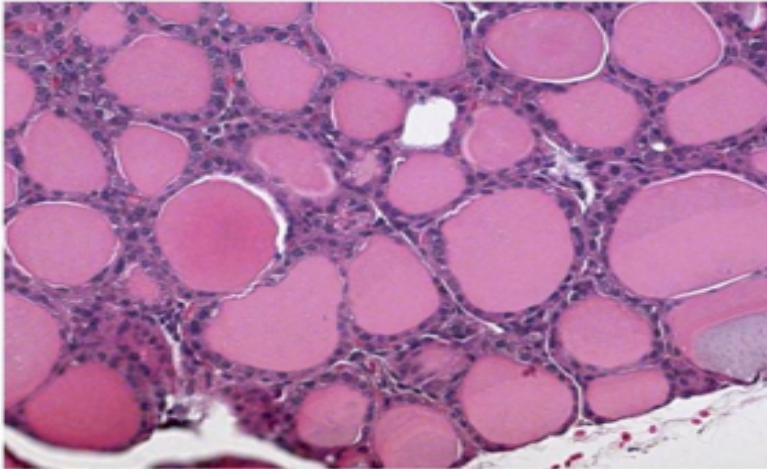


kidney tubules



Cuboidal cell

Rounded nucleus



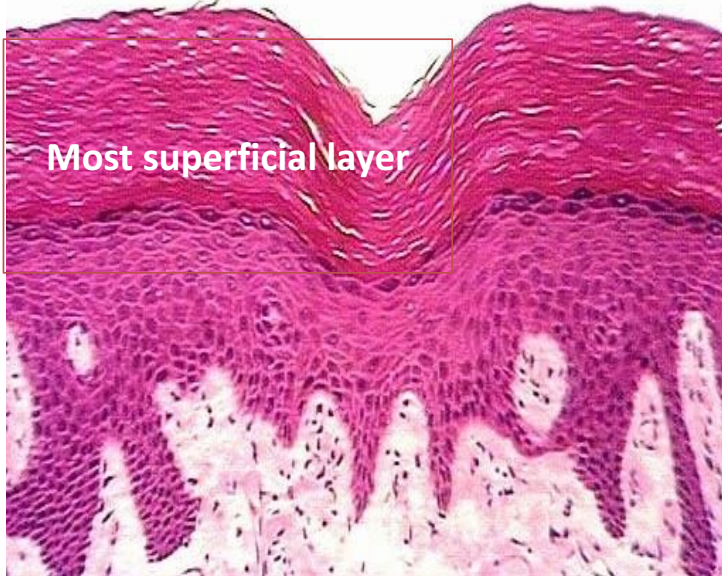
**Site:** Thyroid gland secretion  
• kidney tubules ion exchange

# Stratified squamous

keratinized في هذا النوع كيف يتميز ال اذا كان  
According the last layer of cells  
flatten اذا كانت اخر طبقة  
non و nucleus مكمله لآخر طبقة يكون  
keratinized

## Keratinized

Most superficial layer

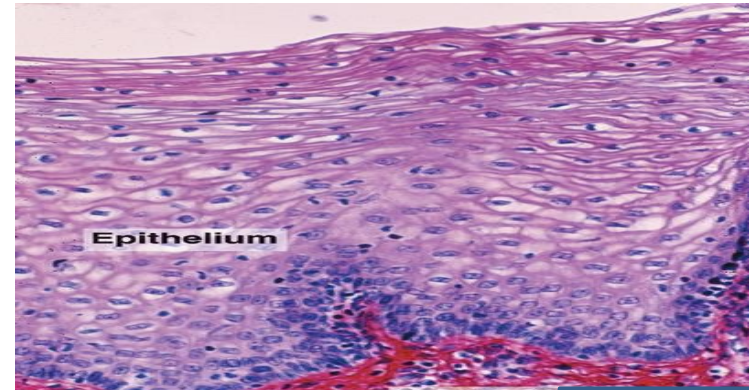


skin

nucleus هذا المقطع  
مش مكمله لآخر طبقة



## Non Keratinized



Oesophagus- vagina

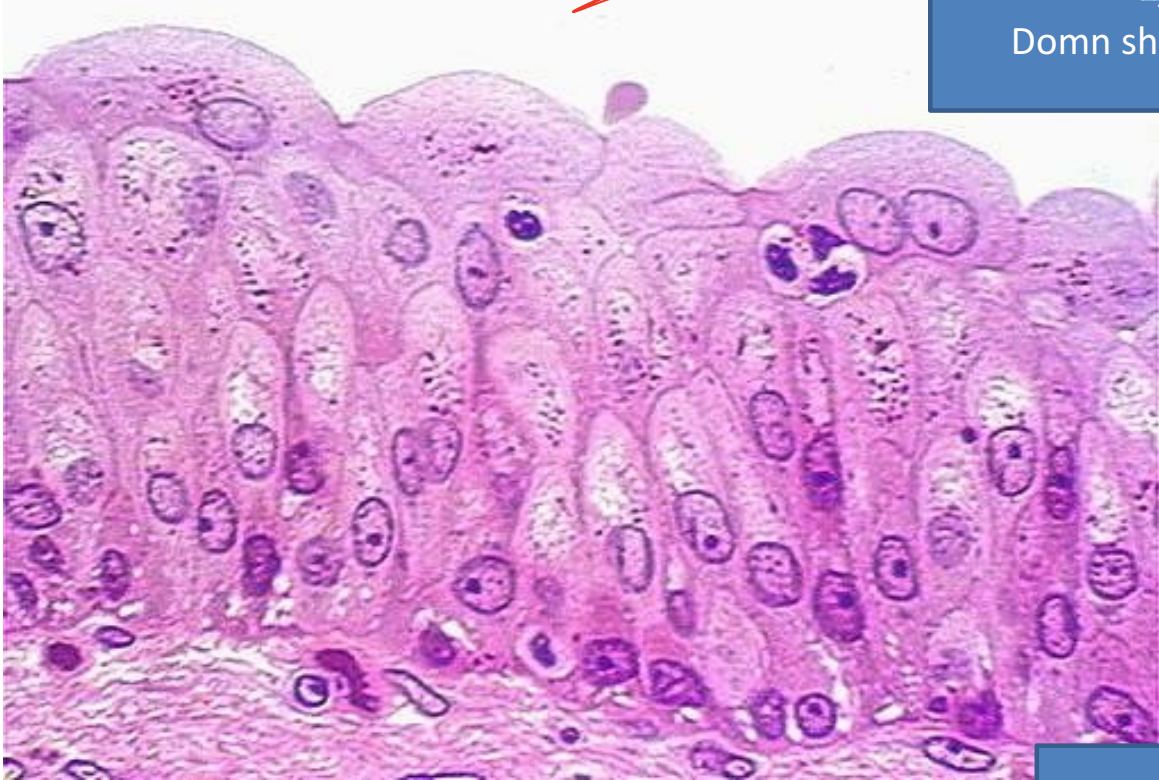
+cornea

النوع الوحيد اللي بحدث فيه  
change to the layer of cell  
From 19 layer to 2-3 Layer  
-adaptation for function

# Transitional epithelium

اهم اشئ انه شكل خلايا اخر  
طبقة

Domn shape cell



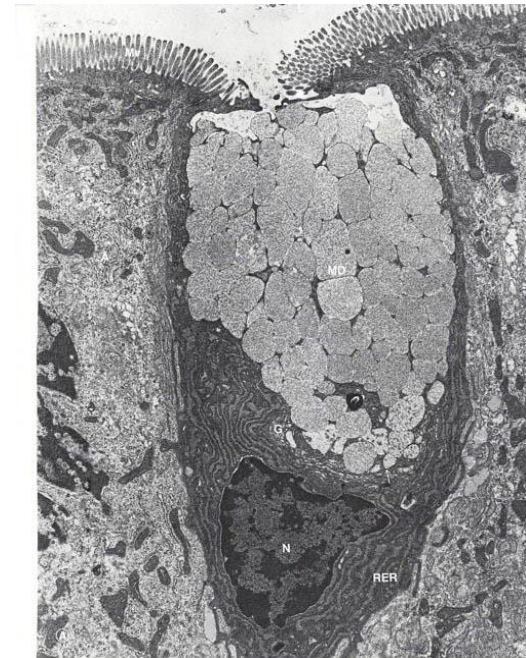
**(urinary bladder - empty)**

ارجعو لمحاضرة النظري  
لانها الدكتور حكت نفس  
الحكي ع هاي الجزئية

هاي الخلية بتشتغل كأنها  
gland كاملة

# Goblet cells

- Unicellular
- Exocrine
- Shape of the cell : flask shape with basal nuclei
- **Mode** of secretion: Merocrine
- **Nature** of secretion : Mucus
- **Site** : Respiratory system , GIT

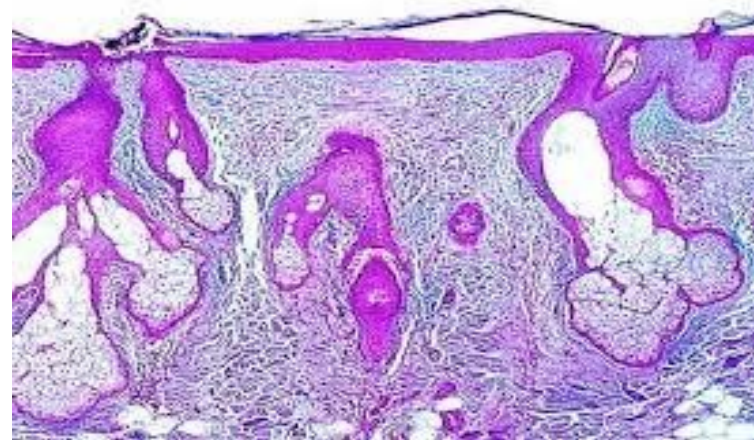
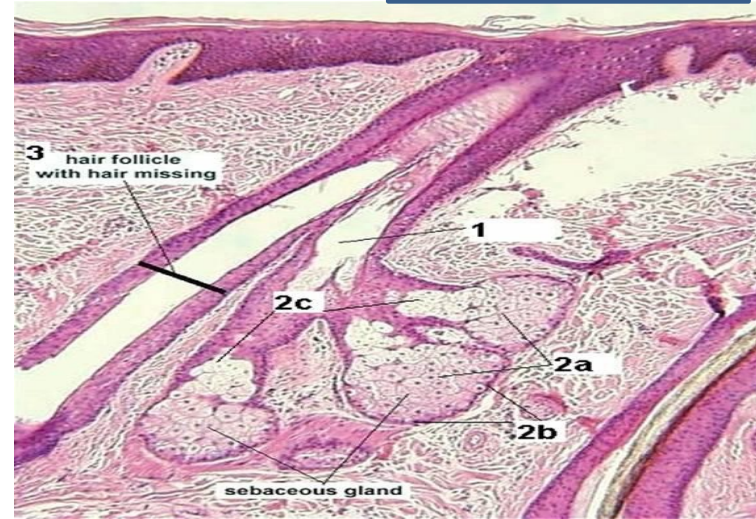


# Sebaceous gland

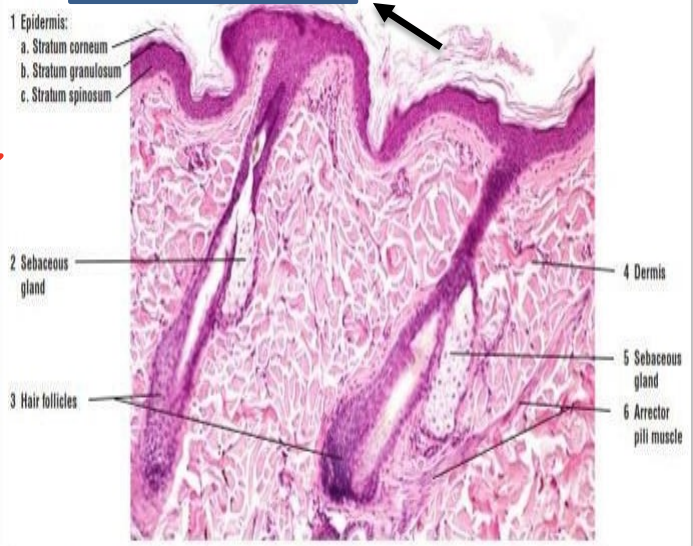
أكبر دليبييل بالصورة انه  
مافي اتصال مع  
follicle



- Exocrine
- Mode : Holocrine
- **Nature : (oily secretion)**
- **Shape of secretory units :  
Branched alveolar**
- **Site : Related to hair follicles**
- Activity of the gland increase at the age of puberty
- **Obstruction of the duct by thick secretion & keratin** → Acne



طبقة epiderm

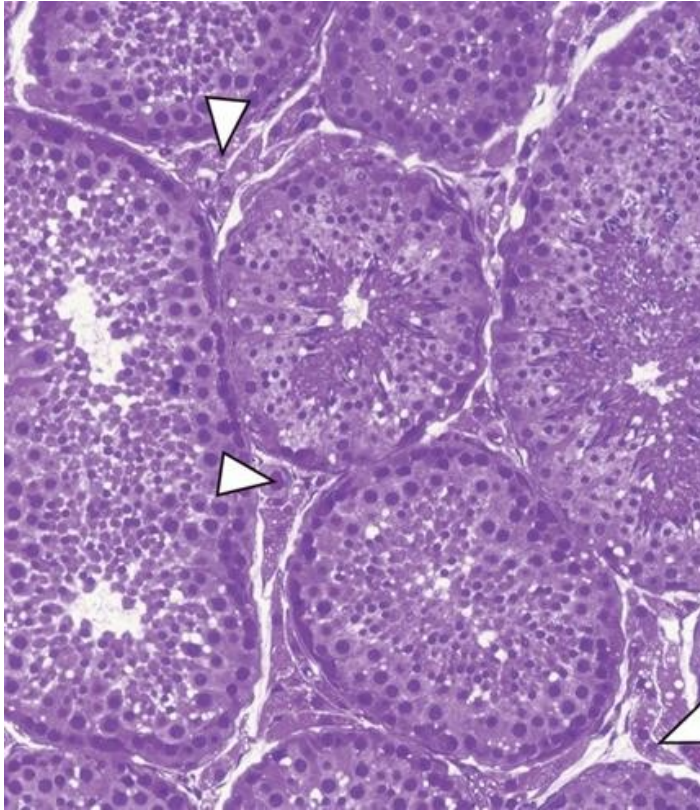




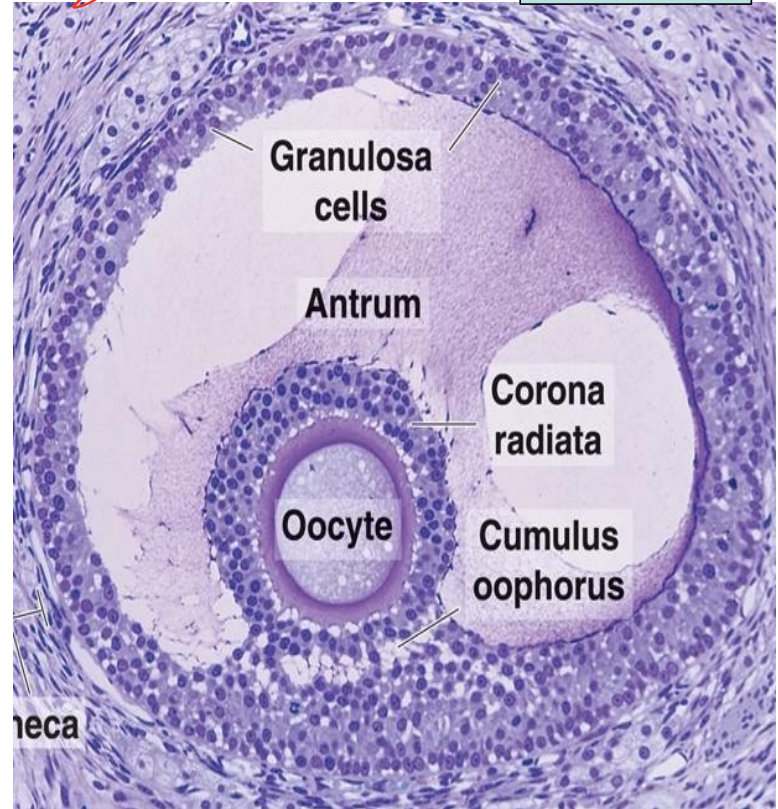
Special type of  
epithelium

# Germinal epithelium

Testis

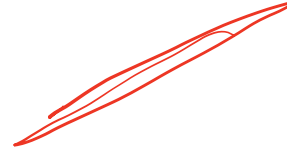


Ovary

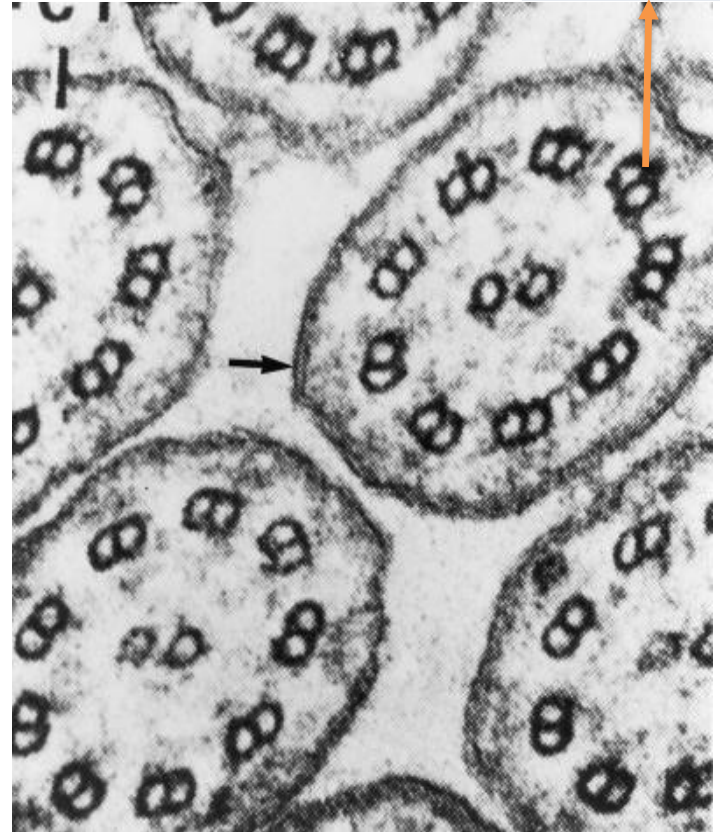
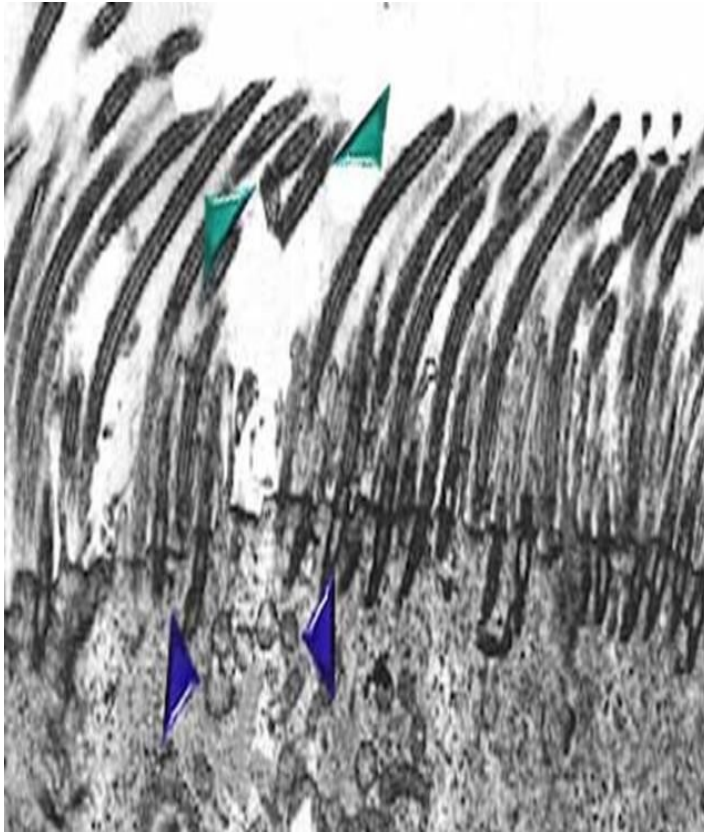


# Cilia

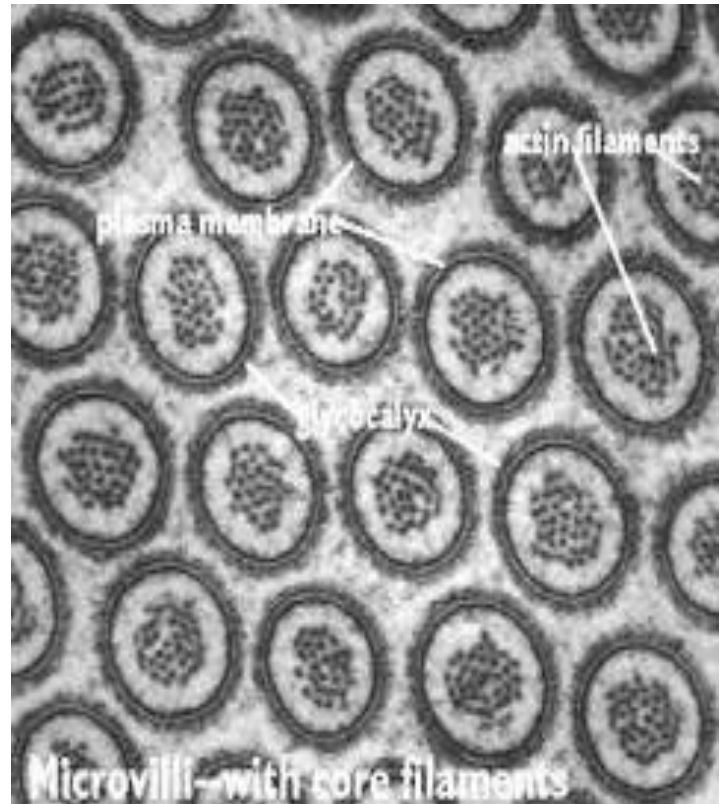
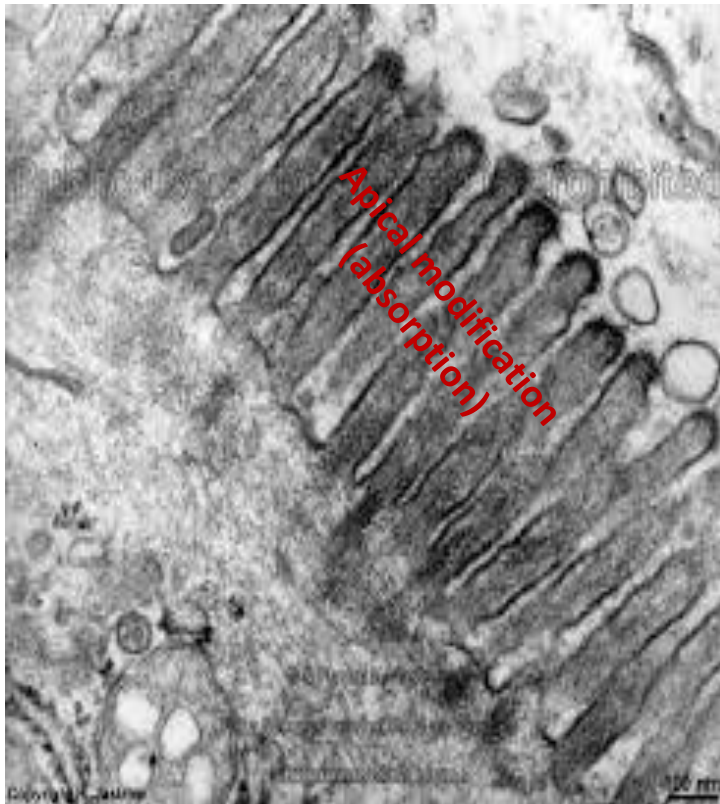
- بتكون long
- ويوجد fold طالع عشان
- يزيد surface area



Micro tubule

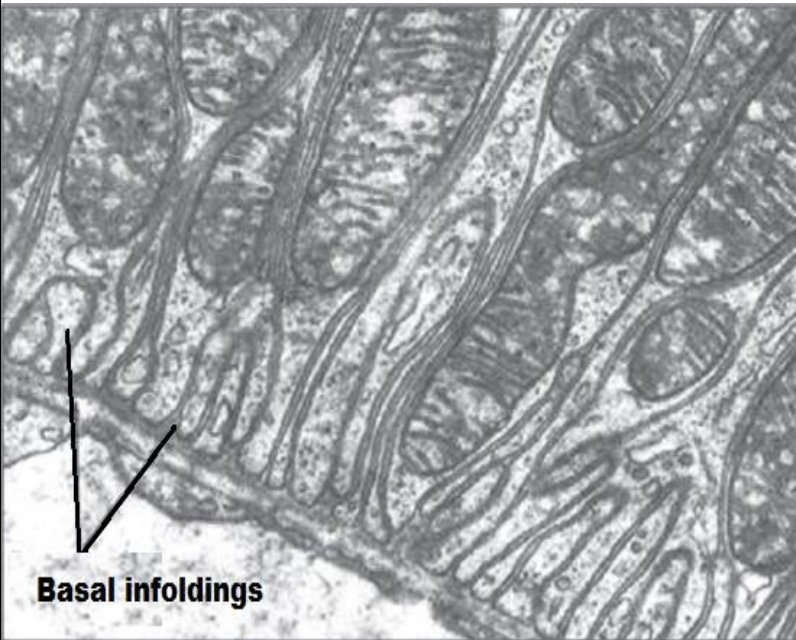


# Microvilli

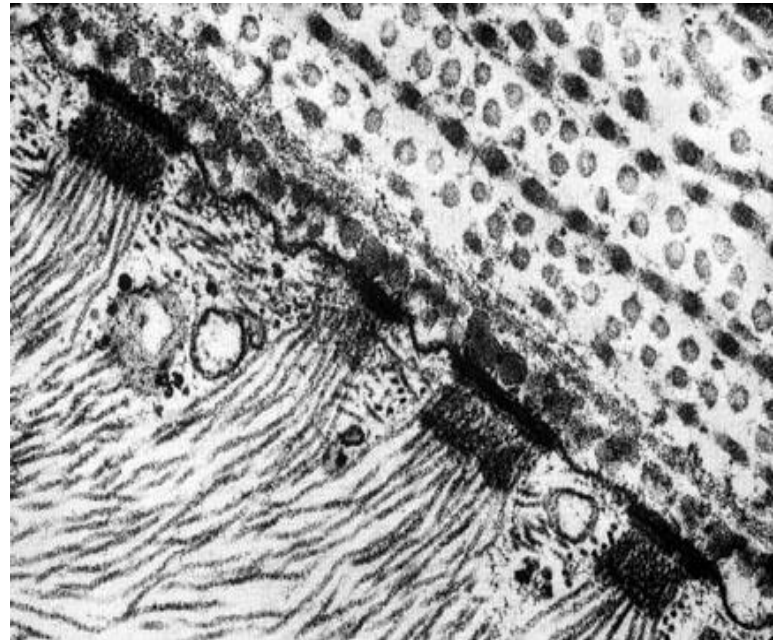


# Basal modifications

Basal infolding



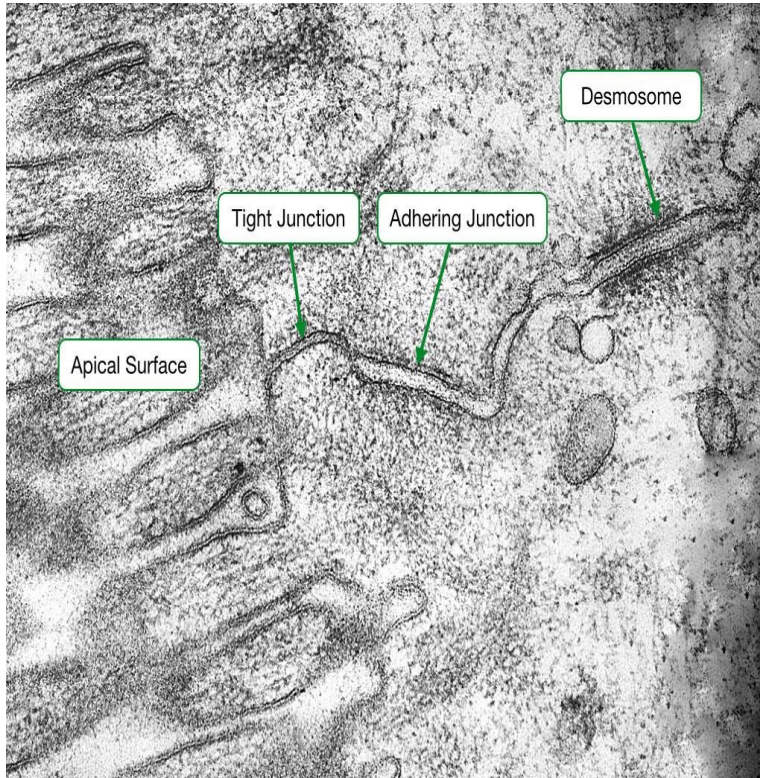
Hemidesmosome



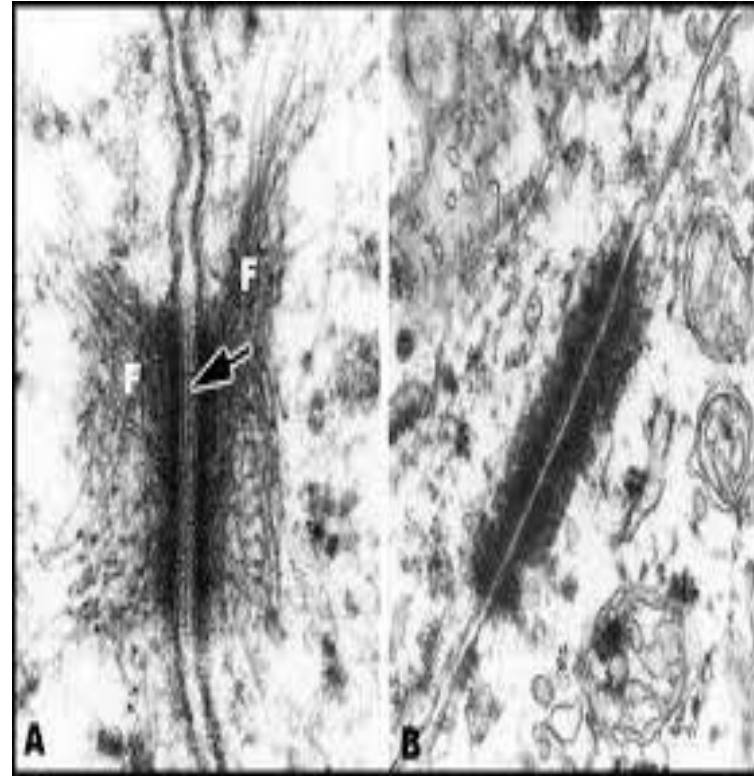
In EM

# Adhering junction

**Zonula adherens:**



**Macula adherens = desmosomes**



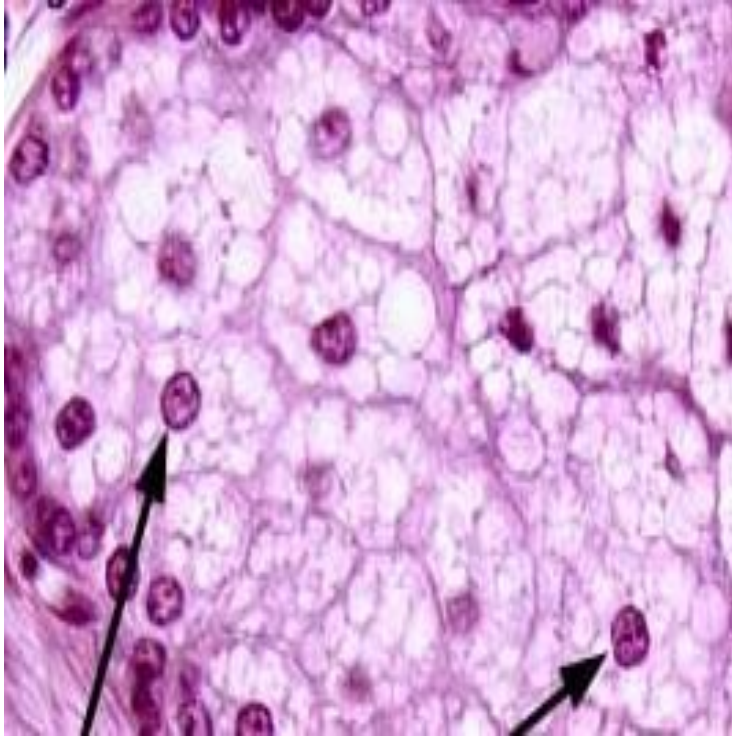
- large, spherical or polyhedral
- The flattened nucleus
- The cytoplasm only forms a very narrow rim around a large central lipid droplet.
- Single or several lipid droplets

# Adipocytes

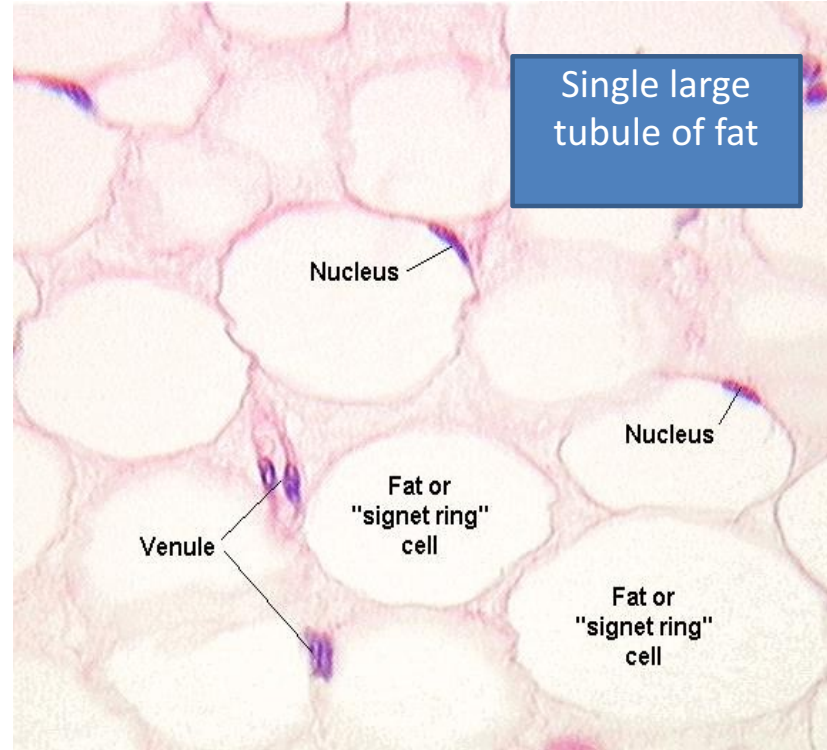
## Fat cell



### Multilocular Brown Fat

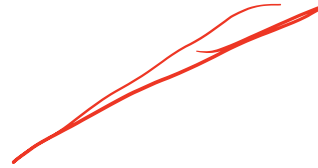


### Unilocular Yellow Fat



# Adipocytes

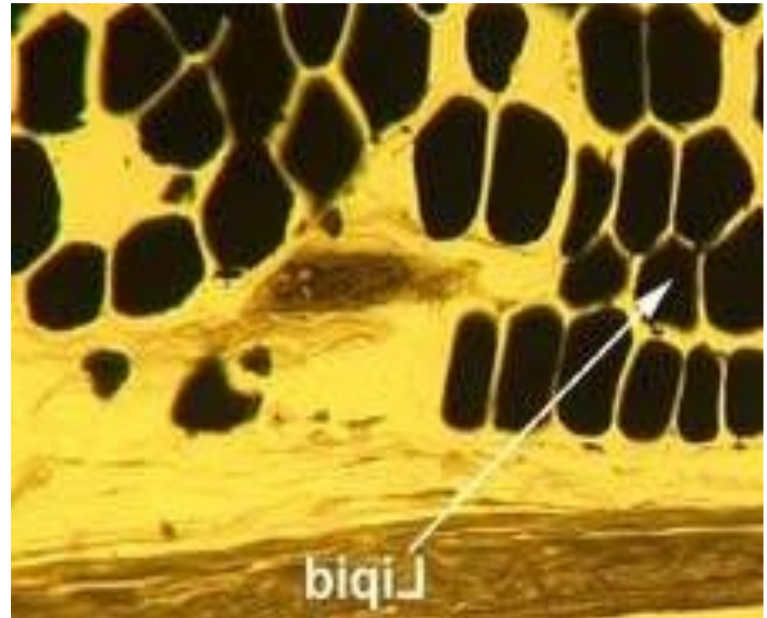
## Fat cell



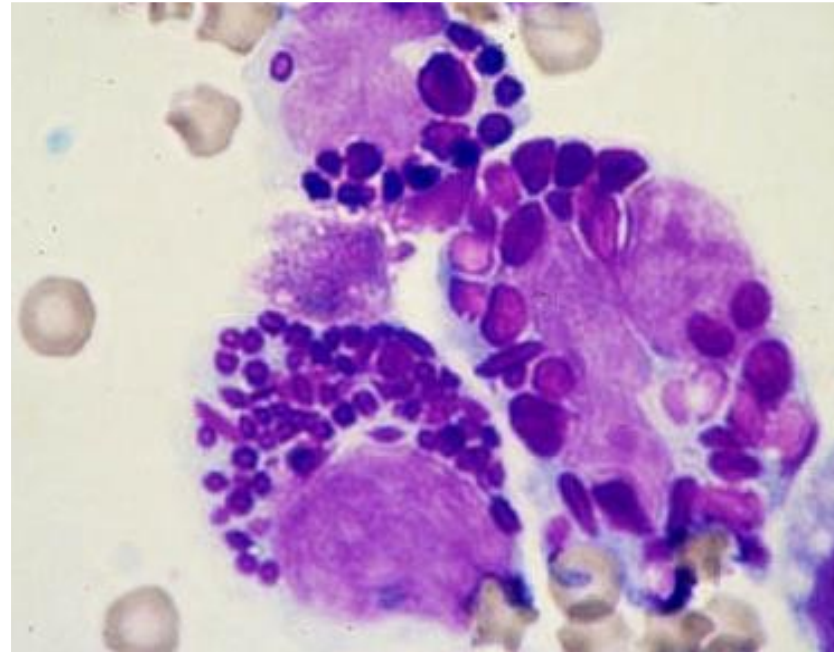
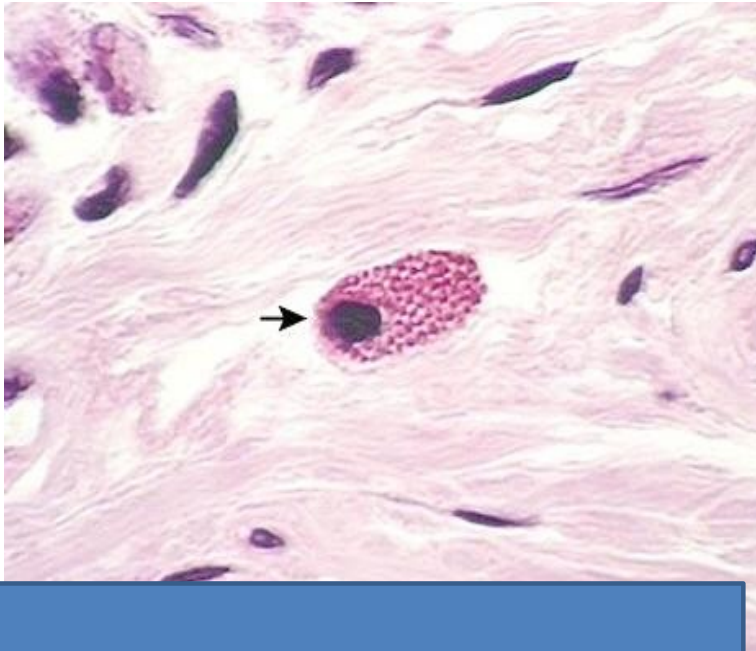
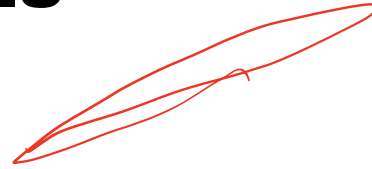
**EM**



**Osmic acid**



# Mast Cells

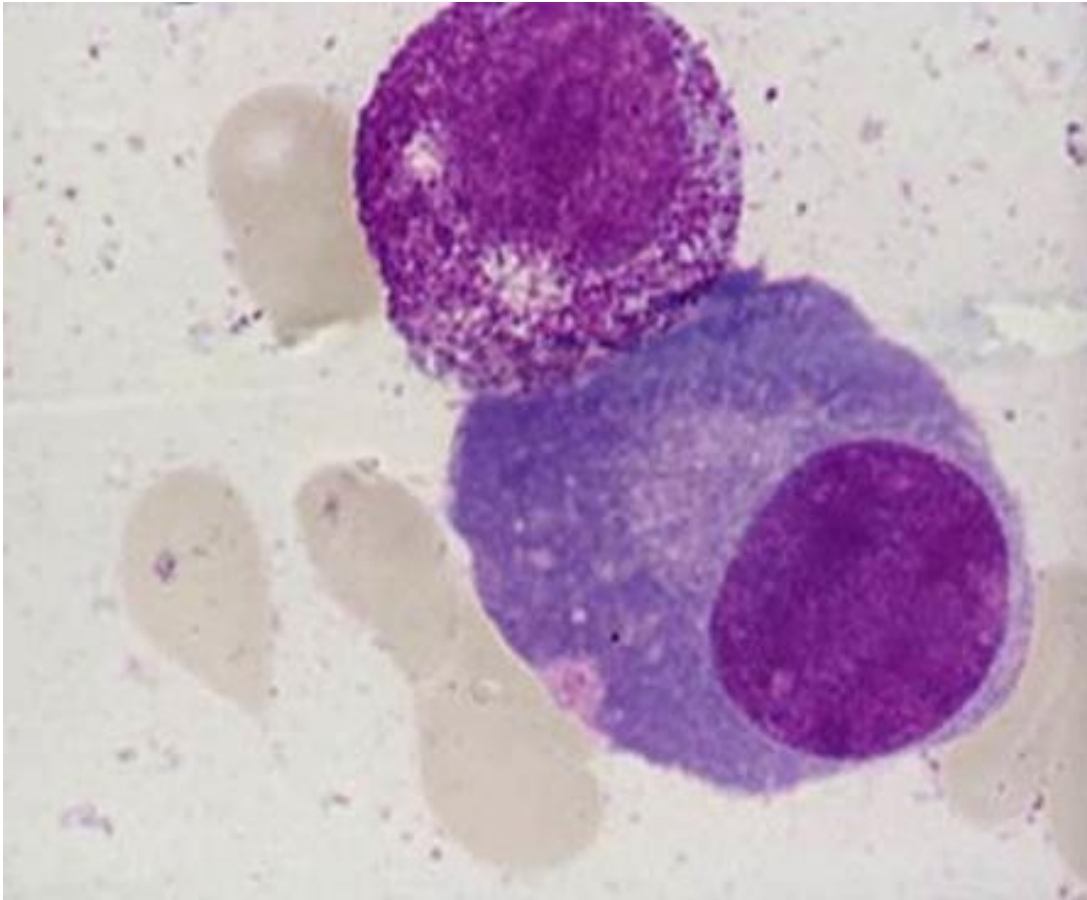


Metachromasia – when stained with **toluidine blue**, the granules bind the dye and change its color to **red**



- Cart wheel appearance of the nucleus
- اكبر دلالة شكلها

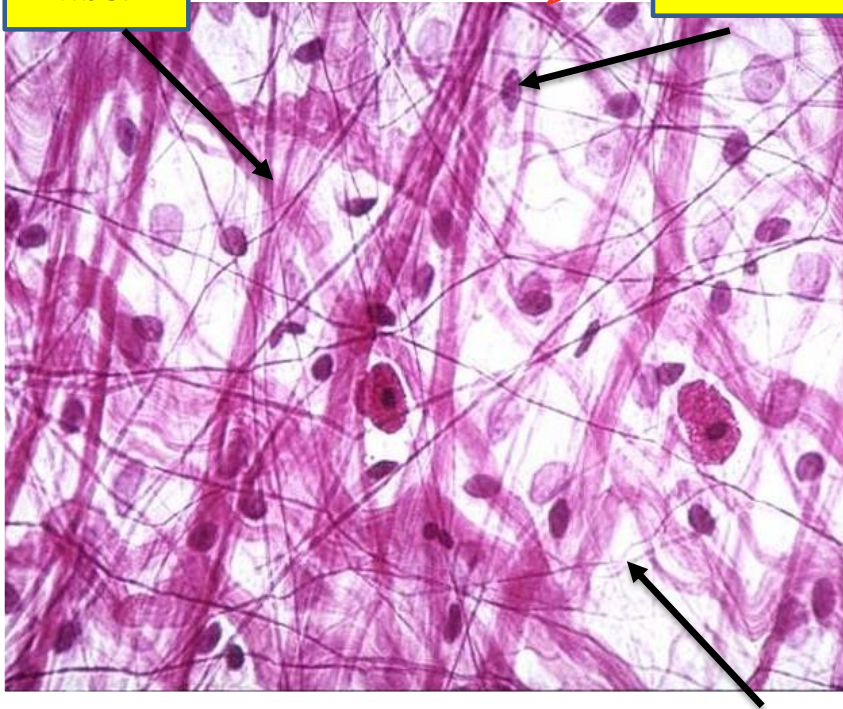
# Plasma Cells



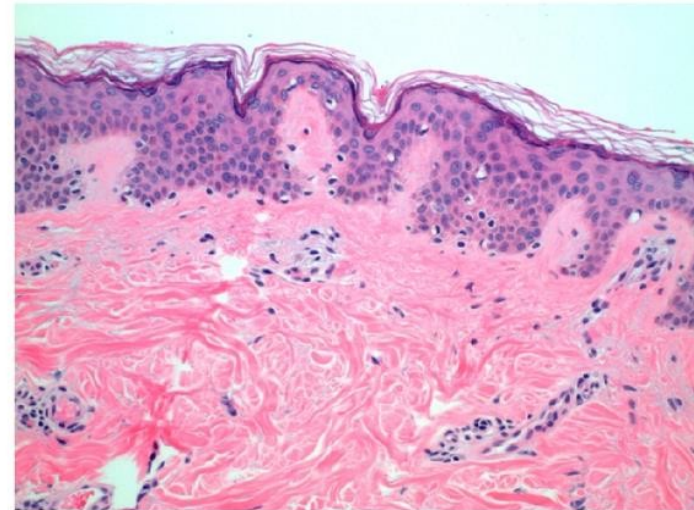
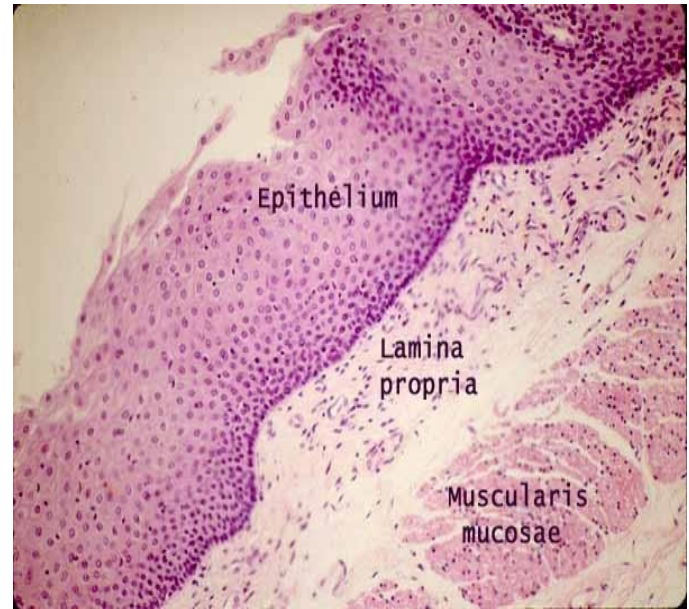
# Loose Areolar C.T.

Collagen fiber

Fibroblast



Elastic fiber

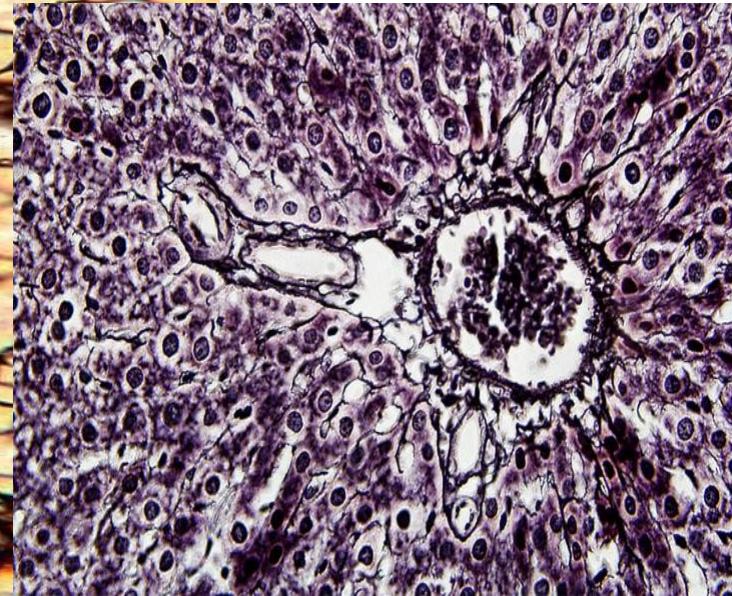
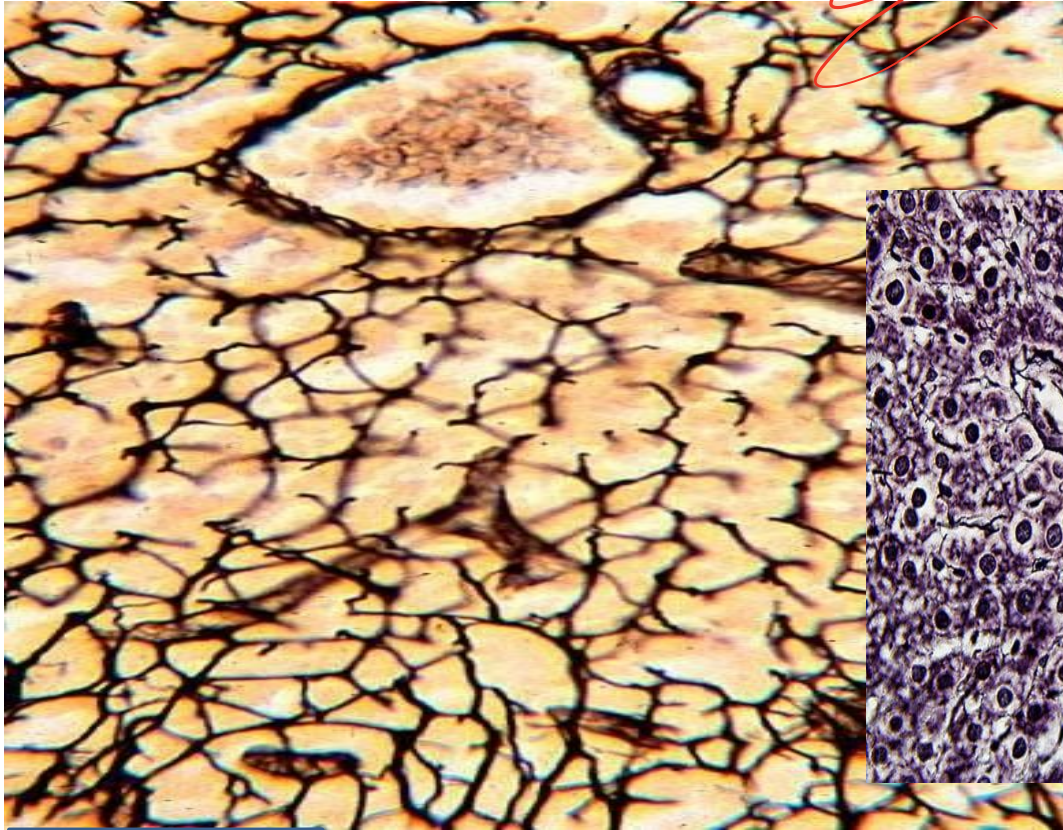


## Sites:

- Under epithelial tissue
- Papillary dermis of the skin

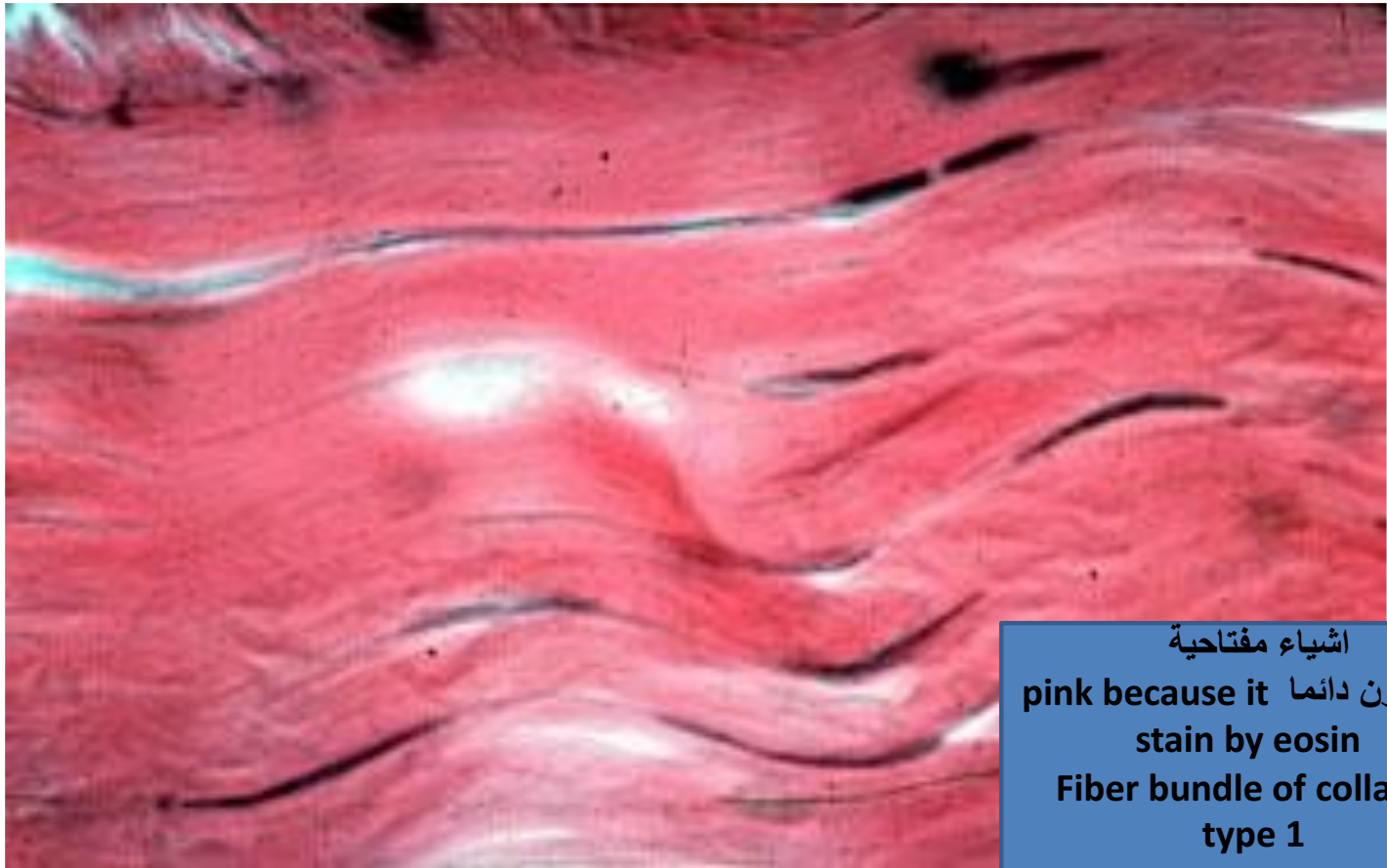
# Reticular CT= Silver stain

Liver (silver stain)



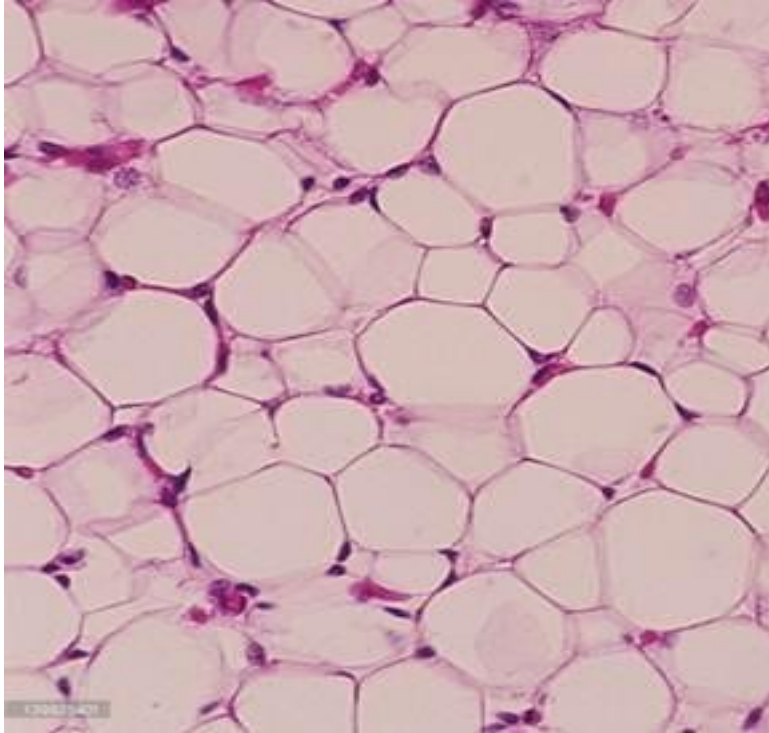
علی شکل  
network

# White fibrous C.T= Dense Regular = Tendon

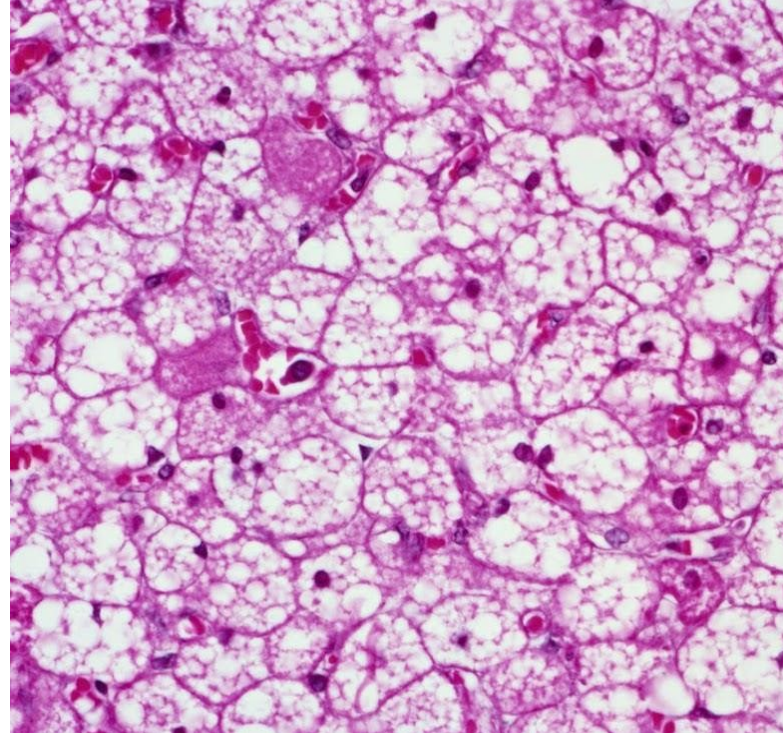


اشياء مفتاحية  
اولا اللون دائما  
pink because it stain by eosin  
Fiber bundle of collagen  
type 1  
Tensile strength

# Adipose C.T.



**Yellow Fat**



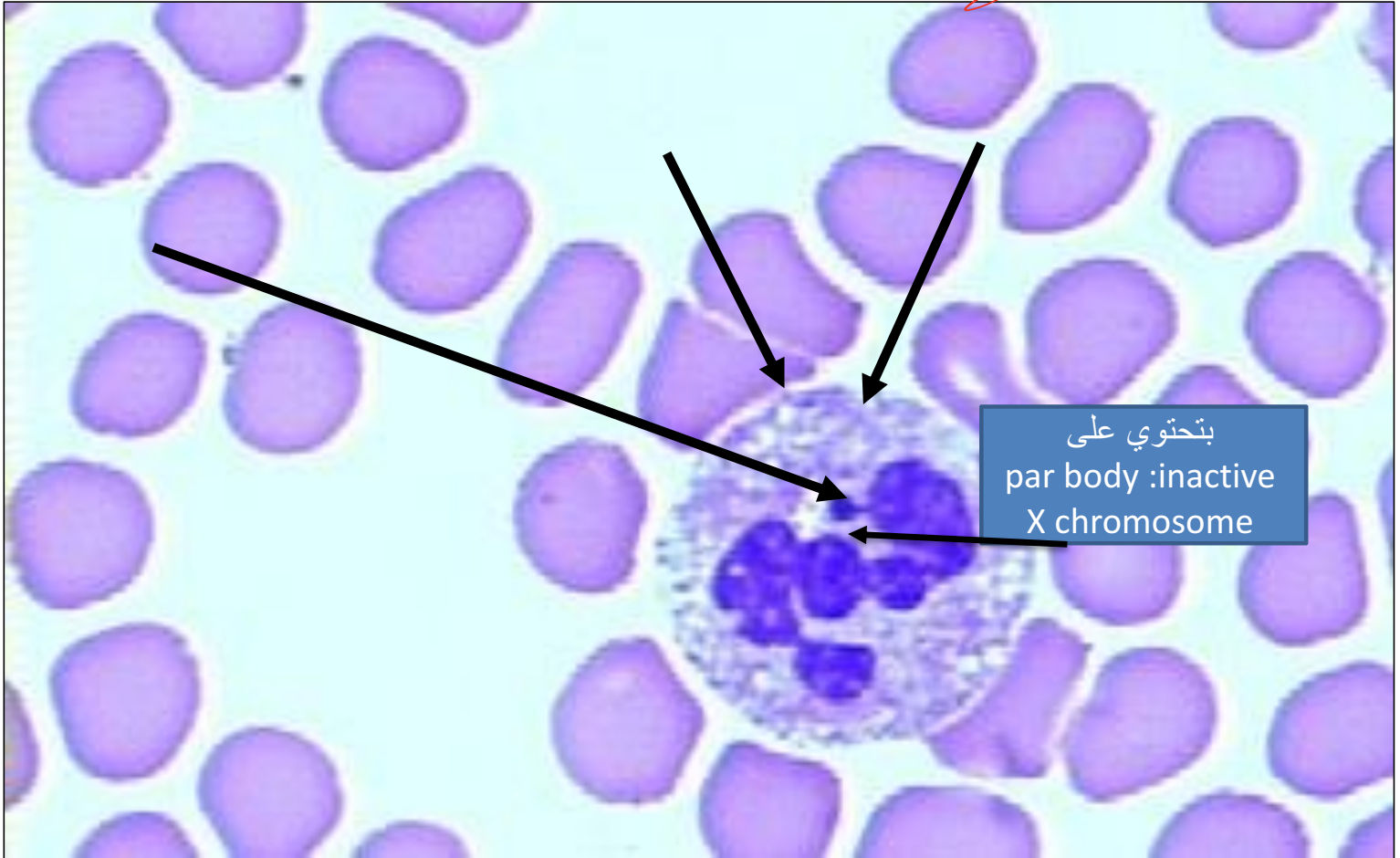
**Brown Fat**

Rounded in shape  
Don't have nuclease

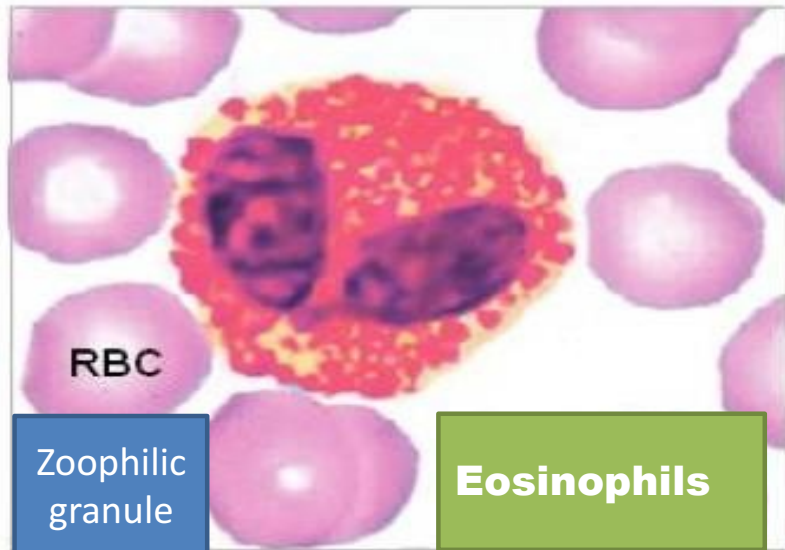
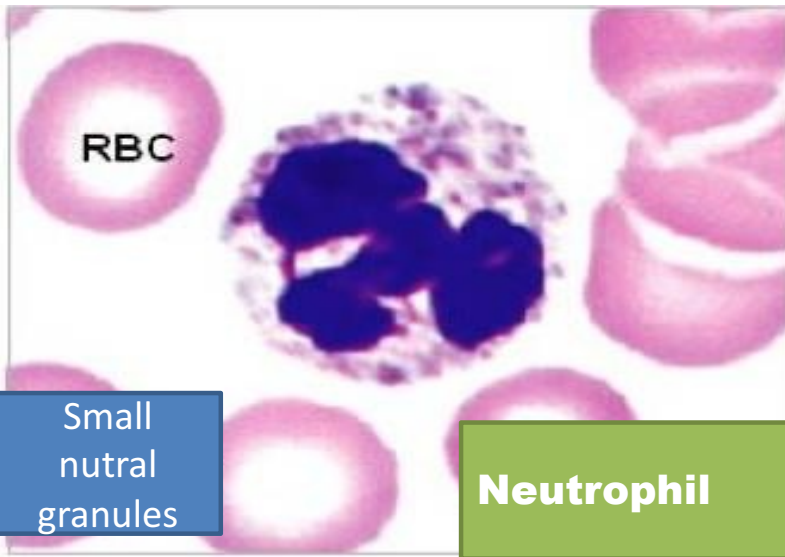
# Neutrophil

: **multilobulated**

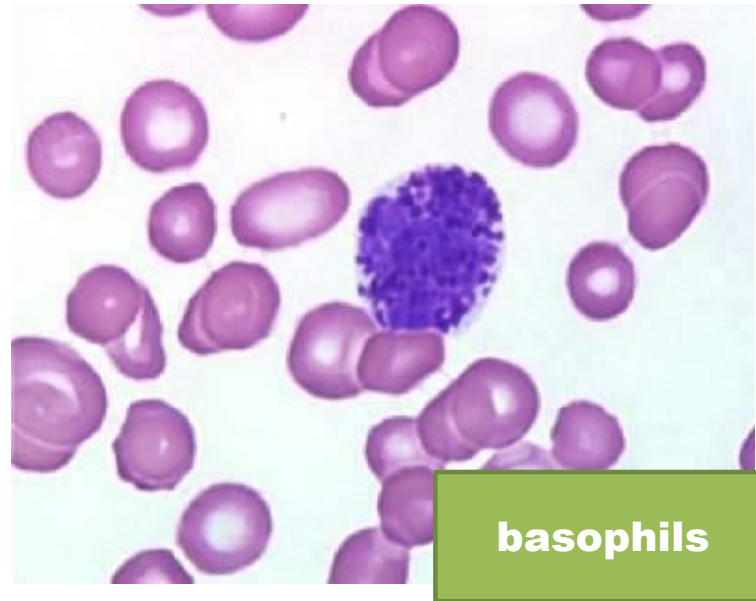
اكبر دليل الها



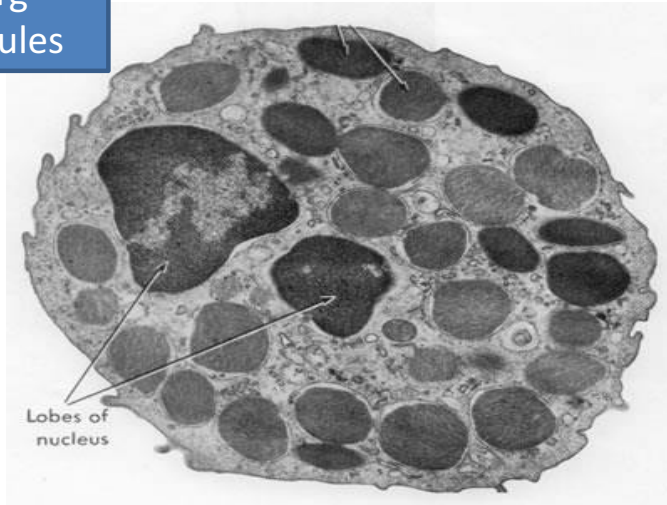
بتحتوي على  
par body :inactive  
X chromosome



## Granular leukocytes



Larg  
granules



**basophils**



Like rice  
granules

**Neutrophil**



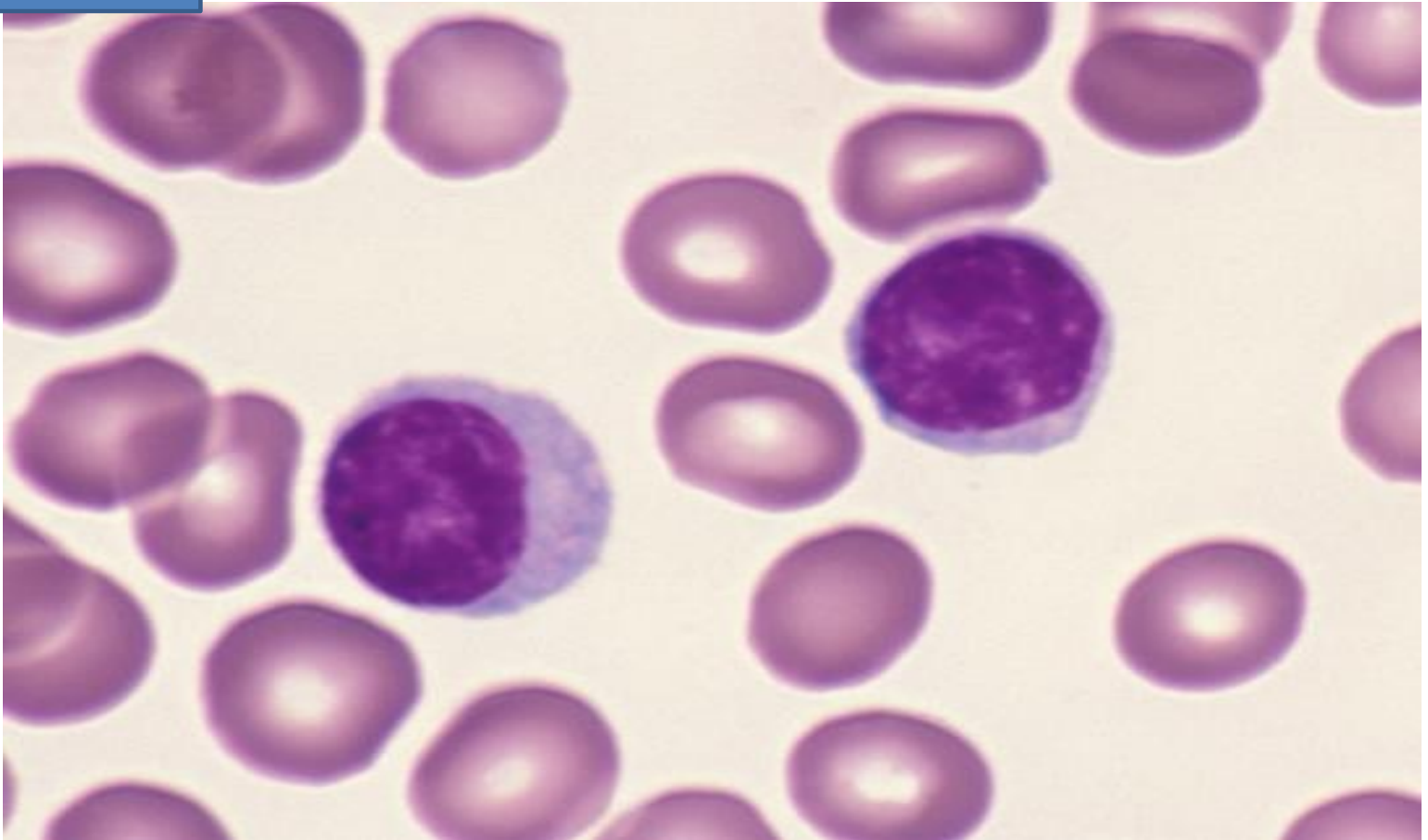
**Eosinophils**



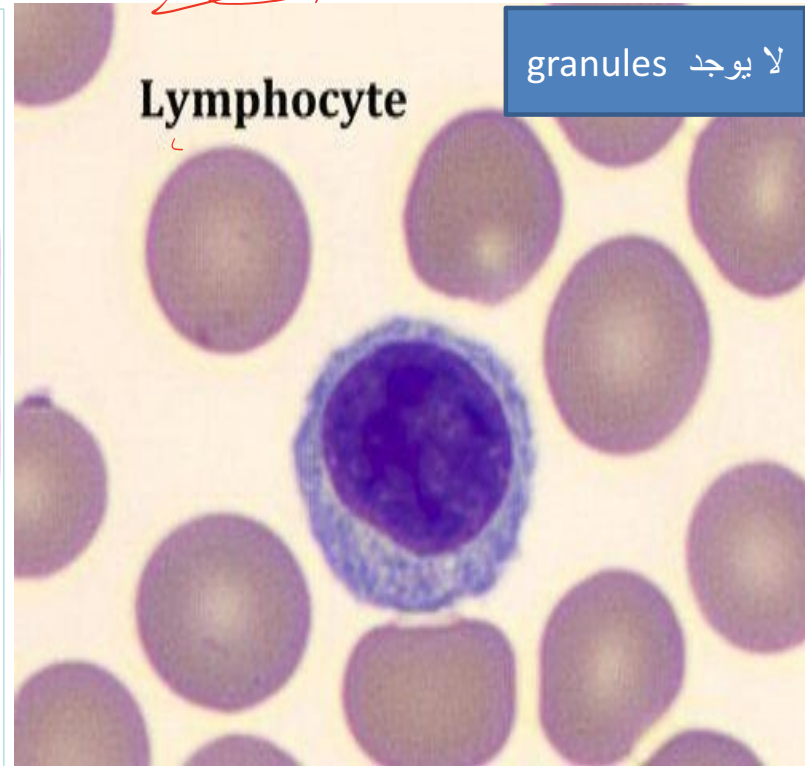
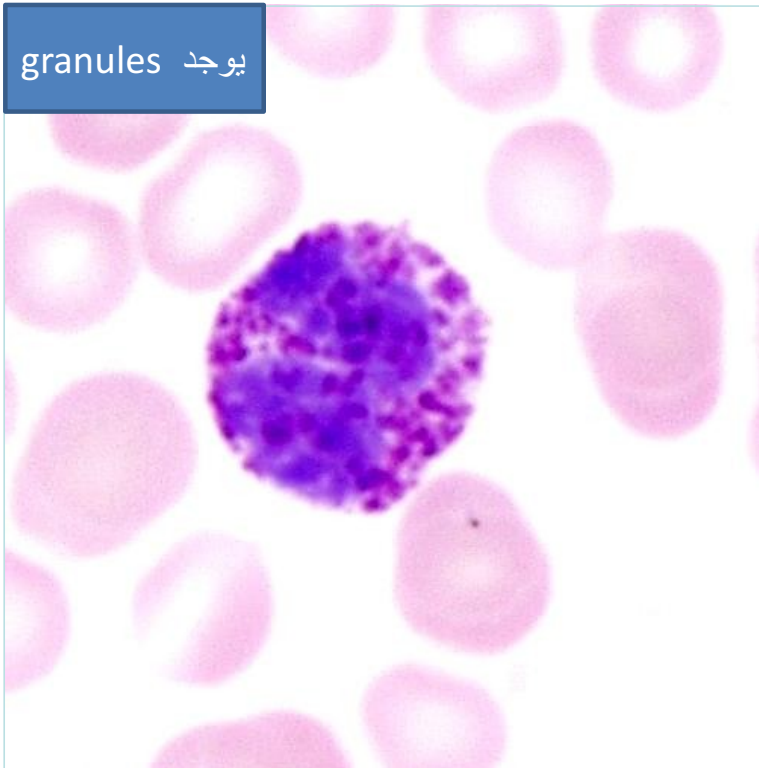
# Lymphocytes

- Rounded in shape
- large nucleus يوجد

No specific granules



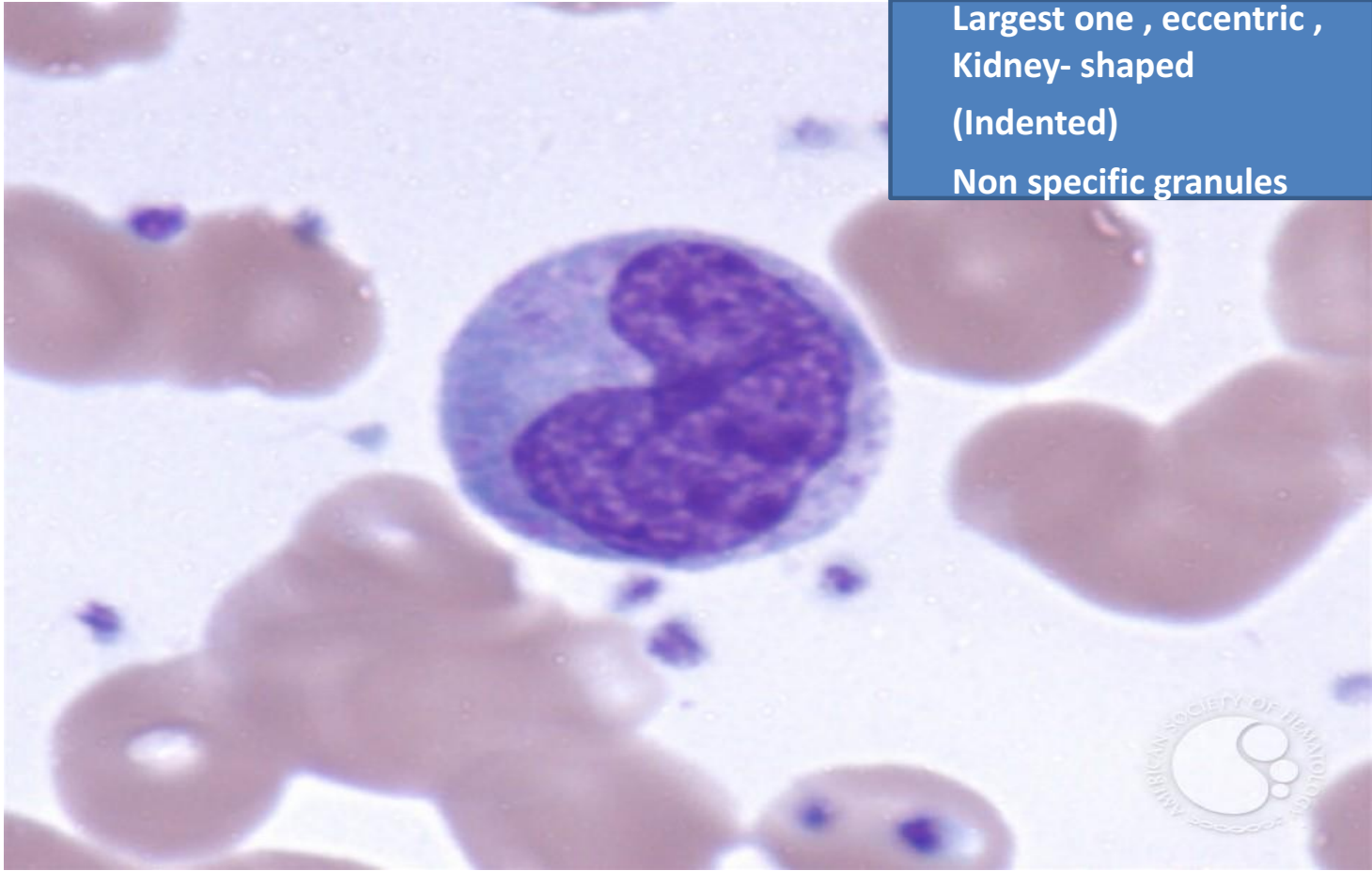
# Basophils & Lymphocytes



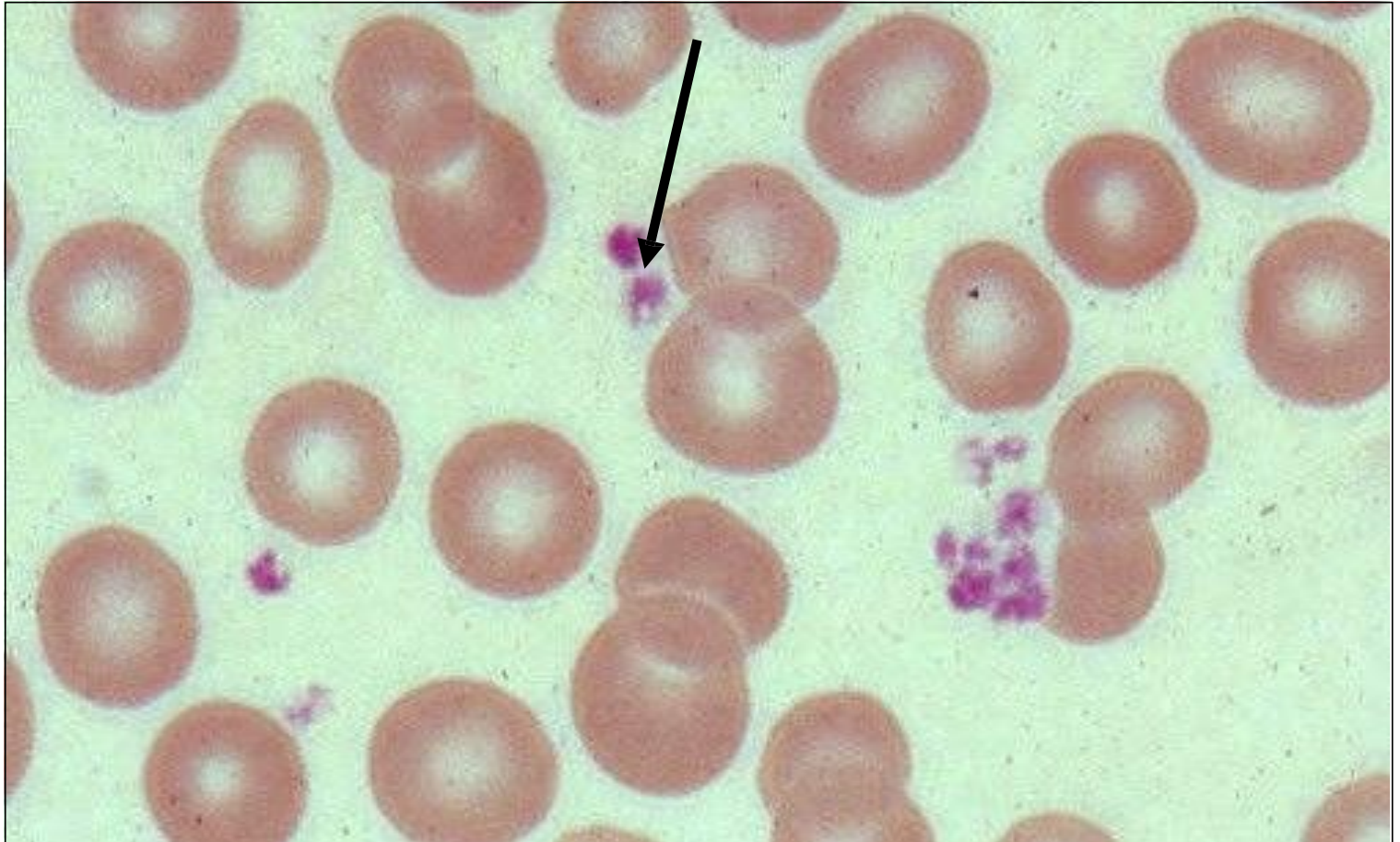
# Monocytes



Largest one , eccentric ,  
Kidney- shaped  
(Indented)  
Non specific granules

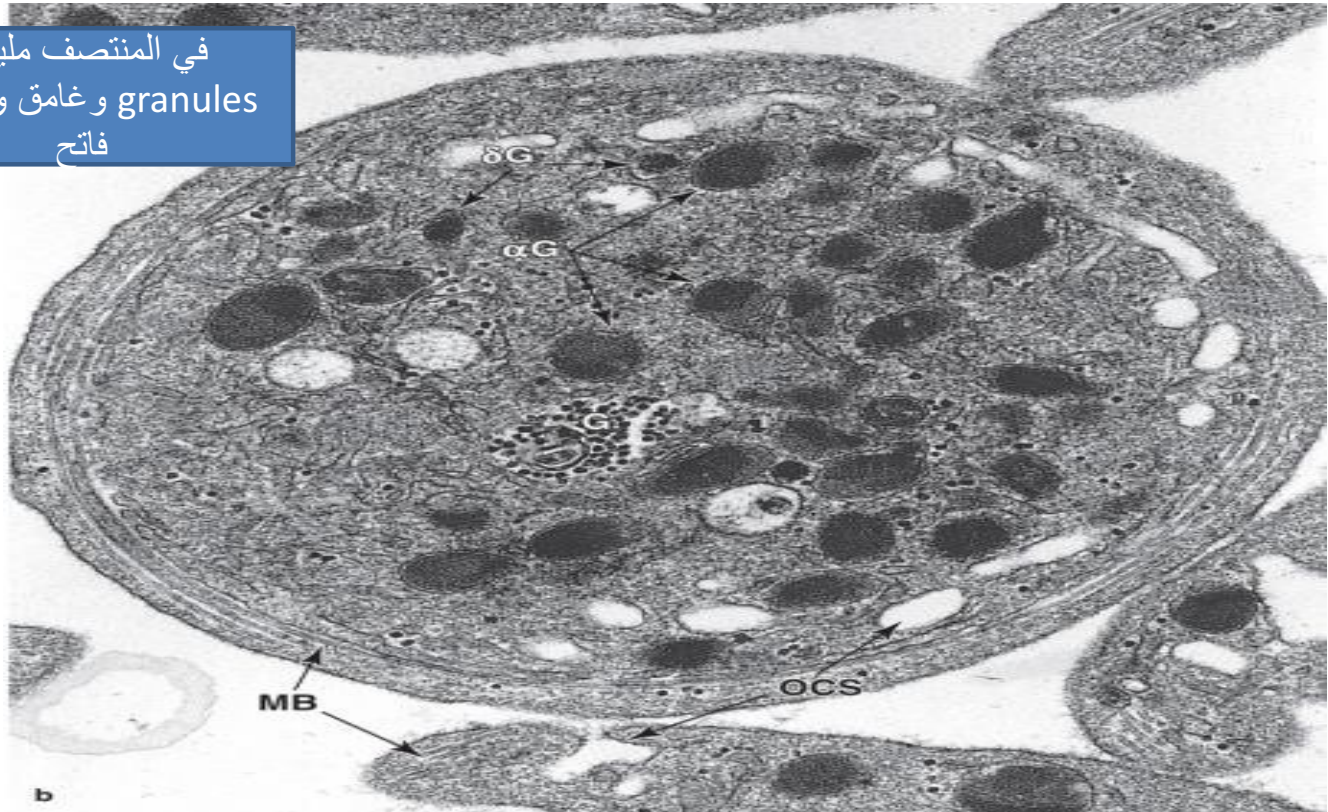


# Platelets



# EM Of the platelets

في المنتصف مليون  
granules و غامق و الطرف  
فاتح



Site: roof of nose and part of nasal septa and superior conchae

# The olfactory epithelium

3 type of cell in this area

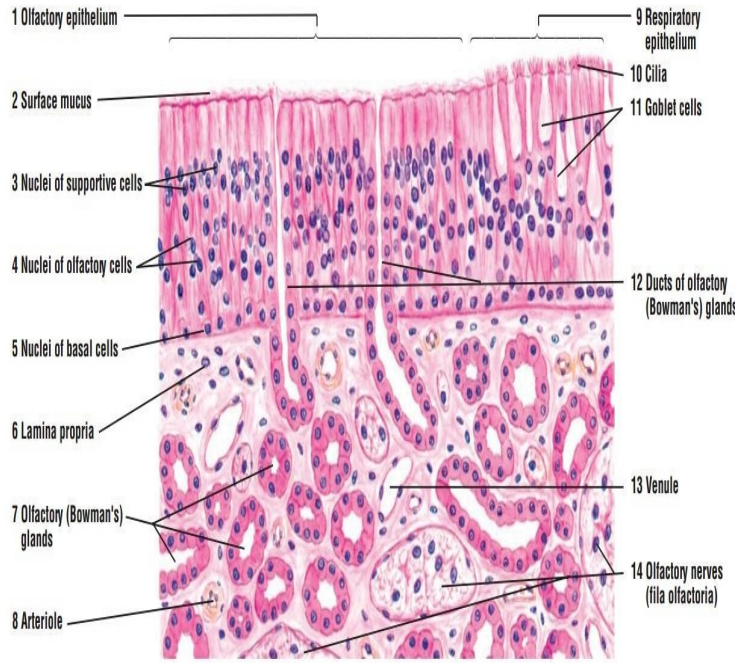
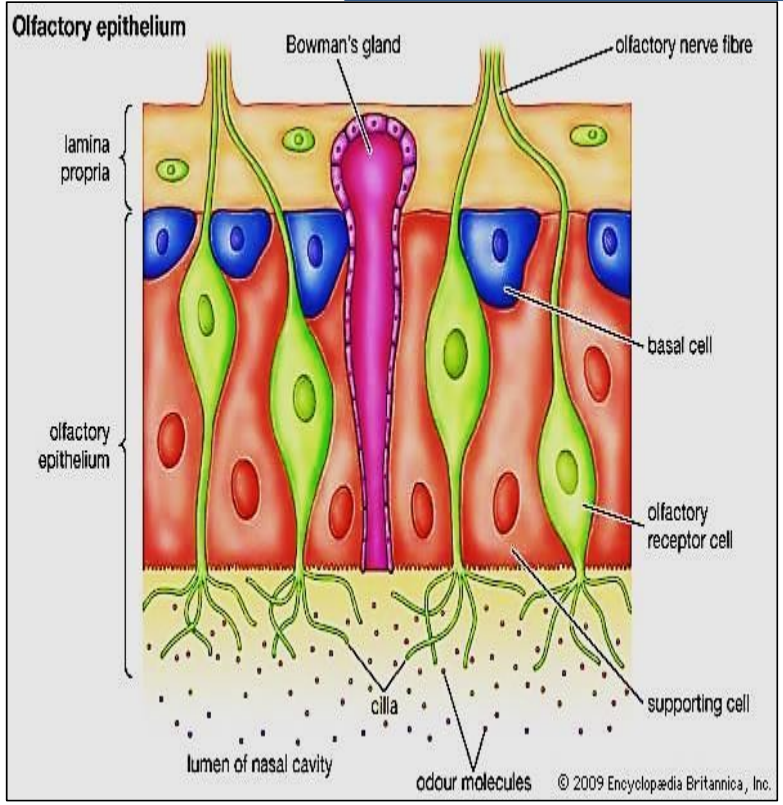


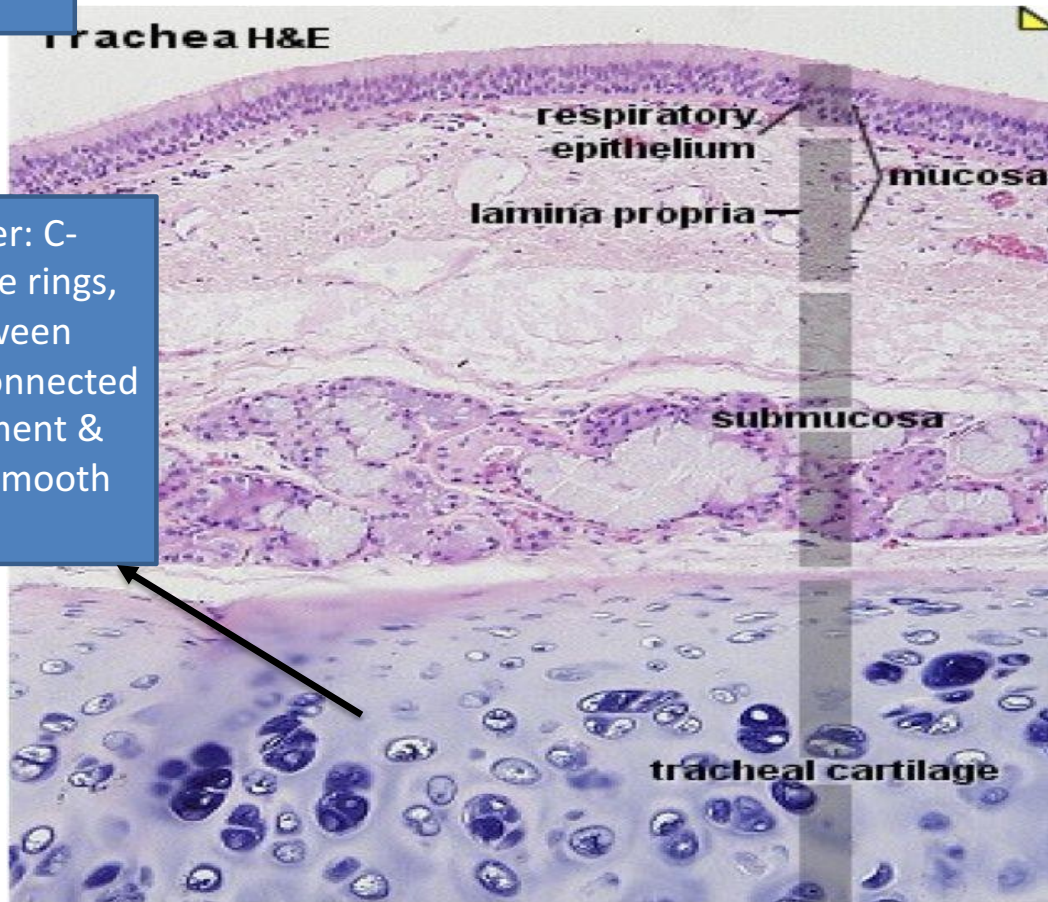
FIGURE 15.2 ■ Olfactory mucosa: details of a transitional area. Stain: hematoxylin and eosin. High magnification.



Its wall is formed of 4 layers:

1. Mucosa
2. Submucosa
3. Hyaline cartilage
4. adventitia

# Trachea



Cartilage layer: C-shaped cartilage rings, the gap between cartilage ends connected by elastic ligament & Trachialis ms (smooth ms)

# Intrapulmonary bronchi



ال epithelium تااعها معرج

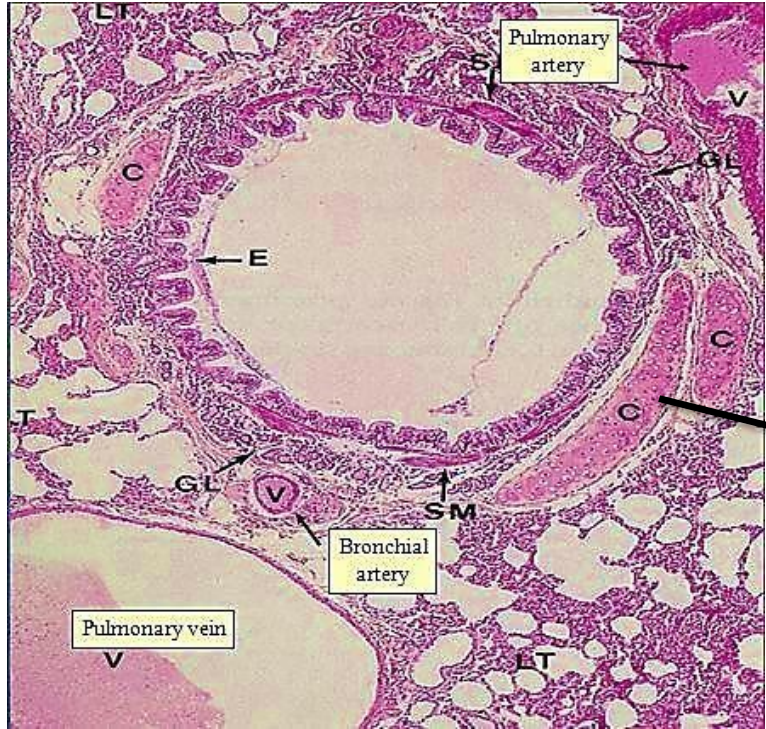
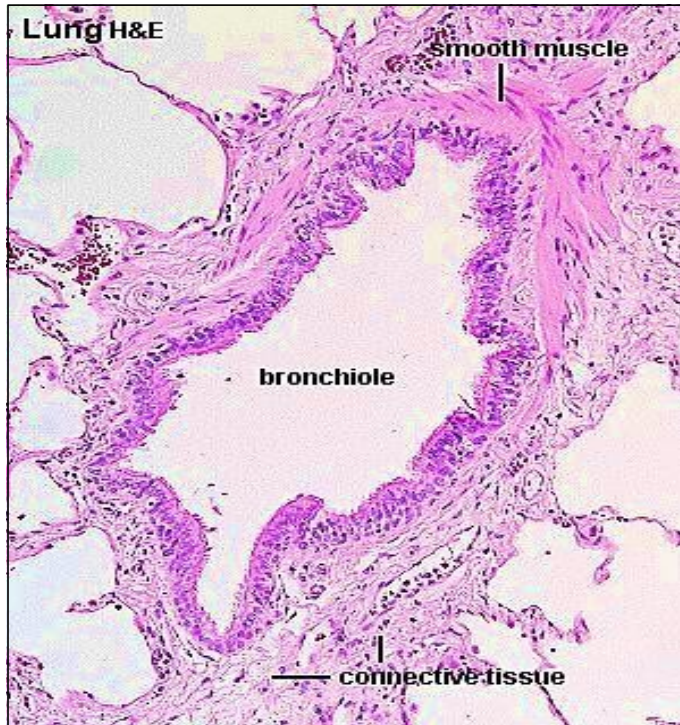


Plate of cartilage

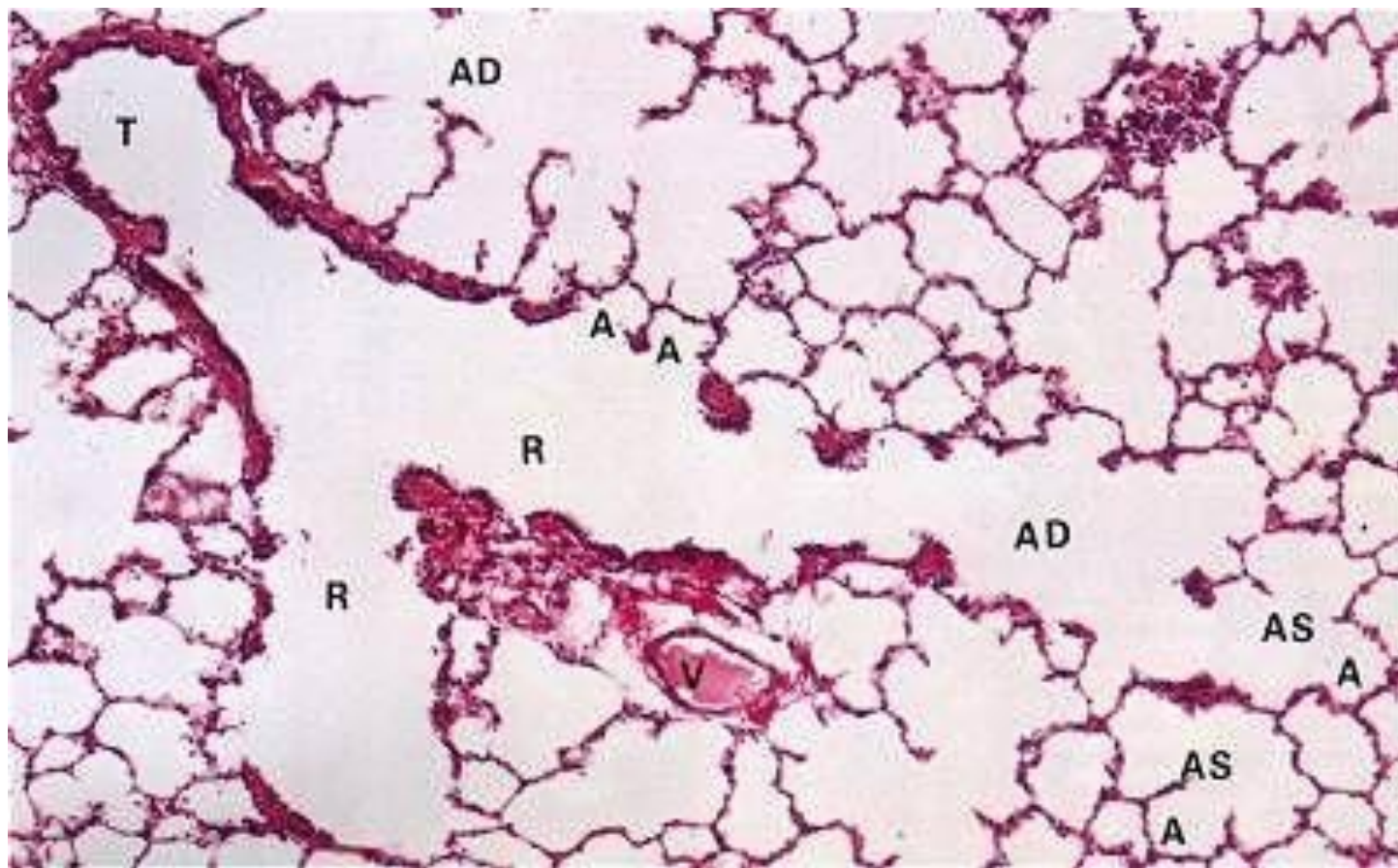


# Bronchiole

- Simple squamous epithelium
- Goblet cell disappear
- Clara cells which secret substance that protein in nature
- لا يوجد cartilage in wall
- يوجد smooth muscle

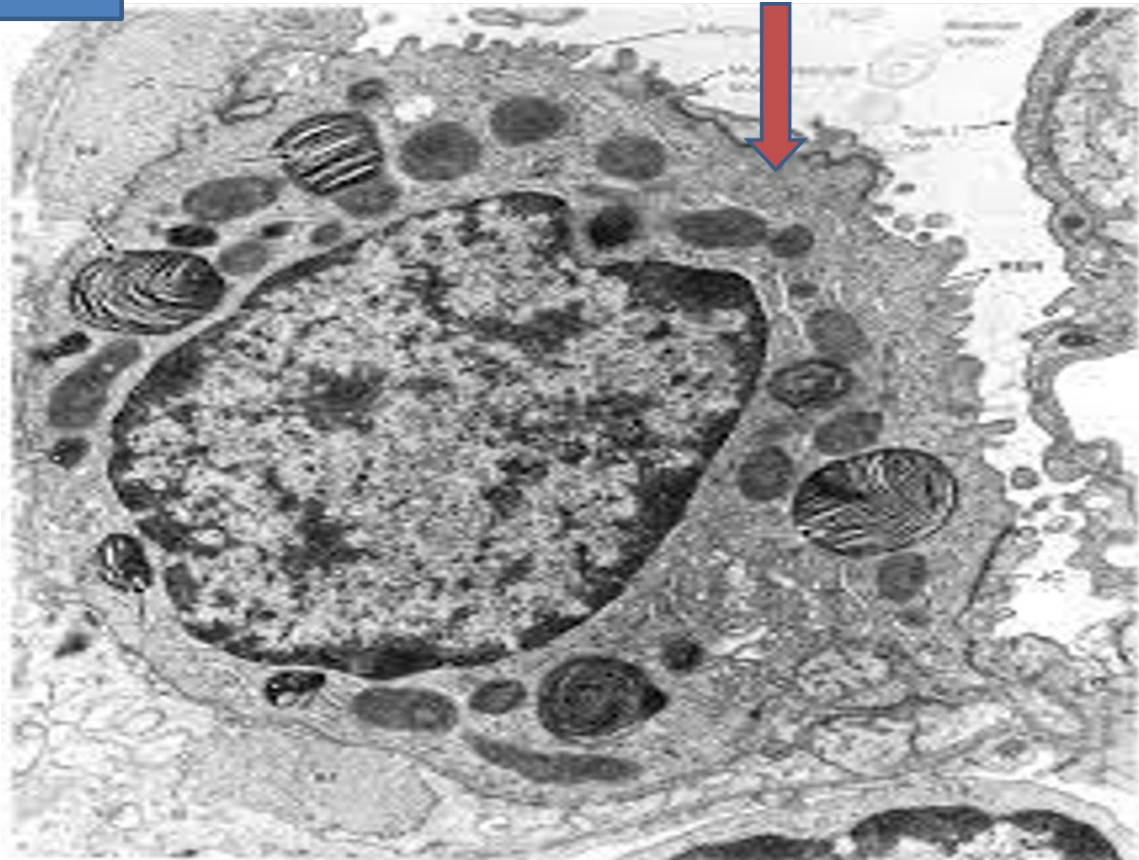


# Lung



# Type II Pneumocyte

Cuboidal cells e  
central nuclei &  
foamy cytoplasm



Thank  
You



1 : 22