

## Tissues:

Groups of cells that are similar in structure and function are called **tissues**. There are four major types of tissues in the human body: *epithelial*, *connective*, *muscle*, and *nervous*, which are described in [Table 1](#). Tissues have diverse functions in the body, which include protection, support, transport, movement, storage, and control.

Table 1. type of Tissues

TYPE OF TISSUE	LOCATION	FUNCTION
Epithelia	Covers body surfaces, lines internal cavities, and composes glands.	Protection, absorption, secretion, filtration, excretion, and sensory reception.
Connective	Widely distributed throughout body.	Binds, supports, protects, fills spaces, stores fat, produces blood cells, and fights infection.
Muscle	Attaches to bones, walls of hollow organs, and the heart.	Allows body movement, propels contents of organs, and pumps blood.
Nervous	Brain, spinal cord, and peripheral nerves.	Coordinates, regulates, and integrates body functions. Sensory reception and perception.

## Epithelial Tissue

Types of Epithelial Tissue

**Epithelial tissues are classified according to the shape of their cells.**

**1-Squamous Epithelia**(Flat, scale-like cells)

**2-Cuboidal Epithelia** (cube shaped cells)

**3-Columnar Epithelia**(. Cells that are shaped like a column or cylinder)

Transitional cells change their shape as the particular tissue they are

located in stretches.

**Epithelia also are classified according to the number of cell layers they contain.**

- 1-simple epithelia**                      it's a **monolayer cells**
- 2-stratified epithelia**              it's at **least two cells thick**
- 3- Pseudo stratified epithelium**    it's only one cell thick, but it gives the impression of being stratified because some of its cells are shorter than others and therefore do not reach its free surface

**Simple epithelia consist of:**

**1-Simple Squamous Epithelia** consists of a single layer of flat, scale shaped cells    ex: **blood vessels, lymphatic vessels**

**2-Simple Cuboidal Epithelia** single layer of cells is described as **Cuboidal** because in transverse section the cells appear square    ex: Ovaries, **thyroid gland**

**3- Simple Columnar Epithelia** are all tall columnar and fit together in an essentially hexagonal pattern.

A- Non ciliated                      ex: Intestine, stomach.

B- Ciliated                              ex: oviduct

**4-Pseudostratified**    ex: trachea

**Stratified epithelia consist of:**

**1-Stratified Squamous Epithelium**

a- Non keratinizing                      ex: mouth.

b- keratinizing                              ex: skin

**2-Stratified Columnar Epithelium**    ex: conjunctiva

**3- Stratified Cuboidal Epithelium**    ex: duct of glands

#### 4-Transitional Epithelium

ex: urinary bladder

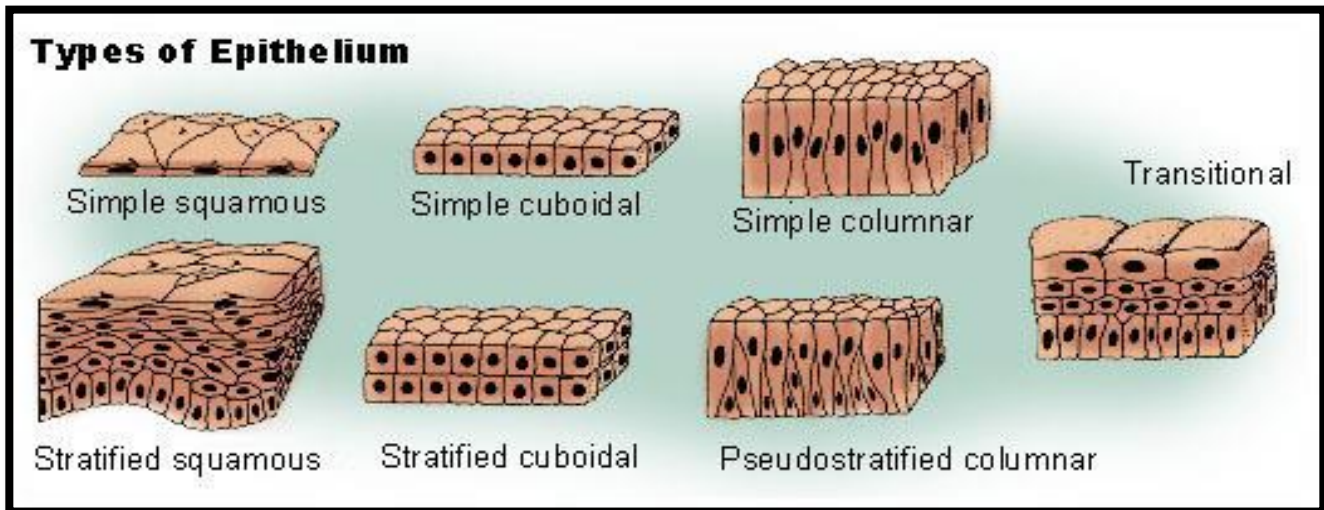


Figure 1 . Type of Epithelial tissues

### GLANDS

Epithelia also form secretory parts of glands, structures that are specialized to produce and release specific substances.

Glands that secrete their products into ducts opening onto external surfaces or into internal body cavities are called **exocrine glands**. Examples of exocrine glands include salivary glands, sweat glands, , mammary glands, and sebaceous glands. In contrast, glands that secrete their products (*hormones*) into tissue fluids or the blood stream are called

**endocrine glands**. These include the thyroid gland, adrenal glands, and pituitary gland . Glands that secrete both kinds of secretion called -**Mixed glands** pancreatic glands.