

## بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

**Histology** : lecture 4:

### About the cells:

-We are studying about the cell :  
it has an apical and basal surface .

- If we have two cells and put them beside each other they linked by junctional complex (tight junction, gap junction and desmosome).

-The space between the cells are called intercellular space and usually it filled with lipid.

-In order for these cells to communicate with each other >>> gap junction and desmosome.

-cell Not to be lose and cells come together not to be dry >>> tight junction .

-Lower surface or basal aspect of the cell it always set into basement membrane .

-This cell if it doesn't have any attachment to the basement membrane (بتفلت) >>detachment .

-Usually in this level we have hemidesmosomes.

## **The epithelium tissues:**

-The epithelium is made of cell and usually these cells are of the same type {except some exception} but they have the same origin .

-As a definition the epithelium is a tissue .. and this tissue is made of group of cells that have similar structure and that perform common function so mostly they are the same .. have the same purpose they will work together for certain aspect of life (protection, secretion ,...)

-The basic element of any tissue is cellularity and ground substance

-The epithelium is made of cells that are sheeted together (مرصوفة) (جنب بعض) And covers the body surface or line the body orbit :  
The skin cover the body, the skin is made of two parts , one part is more superficial and that what we call it epidermis >> it's epithelium .(the dermis وتعتبر في طبقة اسفلها اسمها connective tissue)so it will cover the orbits and cover the whole body .

-In addition to that if we go in small intestine or large intestine or in the stomach we will able to see an envelope a protection for the substance or the structure of the stomach >> made epithelium lining >>made of certain layers of cells depending on the region

Ex: respiratory tube inside cell as an epithelium and usually it is the cilia (موجودة الأهداب عشان تدفع الأوساخ للخارج )

-We can divide epithelium into two part :

>the regular epithelium ( that is located everywhere )

>glandular epithelium ( different structure)

عندما نصنفها .. اذا كانت طبقة واحدة وشكلها مسطح

simple squamous

And so on ...

-Usually the squamous cells have very flat cytoplasm, the nucleus usually it's rounded it can be elongated but can't be tortuous.

-Thin layer of simple squamous cells called endothelium cells (usually it's found in the blood vessels ... lining inside the vessels) as well as in the heart but it call endocardium

-Cuboidal >> the height of the cell and width of the cell are the same and the rounded nucleus appear in the middle of the cell

-Stratified cuboidal occurs only in the portion of the gland

-In stratified epithelium(cuboidal) if the upper surface cells ( apical) are dome like structure this is what we call it {transitional} and these cells can be flat , we can find it in bladder so the bladder is an extendible organ

الخلايا العامودية التي لا تكون أكثر من طبقة ، لكن تكون مائلة على بعضها  
ترتكز على صفيحة قاعدية بعض خلاياها يصل للقاعدة والبعض الآخر لا يصل فتبدو  
وكأنها أكثر من طبقة فلو نظرنا لها تظهر كأنها فوق بعضها (stratified)  
لكنها بالحقيقة طبقة واحدة من الخلايا (بتقدروا تميزوهم بالسليدات) بالتالي يطلق  
عليها اسم: pseudostratified.

\*\* the blood is a tissue because it contains cells and a plasma

**Academic team** – OVERDOSE.