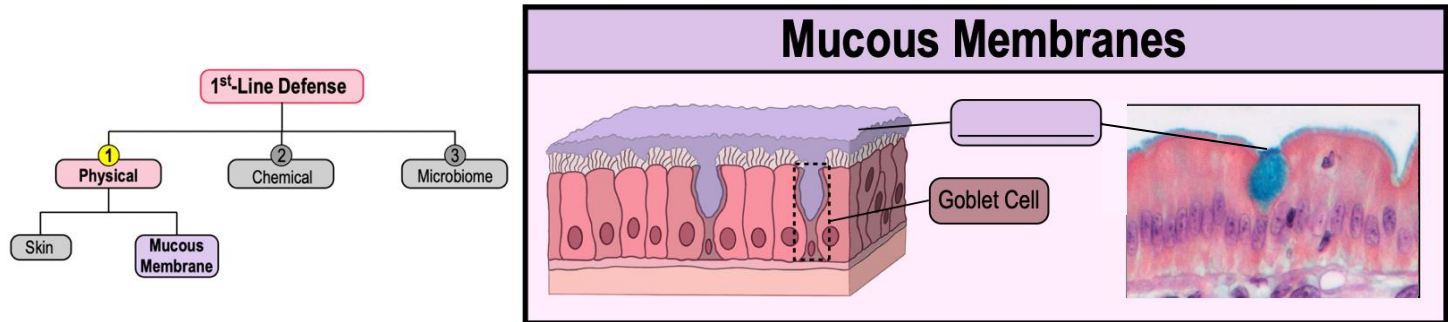


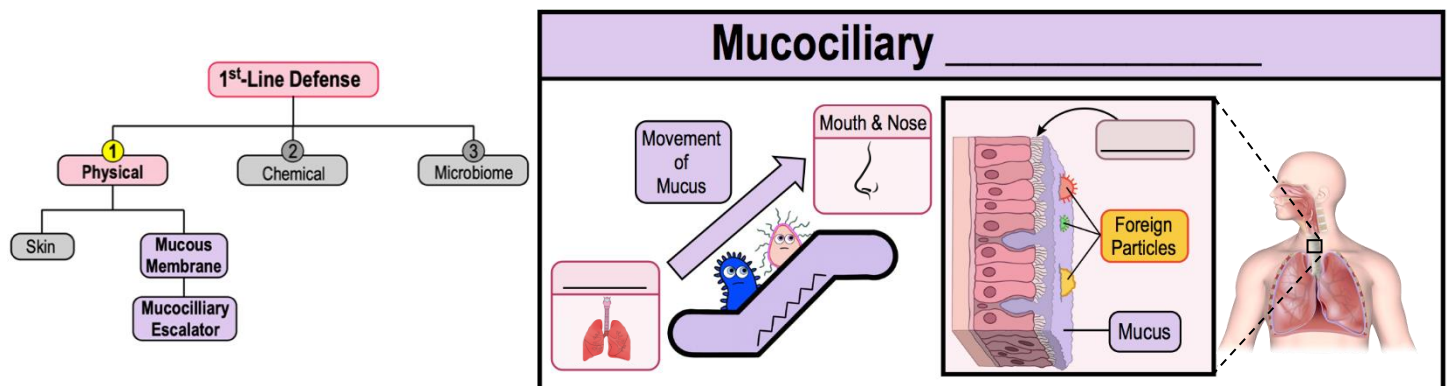
## CONCEPT: PHYSICAL BARRIERS IN FIRST-LINE DEFENSE: MUCOUS MEMBRANE

- **Mucous Membranes:** consist of an epithelial layer of cells & connective tissue that produces \_\_\_\_\_.
  - **Mucus:** slightly viscous glycoprotein fluid produced by \_\_\_\_\_ cells that prevents lined tracks from drying out.
  - Mucous membranes line the *digestive tract, respiratory tract, & genitourinary tract*.
  - Though we have mechanisms to protect mucous membranes, they're commonly used by pathogens to enter.



## Peristalsis & Mucociliary Escalator

- Mucous membranes have mechanisms that can \_\_\_\_\_ microbes to areas where they can be *eliminated* (Ex. anus).
  - \_\_\_\_\_: intestinal track *contractions* moving food, liquids & microbes towards the anus.
- **Mucociliary Escalator:** the synchronized movement of \_\_\_\_\_ that move microbes out of the *respiratory tract*.
  - Movement is away from the \_\_\_\_\_ toward the mouth & are expelled from the body via *coughing* or *sneezing*.
  - Microbes that enter the nasal cavity get trapped in the *mucociliary blanket*.
  - **Mucociliary Blanket:** ciliary cells in the nose and sinuses covered in mucus to trap & remove microbes.



**PRACTICE:** Which physical, nonspecific host defense mechanism is associated with the respiratory tract and trachea?

- a) Water-repelling keratin proteins.
- b) Mucociliary escalator.
- c) Lysozyme enzymes.
- d) Salivary amylase.