

# HISTOLOGY OVERVIEW AND EPITHELIAL TISSUE

## Four types of tissue in your body:

1. **Epithelial tissue:** Lines the insides of all organs and blood vessels; covers body (skin); composes glands
2. **Connective tissue:** Cells secrete collagen and other fibers; cells are very far apart
3. **Muscular tissue:** Able to contract, shorten and allow movement
4. **Nervous tissue:** Able to send electrical signals over long distances, give us thinking ability; electrical signals can cause muscles to contract and glands to secrete.

**Epithelial tissue** lines all organs and covers the outside of the body (skin). Includes glands. Glands can be either endocrine or exocrine.

- **Endocrine glands:** Make hormones (secreted into bloodstream), such as insulin, thyroxin, and cortisol.
- **Exocrine glands:** Make digestive enzymes (secreted into intestines); make sweat (secreted onto skin surface); saliva (secreted into mouth); mucus (secreted onto respiratory surfaces).
  - **Goblet cells** are specialized exocrine cells that are found in any mucous membrane (respiratory, urinary, GI, reproductive tracts). They are shaped like an hourglass and found amidst cells of other types.

| <b>TYPES OF EPITHELIAL TISSUE</b>   |   |   |
|---|---|---|
| <b>Cells classified by <i>SHAPE</i> &amp; number of <i>LAYERS</i></b>       |   |   |
| Inner lining to organs; covers body; composes ALL glands; part of membranes |   |   |
| <b>Specific Tissue Type</b>   | <b>Functions</b>                                    | <b>Example(s)</b>   |
| Stratified squamous epithelial  | Protection  | Skin  |
| Simple columnar epithelial  | Absorption  | Lines intestines  |
| Simple squamous epithelial  | Filtration or easy diffusion of gases and nutrients | Capillaries and lung cells  |
| Simple squamous epithelial  | Reduce friction and provide smooth surface          | Endothelial cells that line the inside of all blood vessels and the heart |
| Simple cuboidal epithelium epithelial                                       | Secretion   | Thyroid gland   |
| Pseudostratified ciliated columnar epithelial                               | Sweep debris away                                   | Trachea   |
| Transitional epithelial   | Stretching  | Bladder   |