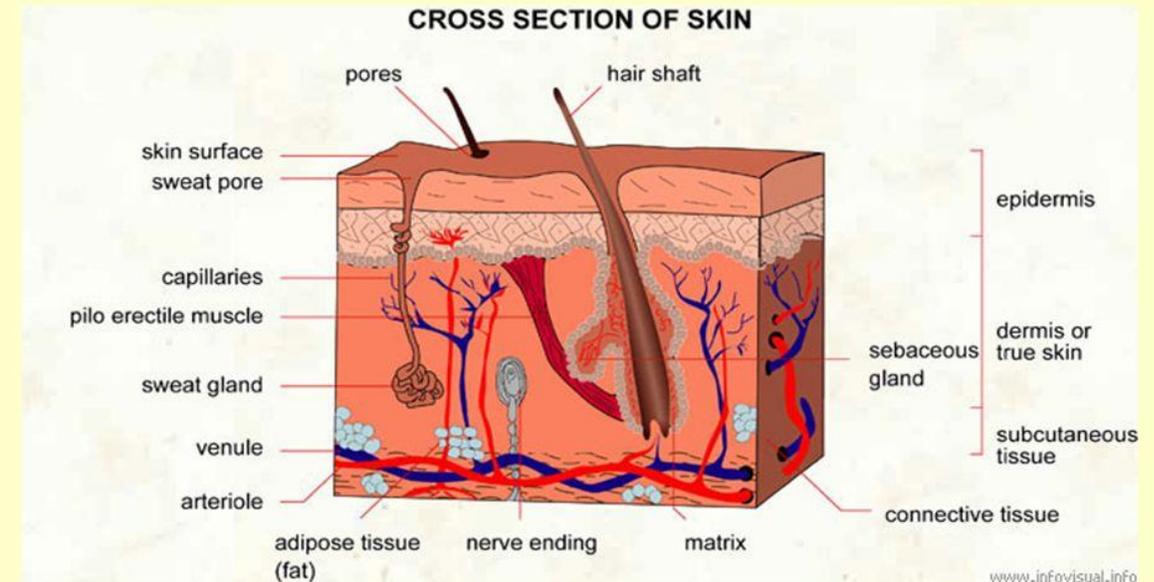


# THE INTEGUMENTARY SYSTEM

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## CH 5 Integumentary System



# OBJECTIVES



After completing this chapter and the exercises, the student should be able to:



1. Identify the structures of the skin and accessory organs.



2. List and describe the five functions of the skin.



3. Identify and describe the lesions and pathologic conditions that affect the



integumentary system.



4. Describe clinical procedures used in diagnosing and treating skin disorders.



5. Identify and define commonly used vocabulary terms that pertain to the skin.

# THE INTEGUM ENTARY SYSTEM

The skin and its accessory organs are called the integumentary system. The skin is a vital organ serving as a protective barrier that responds to internal and external stimuli and contributes to the maintenance of homeostasis.

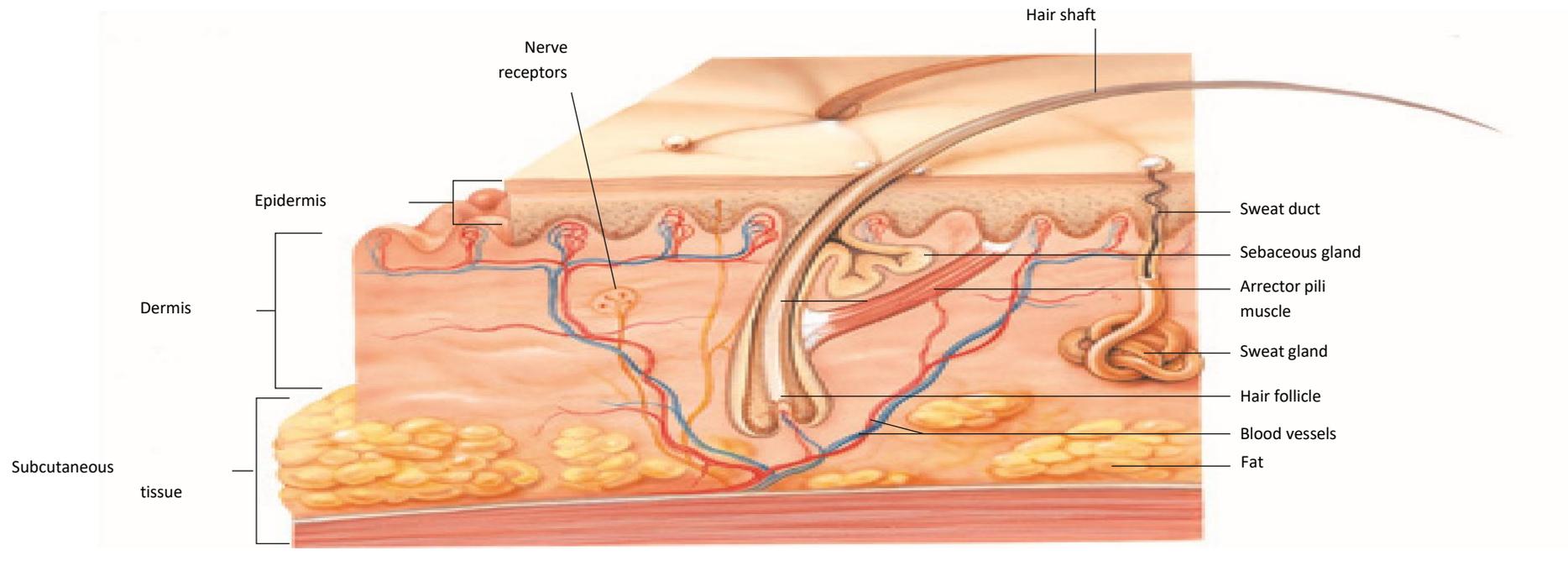
Specialized tissues or accessory organs are hair, nails, sebaceous and sweat glands, and mammary glands.

## Skin layers components

The skin composed of two main layers: **epidermis** and **dermis**.

**Epidermis:** epidermis is the skin's outer layer. It contains no blood vessels and receives its nourishment from the dermis.

**Dermis:** The deeper layer of skin that lies below it. the dermis is attached through subcutaneous tissue to underlying structures such as muscle and bone.



**TABLE 1: Parts of the Skin**

Part	Pronunciation
skin	skin
epidermis (cuticle)	ep'-i- <u>der</u> -mis ( <u>kuti</u> -kul)
dermis	<u>der</u> -mis
hair, nails	hare, nailes
subcutaneous	sub'-ku- <u>ta</u> -ne-us
breasts	brests
squamous epithelium	<u>skway</u> -mus ep-ih <u>thee</u> -lee-um
stratum basale	<u>strat</u> -um <u>bay</u> -sil
stratum corneum	<u>strat</u> -um <u>cor</u> -nee-um

## FUNCTIONS OF THE SKIN

TABLE 2 Functions of the Skin

Function	Pronunciation	Definition
protection	pro- <u>tek</u> -shun	from microorganisms, injuries, and excessive exposure to ultraviolet rays of the sun
sensory organ (receptor)	<u>sen</u> -so-re (re- <u>ceptor</u> )	for the body to feel pain, cold, heat, touch, and pressure
temperature regulator	<u>tem</u> -per-ah-tur <u>reg</u> -u-la'tor	insulation against heat and cold
metabolism	me- <u>tab</u> -o-lizm	in the presence of sunlight, synthesize vitamin D from a precursor molecule found in the skin
waste elimination	wast e-lim-i- <u>nashun</u>	eliminate body wastes in the form of perspiration

## SKIN GROWTHS

**TABLE 3** Skin Growths

<b>Growth</b>	<b>Pronunciation</b>	<b>Definition</b>
Carcinoma	kahr-suh- <u>noh</u> -muh	a malignant new growth made up of epithelial cells
Keratosis	ker'-ah- <u>to</u> -sis	any horny growth such as a wart
malignant melanoma	ma- <u>lig</u> -nant mel-a- <u>no</u> -ma	cancerous tumor of melanin-forming cells of the skin
<b>Growth</b>	<b>Pronunciation</b>	<b>Definition</b>
nevus (plural: nevi)	<u>ne</u> -vus	a mole or growth, e.g., birthmark
verruca (plural: verrucae)	ve- <u>roo</u> -kah	a wart caused by viruses



(A)



(B)

**FIGURE 1** Common skin cancers caused by excessive sun exposure. **(A)** Cancer arising from keratinocytes (basal cell carcinoma). **(B)** Cancer arising from melanocytes (malignant melanoma).



**Figure 2** Benign nevi of skin

## BIOLOGIC AGENTS AND SKIN INFECTION

Skin infections are caused by viruses, bacteria, fungi, and parasites.

**TABLE 4** Biologic Agents and Skin Infection

Infection	Pronunciation	Definition
<b><i>Bacteria</i></b>		
acne vulgaris	<u>a</u> k-ne vul- <u>ga</u> -ris	develops when skin pores become clogged. Bacteria in the clogged pore causes inflammation and the formation of a cyst
carbuncle, furuncle	<u>kar</u> -bung-k'-l <u>fu</u> -rung-k'-l	furuncles (boils) are painful, pus-filled bumps that form under the skin when staphylococcal bacteria infect hair follicles
cellulitis	sel'-u- <u>li</u> -tis	inflammation of the skin and subcutaneous tissue caused by streptococcal or staphylococcal bacteria
impetigo	im-pe- <u>ti</u> -go	a streptococcal or staphylococcal skin infection marked by vesicles or bullae that become pustular, rupture, and form yellow crusts, especially around the mouth and nose



**Acne vulgaris**



**Cellulitis**



**Impetigo**

<b><i>Virus</i></b>		
herpes	<u>her</u> -pez	inflammatory skin disease caused by a herpes virus; acute symptoms are small blisters that appear in clusters
herpes genitalis	<u>her</u> -pez jen´-i- <u>tal</u> -is	herpes infection (HSV-2) of the genitals; may harm an infant if the mother is infected at the time of delivery
herpes ophthalmicus	<u>her</u> -pez oph- <u>thal</u> -micus	severe herpes zoster involving the ophthalmic nerve (eye)
herpes simplex virus (HSV)	<u>her</u> -pez <u>sim</u> -plex	herpes infection (HSV-1) on the borders of the lips or nares (cold sores)
herpes zoster (shingles)	<u>her</u> -pez <u>zos</u> -ter	painful rash on one side of the body caused by varicella zoster virus
verruca (wart)	ve- <u>ru</u> -kah	growth of the outer layer of the skin (the epidermis) caused by the human papillomavirus (HPV) and transmitted by human contact.



**Herpes simplex**

**Herpes simplex**



**Herpes ophthalmicus**



**Herpes zoster**



**Verruca (wart)**

## ***Fungus***

tinea (ringworm)

tin-e-ah

called ringworm because of the circular shape of the rash (shaped like a ring); a name applied to many different superficial fungal infections of different parts of the body

## ***Parasites***

pe-dik'-u-lo-sis

body infestation with lice, usually of the scalp and pubic area; lice suck blood from humans causing itching and infection secondary to scratching

scabies

ska-bez

caused by a mite, a small parasite that burrows under the skin; symptoms are an itchy rash



# ALLERGY AND THE SKIN

**TABLE 5** Allergy and the Skin

Term	Pronunciation	Definition
allergic contact dermatitis	a- <u>ler</u> -gic contact der-ma- <u>ti</u> -tis	itchy, blistering rash after contact with, e.g., latex gloves or jewelry containing nickel
neurodermatitis	nu'-ro-der'-mah- <u>ti</u> -tis	skin condition that begins with itching related to emotional causes or psychological factors



# SKIN DISORDERS FROM SYSTEMIC DISEASES

**TABLE 11-6** Skin Disorders from Systemic Diseases

Disease	Pronunciation	Definition
Psoriasis	so- <u>ri</u> -ah-sis	a chronic, hereditary, recurrent dermatosis marked by discrete vivid red macules, papules or plaques covered with silvery laminated scales
rubeola (measles)	ru- <u>be</u> -o-la	symptoms are fever, runny nose, cough, red eyes, and sore throat, followed by a rash that spreads over the body. The disease is very contagious and is spread through air from coughing and sneezing
syphilis	<u>sif</u> -i-lis	a sexually transmitted bacterial disease; early skin symptoms are ulcers on the genital area, followed by white patchy skin
systemic lupus erythematosus (SLE)	si- <u>stem</u> -ik <u>loo</u> -pus er-i'- <u>the</u> -ma-to-sus	autoimmune disease that can affect all organs; common symptom is a rash that forms a butterfly pattern over the bridge of the nose and cheeks
varicella (chickenpox)	var'-i- <u>sel</u> -ah	a very contagious disease caused by the varicella-zoster virus (VZV); symptoms are blister-like rash, itching, fatigue, and fever



**Psoriasis**



**Rubeola**



**Systemic lupus erythematosus**



**Chickenpox**

# TERMS USED IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE SKIN

**TABLE 7** Terms Used in the Diagnosis and Treatment of Diseases of the Skin

Term	Pronunciation	Definition
<i>History and Physical Exam</i>		
albinism	<u>al</u> -bi-nizm	no body pigment; white skin and hair
alopecia	al'-o- <u>pe</u> -she-ah	baldness; hereditary or caused by chemotherapy
bulla (plural: -ae)	<u>bul</u> -ah	large blisters, as in burns
burn	bern	thermal injury to tissues
cicatrix	<u>sik</u> -ah-triks	a scar
cyst	sist	a closed epithelium-lined cavity or sac, normal or abnormal, usually containing liquid or semisolid material
ecchymosis	ek'-i- <u>mo</u> -sis	bruise, caused by bleeding under the skin
erosion	e- <u>ro</u> -shun	eating or gnawing away, e.g., an early ulcer
eruption	e- <u>rup</u> -shun	breaking out; a rash



A blue-tinted background image showing several people in a meeting. One person in the foreground is wearing a striped shirt and a watch, looking at a tablet. Another person in the background is holding a pen and looking at a document. The overall scene is a professional meeting.

thank  
you