

- ← Functions
  - Thermoregulation
    - When sweat evaporates it cools the body down
  - Excretion
    - Odor producing
  - Synthesis of lipids reserves
  - Vitamin d
    - Important for calcium absorption
  - Sensory info
    - Nerve endings, light touch, and something else
  - Immune response
    - When things do make it across the barrier
    - Immune recognition and reject
- ← Breakdown of integumentary
  - Cutaneous membrane (epidermis?)
  - Accessory membranes (adnexal structure)
- ← Integumentary system-
  - cutaneous membrane over entire body and meets membranes of other systems
  - skin has 2 parts
    - epidermis-

- stratified squamous epithelium
  - undergo keratinization- exclude all organelles and are dead cells when they are shed
- o dermis
  - layer of connective tissue under the epidermis
  - the closest blood vessels will get to epidermis
- ← epidermal junction is not flat but have folds into one another
  - help keeps dermis and epidermis interlocked together
  - blistering when separate because damaged
- ← epidermal ridges
  - deepest part of epidermis that meets dermal papilla
- ← epidermis
  - thin skin
    - o 4 layers
    - o everywhere else in the body and has hairs
    - o missing the stratum lucidum (clear layer)
  - thick skin
    - o 5 layers only in certain areas (where braziions and areas for injury are highest)
    - o soles of feet and palms of hands
  - layers (deepest to most superficial)
    - o stratum germinativum or **stratum basale**
      - **1 cell thick- only one!**

- mitosis occurs here
- produces new keratinocytes- cells that will become keratinized
- basale cell tumors occur here
  - instead of growing upwards they grow downwards into the dermis and considered malignant then
- one daughter stays and the other continues
- o stratum spinosum
  - cell junctions desmosome or macular adherence
  - have it to keep the cells together and not pull apart
- o stratum granulosum
  - more granules
- o stratum lucidum
  - in thick skin and clear
- o stratum corneum
  - most superficial
  - basketweave like appearance (common in thin skin)
  - very thin in thin skin and thick in thick skin BUT not how to determine must have stratum lucidum
  - all dead here
- takes 28 days to have a cell go from basale to corneum
  - o longer to shed the cells but 28 days to go from basale → corneum
- caryosis- takes a lot shorter
- cells