

### General guidelines for laboratory safety

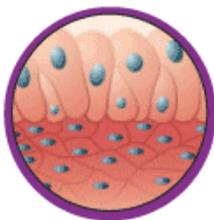
- Wear gloves when needed
- Do not smoke, eat or drink anywhere Lab
- Do not work with exposed open wounds or broken skin. cover With appropriate clothing and latex gloves.
- Wipe down the chairs in your work area with a suitable disinfectant before and after work every day
- Wear lab coats inside the laboratory
- Do not place personal items such as glasses on the workbench
- Beware of and handling reactive and toxic chemicals
- Wash hands and laboratory tables with appropriate cleaning agents before and after each laboratory session.
- Proper disposal of hazardous materials is essential!

**Histology** is the science that study of cells, tissues and organs as seen with a microscope .The human body, like the other animals and plants, is made up of units called cells.

### Classifications of Tissues:

- **Epithelium**- lines and covers surface.
- **Connective tissue**- protect, support, and bind together
- **Muscular tissue**- produces movement
- **Nervous tissue**- receive stimuli and conduct impulses.

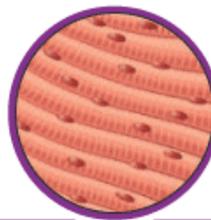
### FOUR TYPES OF TISSUES



Epithelial tissue



Nervous tissue



Muscle tissue



Connective tissue

## Epithelium

- Epithelia line and cover all body surfaces except the articular cartilage, the enamel of the tooth, and the anterior surface of the iris.
- The basic functions of epithelia are protection ( skin ) , absorption ( small and large intestine ) . transport of material at the surface (mediated by cilia), secretion (glands), excretion tubules of the kidneys), and gas exchange (lung alveolus)

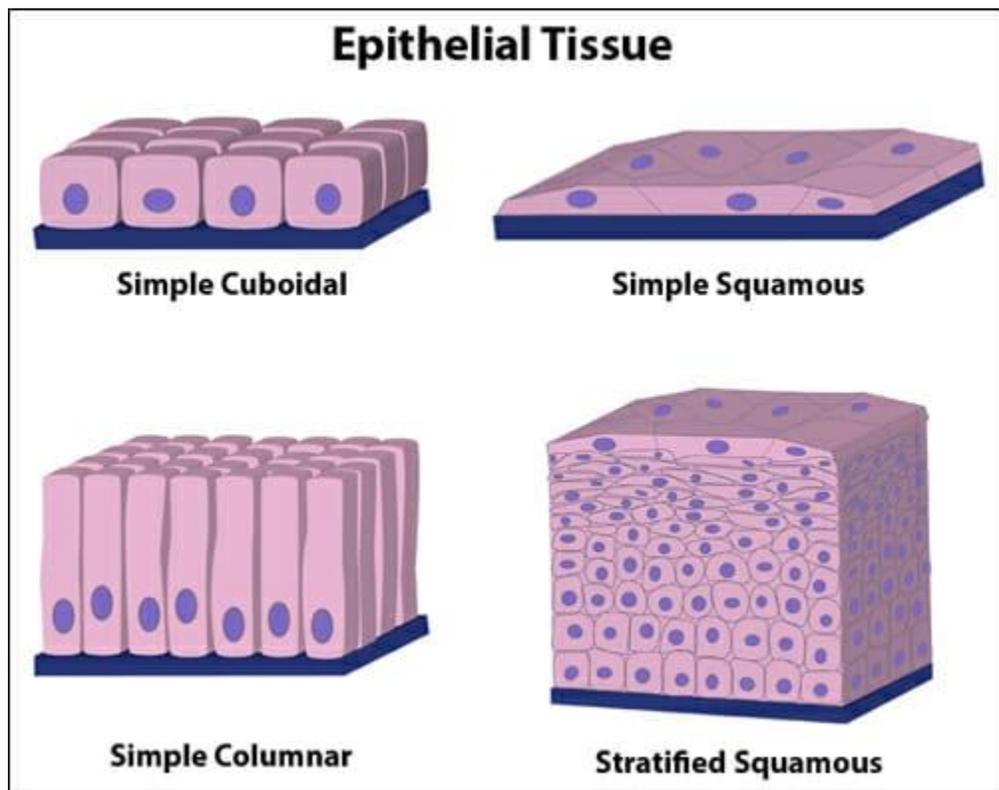
### **Classification of epithelia based on two parameters:**

#### 1. The shapes of individual cells-:

Flattened (squamous cells), have equal dimensions (cuboidal cells),and be taller than wider (columnar cells).

## 2. The arrangement of the cells in one or more layers-

- single cell layer is classified as **simple epithelium** (simple squamous epithelium, simple cuboidal epithelium, and simple columnar epithelium ) .
- **Stratified epithelia** are composed of more than one cell layer. Stratified epithelia are sub classified ( stratified squamous epithelium, stratified cuboidal epithelium, and stratified columnar epithelium.



**Pathology** is the scientific study of changes in the structure and function of the body in disease.

**Histopathology** : Definition it is a branch of pathology which deals with the study of disease in a tissue section.

### COMMON TERMS IN PATHOLOGY

It is important for a beginner in pathology to be familiar with the language used in pathology

⌘ **Patient** is the person affected by disease.

⌘ **Lesions** are the characteristic changes in tissues and cells produced by disease in an individual or experimental animal.

⌘ Pathologic changes or morphology consist of examination of diseased tissues, these can be recognized with the naked eye gross or macroscopic changes studied by microscopic examination of tissue