The skin is composed of three layers, the epidermis, dermis, and subcutaneous tissue.

- The skin is thicker on the palms of the hands and soles of the feet and is continuous with the mucous membranes at the orifices of the body.
- Subcutaneous tissue, which contains varying amounts of fat, connects the skin to underlying structures.
- The skin is a physical barrier that protects the underlying tissues and structures from microorganisms, physical trauma, ultraviolet radiation, and dehydration.
- Plays a vital role in temperature maintenance, fluid and electrolyte balance, absorption, excretion, sensation, immunity, and vitamin D synthesis.
- The skin also provides an individual identity to a person’s appearance.
EPIDERMIS

- The epidermis, the outer layer of skin, is composed of four distinct layers.
- The outermost layer consists of dead, keratinized cells that render the skin waterproof. (Keratin)
- The epidermis (hair, nails, dental enamel, and horny tissues are composed of keratin.)
- The epidermal layer is almost completely replaced every 3 to 4 weeks.
- Epidermis contains melanin (brown pigment) and keratin-forming cells.
- Skin color depends on the amount of melanin and carotene (yellow pigment) contained in the skin and the volume of blood containing hemoglobin, the oxygen-binding pigment that circulates in the dermis.

DERMIS

- The inner layer of skin
- It is connected to the epidermis by means of papillae containing collagen and elastic fibers, nerve endings, and lymph vessels.
- It is also the origin of hair follicles, sebaceous glands, and sweat glands.
The sebaceous glands develop from hair follicles and, therefore, are present over most of the body, excluding the soles and palms.

- They secrete an oily substance called sebum that lubricates hair and skin and reduces water loss through the skin. Sebum also has some fungicidal and bactericidal effects.
Sweat Glands

- Sweat glands are of two types, eccrine and apocrine.
- The eccrine glands are located over the entire skin surface and secrete an odorless, colorless fluid, the evaporation of which is vital to the regulation of body temperature.
- The apocrine glands are concentrated in the axillae, perineum, and areolae of the breast and usually open through a hair follicle. They secrete a milky sweat. The interaction of sweat with skin bacteria produces a characteristic body odor.
- Apocrine glands are dormant until puberty, at which time they become active.

SUBCUTANEOUS TISSUE

- Merging with the dermis is the subcutaneous tissue, which is a loose connective tissue containing fat cells, blood vessels, nerves, and the remaining portions of sweat glands and hair follicles.
- The subcutaneous tissue assists with heat regulation and contains the vascular pathways for the supply of nutrients and removal of waste products from the skin.
Hair

- Hair consists of layers of keratinized cells found over much of the body except for the lips, nipples, soles of the feet, palms of the hands, labia minora, and penis.
- Hair develops within a sheath of epidermal cells called the hair follicle.
- Hair growth occurs at the base of the follicle, where cells in Hair serves useful functions.
- Scalp hair is a protective covering.
- Nasal hair and ear hair, as well as eyelashes and eyebrows, filter dust and other airborne debris.

Hair...CONTINU

- There are two general types of hair: vellus and terminal.
- Vellus hair is short, pale, and fine and is present over much of the body.
- The terminal hair (particularly scalp and eyebrows) is longer, generally darker, and coarser than the vellus hair.
- Puberty initiates the growth of additional terminal hair in both sexes on the axillae, perineum, and legs.
- Hair color varies and is determined by the type and amount of pigment production.
- The absence of pigment or the inclusion of air spaces within the layers of the hair shaft results in gray or white hair.
Nails

- The nails, located on the distal phalanges of fingers and toes.
- are hard, transparent plates of keratinized epidermal cells that grow from a root underneath the skin fold.
- The nail body extends over the entire nailbed and has a pink tinge as a result of the rich blood supply underneath.
- At the base of the nail is the lunula, a pale, crescent-shaped area.
- The nails protect the distal ends of the fingers and toes.
Focused History

- Previous history of skin disease
- Change in pigmentation
- Change in mole
- Excessive dryness/moisture
- Pruritus
- Excess bruising

- Rash or lesion
- Medications
- Hair loss
- Change in nails
- Environmental or occupational hazards
- Self-care behaviors

SCREENING MOLES FOR POSIBLE MELANOMA

- Asymmetry
- Border irregularity
- Color variation
- Diameter
- Elevation and Enlargement

ABCDE
### Assessment

#### History
When eliciting a history of skin problem or assessment, ask the following:
- **SWIPE**: Start, Worse, Improve, Pattern, Evaluation

#### Inspection and palpation – always first… then palpate. Wear gloves if contact with any body fluids or blood.

#### Systematic Head to toe - Although presented alone, skin assessment is integrated throughout the complete exam as you go through each body system or from head to toe fashion.

### Skin Assessment
- Inspection and palpation (Head to toe)
- Ensure good lighting and privacy

**Assesses for:**
- Skin color (pink, pallor, jaundice, cyanosis, erythema)
  - General pigmentation
- Moisture (dryness, sweating and oiliness).
- Temperature.
- Texture (roughness or smooth)
- Turgor and mobility
- Vascularity or bruising
- Lesions
SKIN INSPECTION

Palpate to Assess Temperature
Palpate to Assess Mobility and Turgor

Widespread Color Changes
Pallor

- Anemia
- Shock
- Dietary Deficiencies
- Local Arterial Insufficiency
- Renal Failure
- Albinism

- Observe mucous membranes, lips, & nail beds
Widespread Color changes  
Cyanosis

- **Bluish** mottled color, caused by hypoxia
  - **Central** - chronic heart and lung disease
  - **Peripheral** (nailbeds, earlobes)
    - vasoconstriction R/T exposure to cold, anxiety
    - venous insufficiency

Widespread Color changes  
Erythema

- **Redness** of skin R/T capillary congestion from inflammation/infection
  - **Light skin**: red **bright pink**
  - **Dark skin**: **purplish** tinge but difficult to see:  
    PALPATE FOR WARMTH
Widespread Color Changes

Jaundice

- Yellow color caused by increased levels of bilirubin in the blood.
- First noted in junction of hard/soft palate and in the sclera (see next slide)
- As bilirubin levels increase, jaundice is evident over rest of body.

Jaundice

Light skin: yellow in sclera, hard palate, mucous membranes, then over skin

Dark skin:
- check sclera for yellow
- best noted in the junction of hard and soft palate and also palms
**Skin Lesions (Characteristics)**

- **TYPE** (e.g. macule, papule, vesicle)
- **COLOR**
- **SIZE** (L x W x D)
- **SHAPE/CONFIGURATION** : round, oval, linear (form a line), grouped (clustered)
- **TEXTURE** rough, smooth
- **DISTRIBUTION/PATTERN**
  - E.g. generalized, diffuse, nerve path, diaper area
- **ELEVATION/DEPRESSION** raised, flat, depressed like a crater, circumscribed (can feel in between thumb and index finger)

**EXUDATES**

- Amount, color, consistency

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**Skin Lesions Types**

- **Primary Lesions**: *(Initial lesions)* Appear in response to external or internal environment of skin.

  Primary – when lesions appear on prev. unaltered skin

  Macules / patch, papule/plaque, nodule/tumor, wheal, urticaria (hives), vesicle/bulla, cyst, pustule
Primary Lesions

- **Macule** – flat and circumscribed, less than 1 cm
- **Patch** – macules larger than 1 cm
- **Papule** – you can feel, solid, elevated, circumscribed less than 1 cm
- **Plaque** – a papule that is wider than 1 cm
- **Nodule** – solid, elevated, hard or soft, larger than 1 cm
- **Tumor** – larger than a few cm, hard or soft, deeper into the dermis; lipoma, hemangioma. May be malignant or benign.
- **Wheal** – superficial raised and erythematous, slightly irregular shaped due to edema (swelling); mosquito bite, allergic reaction
Primary Lesions-Cont.

Vesicle, Bulla

Cyst

Pustule

Skin Lesion Types- Cont.

**Secondary Lesions**: Are a result of trauma, chronicity, or infection of *primary* lesion.

- crust, scale, erosion, fissure, ulcer, excoriation, scar, keloid, lichenification
Secondary Skin Lesions

**Erosion**
- Loss of superficial epidermis
- Does not extend to dermis
- Depressed, moist area

**Examples:**
Ruptured vesicles, scratch marks, aphthous ulcer

**Ulcer**
- Skin loss extending past epidermis
- Necrotic tissue loss
- Bleeding and scarring possible

**Examples:**
Stasis ulcer of venous insufficiency, pressure ulcer

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**Scar (Cicatrix)**
- Skin mark left after healing of a wound or lesion
- Represents replacement by connective tissue of the injured tissue
- Young scars: red or purple
- Mature scars: white or glistening

**Examples:**
Healed wound or surgical incision

**Fissure**
- Linear crack in the skin
- May extend to dermis

**Examples:**
Chapped lips or hands, athlete’s foot
Secondary Skin Lesions

**SCALE**
- Flakes secondary to desquamated, dead epithelium
- Flakes may adhere to skin surface
- Color varies (silvery, white)
- Texture varies (thick, fine)

*Examples:*
- Dandruff, psoriasis, dry skin, pityriasis rosea

**CRUST**
- Dried residue of serum, blood, or pus on skin surface
- Large adherent crust is a scab

*Examples:*
- Residue left after vesicle rupture: impetigo, herpes, eczema

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Secondary Skin Lesions

**KELOID**
- Hypertrophied scar tissue
- Secondary to excessive collagen formation during healing
- Elevated, irregular, red
- Greater incidence in African Americans

*Example:*
- Keloid of ear piercing or surgical incision

**HEMATOMA**
- A localized collection of blood creating an elevated ecchymosis
- Associated with trauma

**SPIDER ANGIOMA**
- Red, arteriole lesion
- Central body with radiating branches
- Noted on face, neck, arms, trunk
- Rare below the waist
- May blanch with pressure
- Associated with liver disease, pregnancy, vitamin B deficiency
Subjective data

Objective Data
- Color, Texture
- Distribution
- Lesions (scalp)
- Infestations

Scalp
- Inspect for lesions, scaling, tenderness, and masses
Excessive generalized hair loss (Alopecia) may occur with infection, nutritional deficiencies, hormonal disorders, thyroid or liver disease, drug toxicity, hepatic or renal failure. It may also result from chemotherapy or radiation therapy.

Hirsutism (facial hair on females) is a characteristic of Cushing’s disease and results from an imbalance of adrenal hormones, or it may be a side effect of steroids.
Patchy hair loss may result from infections of the scalp, discoid or systemic lupus erythematosus, and some types of chemotherapy. Excessive scaliness may indicate dermatitis. Raised lesions may indicate infections or tumor growth. Dull, dry hair may be seen with hypothyroidism and malnutrition. Poor hygiene may indicate a need for client teaching or assistance with activities of daily living.

Assessment of the Nails:

Inspect & Palpate

- Shape / Contour
- Consistency
- Surrounding tissue
- Nail angles
Normal Nails

- Smooth
- Firm
- Translucent with pink nail bed
- Uniform thickness
- 160 degree nail angle
- Capillary Refill (1-2 seconds, 3-4 seconds on geriatric clients).

Nail Angle

Normal nail angle  Curved nail variant of normal  Early clubbing

160°  160° or less  190°
Test capillary refill in nail beds by pressing the nail tip briefly and watching for color change.

Pink tone returns immediately to blanched nail beds when pressure is released.
DISPLAY 9-1. How to Examine Your Own Skin

You can systematically and regularly assess your skin for abnormalities by using the following recommended procedure for skin assessment from the American Cancer Society.

**GUIDELINES**

**Step 1**
Make the room well-lighted, and stand in front of a full-length mirror. Hold the mirror at a 90-degree angle to your face. Do not sit on a sofa or chair. Undress completely.

**Step 2**
Hold your hands with the palms face-up, as shown in the drawing. Look at your hands, fingers, spaces between the fingers, and forearms. Inspect any moles, freckles, or unusual changes on the backs of your hands, fingers, spaces between the fingers, forearms, and elbows.

**Step 3**
Now position yourself in front of the full-length mirror, hold up your arms, bend at the elbows, and your palms facing you. In the drawing, the pressed-up leg, beginning at the green area and moving down the leg to your foot. Repeat the procedure for your other leg.

**Step 4**
Again, using the full-length mirror, eliminate the entire front of your body. In turn, look at your face, neck, and arms. Turn your palms to face the mirror and look at your upper arms. Then look at your lower body area, thighs, and lower legs.

**Step 5**
Next, standing in front of the mirror, lift your arm over your head with your elbow facing your other arm. Now that your left side is facing the mirror and look at the entire side of your body. Look at your underarm, sides of your back, thighs, and lower legs. Then turn to your right side and repeat the procedure with your left side.

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DISPLAY 9-1. How to Examine Your Own Skin (Continued)

**Step 6**
With your back toward the full-length mirror, look at your buttocks and the back of your thighs and lower legs.

**Step 7**
Now pick up the handheld mirror. With your back still to the full-length mirror, examine the back of your neck, and your back and buttocks. Also examine the scalp of your arms in this way. Some moles are hard to see, and you may find it easier to find them if you ask a spouse or a friend to assist you.

**Step 8**
Use the handheld mirror and the full-length mirror to look at your scalp. Because the scalp is difficult to examine, we suggest you use a handheld mirror or stand in a cool, lighted setting to lift the hair from the scalp. When some people find it easy to hold the mirror in one hand and the other elbow looking in the full-length mirror, many doctors. For the scalp.

**Step 9**
Sit down and cross one leg up on a chair or desk in front of you as shown. Using the handheld mirror, examine the inside of the propelled leg, beginning at the green area and moving down the leg to your foot. Repeat the procedure for your other leg.

**Step 10**
Still sitting, cross one leg over the other. Hold the handheld mirror to examine the top of your foot, the toes, toenails, and spaces between the toes. Then look at the side, bottom, and your foot. Repeat the procedure for the other foot.
Thank you