

ATI TEAS Science Review

Integumentary
System

Ivy Robelo



@PetiteAndSoignee

www.PetiteAndSoignee.com

The largest organ in the body. The first barrier of defense against external stressors.

There are 3 layers of the skin:

1) Epidermis: The most superficial layer of skin; entirely epithelial cells.

This layer does NOT contain blood vessels.

There are 5 sublayers in the epidermis:

- o Stratum Corneum: "Top Layer"- Dead keratinocytes
- o Stratum Lucidum: "Clear Layer"- Colorless protein eleidin
- o Stratum Granulosum: "Thin Layer"- granular layer
- o Stratum Spinosum: "Spiny Layer"- Thickest layer, keratinocytes, immune dendritic cells, sensory cells
- o Stratum Basale: "Basal Layer"- Bottom layer; contains melanocytes.

2) Dermis: Directly below epidermis; mostly connective tissue. It contains blood vessels, sensory receptors, hair follicles, sebaceous glands, sweat glands, elastin and collagen fibers.

3) Hypodermis/Subcutaneous: Connective tissue. Binds the skin to the underlying muscle. Fat deposits cushion and insulate the body.

Glands

Exocrine: Secrete substances into ducts

Holocrine: secretory products; whole cells; connected to hair follicle

→ Hair follicle; H (holocrine) for Hair.

- o Sebaceous Glands: secrete sebum: an oily mixture of lipids and proteins; waterproofs skin, protects from pathogens

Eccrine: Not connected to hair follicle, activated by high body temperature, located throughout the body. A type of sweat gland (sudoriferous gland) in thermoregulation.

→ Throughout the body. E for Everywhere

- o Secrete a salty solution of electrolytes and water
 - NaCl
 - KHCO₃
 - Glucose
 - Antimicrobial Peptides

Apocrine: Secrete an oily solution (fatty acids, triglycerides, and proteins)

- o Located in: Armpits, groin, palms, soles of feet
- o Secrete (sweat) during anxiety or stress
- o Body odor forms from bacteria feeding on apocrine sweat

→ Smelly areas. A for "AY FO!" (spanish lol)



First-degree burns affect **ONLY** the epidermis (superficial burns).

Second-degree burns affect the *epidermis* and part of the dermis. (**Partial-thickness burns**)

Third-degree burns destroy the *epidermis and the dermis*; they may also damage the underlying bones, muscles, and tendons. (**Full-thickness burns**)

Integumentary and Circulatory Systems and their Relation to Regulating Body Temp:

Circulatory System: Constricts blood vessels (near the skin's surface) to retain heat if it's cold. Dilates blood vessels to bring blood to the surface to cool off the body.

Integumentary system: Sweat evaporating from skin's surface cools the body as heat is dissipated.

The hypothalamus controls body temperature!

The medulla oblongata controls breathing and blood flow.



About Me

Hi there! My name is Ivy and I am the founder of Petite and Soignée. I am currently a licensed physical therapist assistant, dermatology and cosmetic medical assistant, and a nursing student in an accelerated BSN program. Over the years, I have researched and learned about different skincare products, ingredients, skin conditions, diseases, and new technologies and procedures within the field. I decided to join a dermatology practice so that I could learn more about skincare within a clinical setting. This position taught me so much about the science of skin that it led me to pursue nursing. My goal is to specialize in dermatology in the future.

You may be wondering what does *soignée* even mean?

Soignée (pronounced "swan-yay") is a feminine French word meaning "*to dress elegantly*", "*well-groomed*", "*sleek*" "*well maintained*" or "*elegantly designed*". The word perfectly describes the way that I like to present myself on a daily basis. On my website, I share all of my skincare and beauty tips for everyone to feel soignée.

Don't forget to follow my other social media accounts!



@PetiteAndSoignee

www.PetiteAndSoignee.com