

Integumentary System

Physiology of Touch

Skin: our most sensitive organ

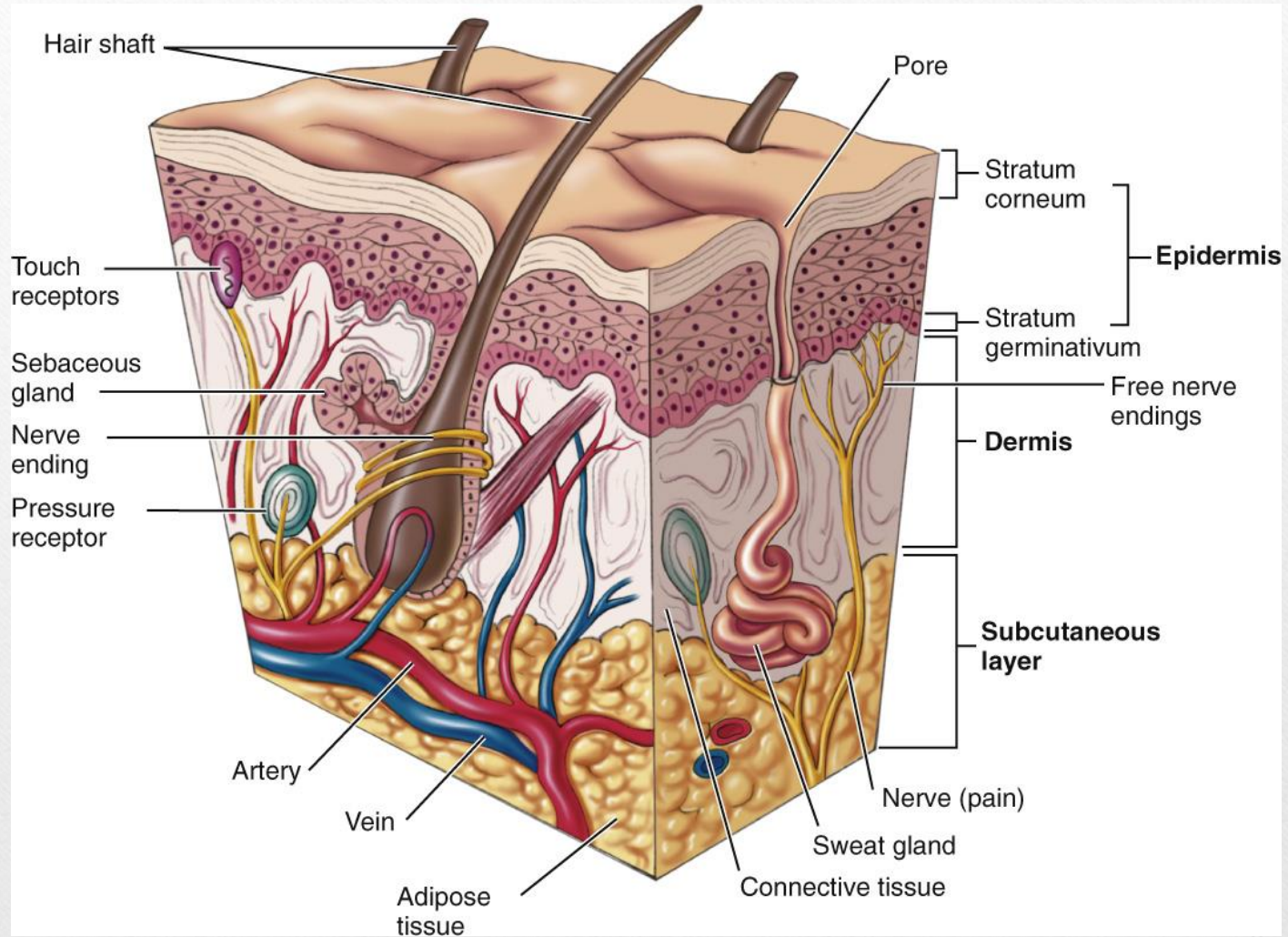
Touch: first sense to develop in embryos

Most important but most neglected sense

How many sensory receptors do we have? (We have around 5 million or so sensory receptors.)

The hands, fingertips (1000 nerve endings per square inch), lips, and tongue are the most sensitive

Structure of the Integument



What types of fibers make up the dermis?

Collagen and elastin fibers. They are arranged to allow movement in many directions.

Functions of the Integumentary System

Protects internal organs from trauma, sun exposure, water loss

Assists in immunity

Synthesizes vitamin D

Detects stimuli from touch, temperature, pain, and pressure

Regulates body temperature

Excretes sweat and salts

Secretes sebum

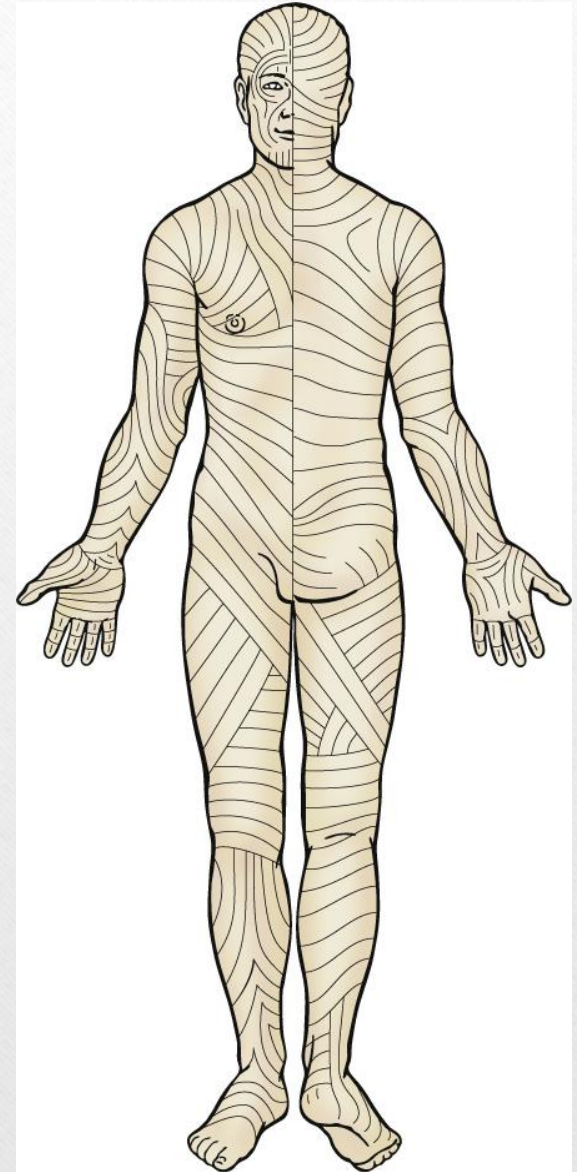
Integument means covering; the integumentary system covers our bodies.

Skin

Largest, heaviest organ

Composed of epidermis, dermis

The image shown here shows lines of the cleavage of skin.



The epidermis (outer layer) of skin contains no blood vessels or nerve endings. The deeper dermis layer is much thicker than the epidermis.

The subcutaneous layer is also known as the superficial fascia and attaches to muscle and bone.

Components of Skin

Hair

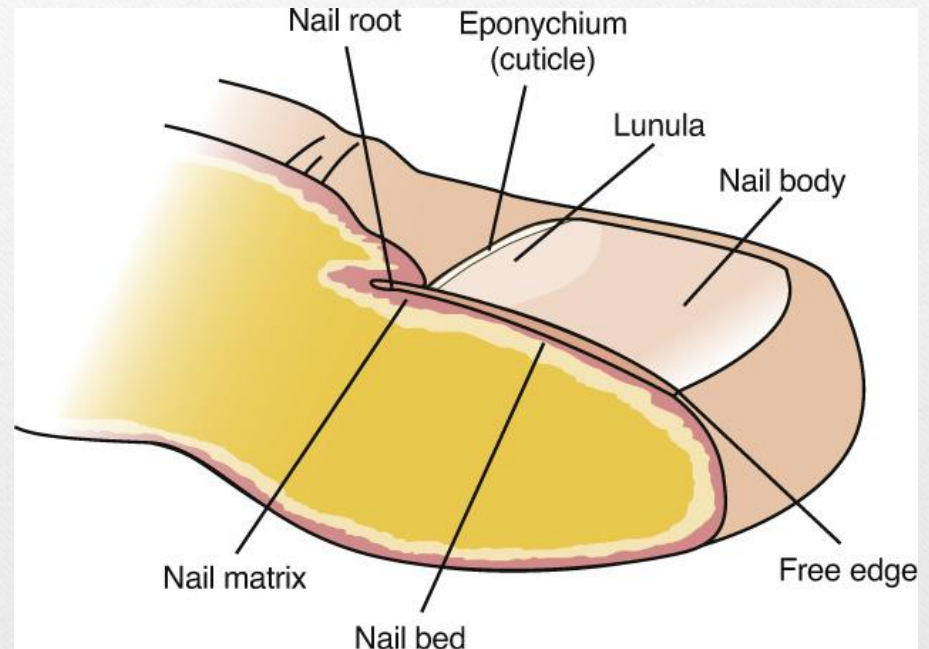
Nails

Sebaceous (oil) glands

Sweat glands

Mammary glands

Skin color



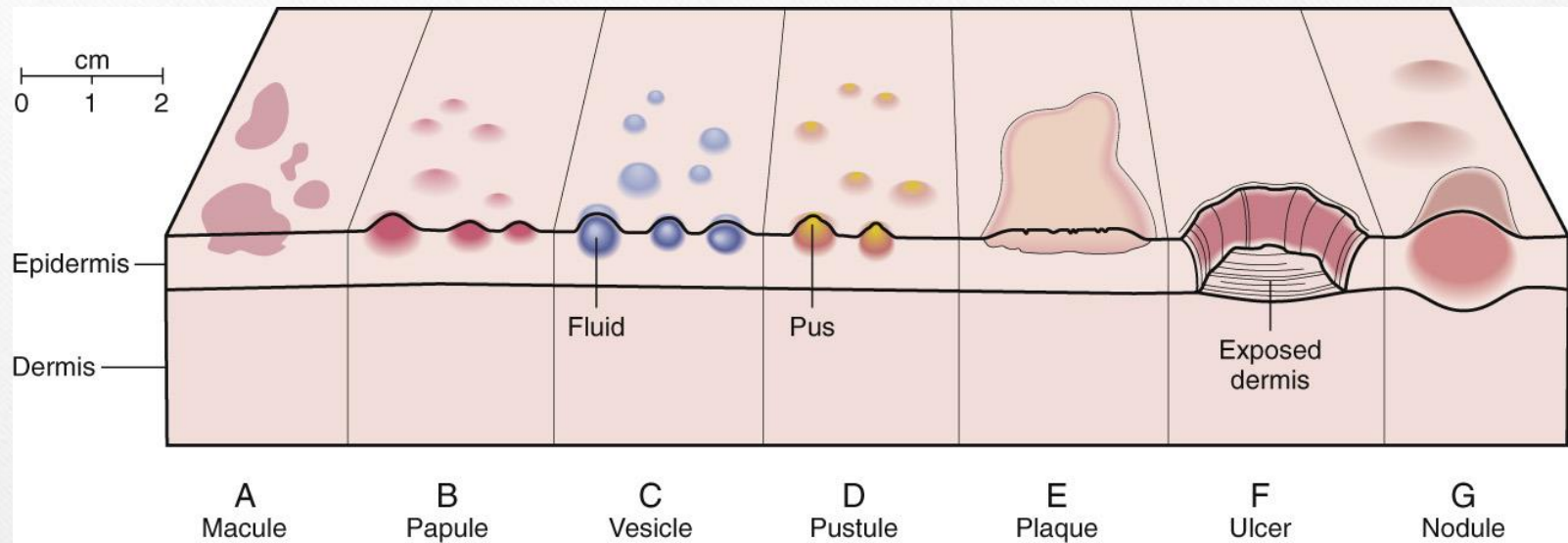
Which areas of the body contain the most sweat glands?

The forehead, palms, and soles of the feet.

What are the two main types of sweat glands?

Eccrine glands are the most common and are responsible for moisture that appears on the surface of the body. They cool the body and provide minor waste elimination. The apocrine glands are located in areas of body hair and produce secretions that are thicker and have a stronger odor than those of the eccrine glands. Their purpose is not yet known.

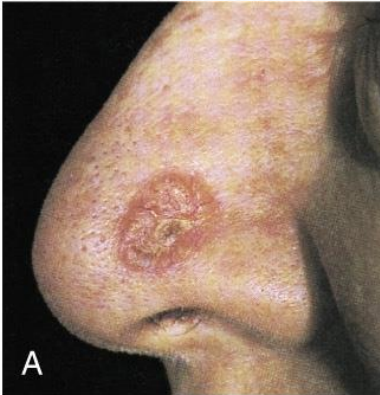
Pathologic Conditions



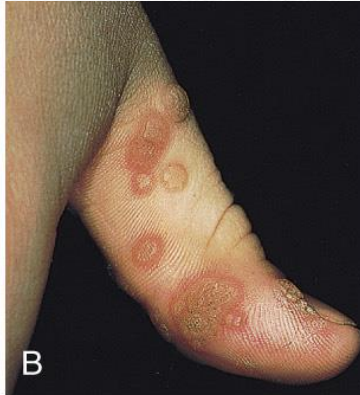
This image shows the appearance of various skin lesions.

There are two major concerns with pathologic conditions of the skin. The first is the loss of protection of internal structures, and the second is that the skin might lose its ability to prevent pathogens of infectious disease from entering the body.

Skin Disorders



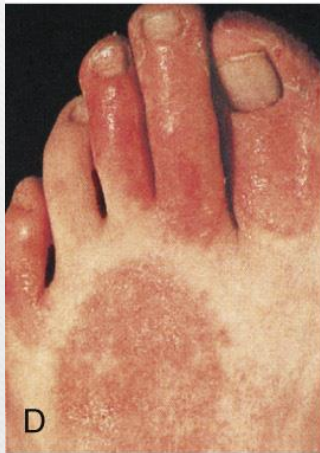
Basal cell carcinoma



Common warts



Contact dermatitis caused by shampoo



Contact dermatitis
caused by shoes



Contact dermatitis caused by
application of Lanacane



Dermatitis

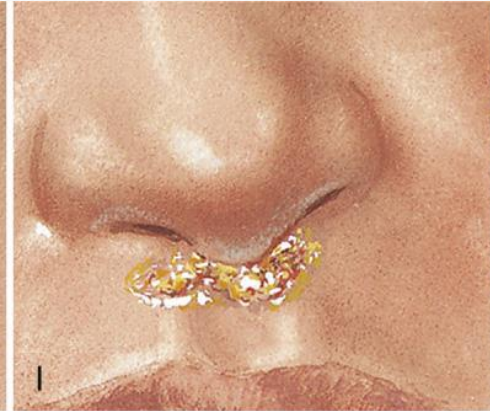
Pathologic conditions of the skin, especially sores, rashes, and changes in color and texture, can indicate more serious systemic disease, and the practitioner should refer the client to a physician for diagnosis.



Furuncle (boil)



Herpes zoster (shingles)



Impetigo contagiosa



Kaposi's sarcoma



Nummular eczema



Psoriasis



Scabies



Squamous cell carcinoma



Tinea corporis (ringworm)



Vitiligo

Bacterial Infections

Acne

Boils

Impetigo

Cellulitis

Erysipelas

Ecthyma

The bacteria that cause boils are virulent and communicable. Local massage is contraindicated, and the therapist should take care to make sure that the infection is not systemic.

Erysipelas is a streptococcus infection that kills skin cells, leading to painful inflammation of the skin. Massage is systemically contraindicated until the infection has passed completely.

Viral Skin Infections

Chicken pox

Herpes simplex

Measles

Molluscum contagiosum

Warts

Massage is contraindicated locally for any unhealed skin injury and may be contraindicated entirely for injuries that are connected to underlying conditions.

Fungal Skin Infections

Candidiasis

Caused by *Candida albicans*

Dermatophytosis

Group of fungal infections named for area of body where infection appears

Ringworm is more common name.

Parasitic Skin Infections

Lice

Head lice (most common)

Body lice

Genital lice (crab lice)

Scabies

Both types of parasites are transmitted by skin-to-skin contact with an infected person, pets, or direct contact with contaminated linens.

Ulcers

Decubitus ulcer

Open sore that develops primarily over bony areas of heels and hips of those who are immobile, bedridden, or in wheelchairs

Neurotrophic ulcer

Deep, infected, painless ulcer

Develops at pressure-point areas on the feet when pain sensation is diminished or absent, as in diabetic neuropathy.

Benign Tumors and Growths

Mole

Callus

Corn

Lipoma

Sebaceous cyst

Seborrheic keratosis

Skin tag

Angioma

What is another name for a tumor?

Tumors are sometimes referred to as neoplasms.

What is a callus?

An area of thickened, hardened skin. Calluses develop in areas of friction or recurrent pressure.

What is the difference between a lipoma and an angioma?

A lipoma is a benign tumor formed of mature fat cells. An angioma is a benign tumor composed of blood or lymphatic vessels.

Malignant Skin Tumors

Basal cell carcinoma

- Most common skin cancer

- Slow growing and easy to treat

Squamous cell carcinoma

- Best treated in early stage

Malignant carcinoma

- Least common, but most dangerous

- Spreads rapidly

Using the ABCD method of identifying a potential melanoma is helpful.

***A**symmetry*

***B**order irregularity*

***C**olor change*

*increase in **D**iameter.)*

Breast Disorders

Fibrocystic disease

Most common disorder of the breast

No treatment necessary

Breast cancer

Treatment may involve surgery, radiation therapy, and/or hormone therapy.

Anatomic and physiologic problems after mastectomy

Women in the early menopausal age group are most susceptible to breast cancer.

Burns

First degree

Only the epidermis sustains injury.

Second degree

Epidermis and the dermis are damaged.

Blisters usually develop.

Third degree

Epidermis and entire dermis are damaged severely or destroyed.

Nerve damage

No blisters

Burns are classified by the depth of damage and are identified by degree.

A third-degree burn develops scars and may require a skin graft and a long healing period.

Miscellaneous Skin Disorders

Dermatitis and eczema

Psoriasis

Rosacea

Urticaria (hives)

Alopecia

Scleroderm

Vitiligo

Can you name the three types of dermatitis?

Atopic dermatitis, seborrheic dermatitis, and contact dermatitis.

These are categorized by cause.

Indications/Contraindications for Therapeutic Massage

Not contraindicated in localized skin conditions

Local (regional) avoidance of the affected area is necessary.

Contraindications

If skin is inflamed or if condition is contagious or transmissible through touch

Local contraindication for any unhealed skin injury in which bleeding has occurred

May be contraindicated systemically if skin injury connected to contraindicated underlying condition, such as diabetes

Standard Precautions are indicated for all skin pathologies.

To Test

Access Code: **M75WSK6**

Please write down code. You will be asked for it

Once you have successfully passed the test (70% correct), please email Kim Jackson at **kim_hotschool@yahoo.com**. We will email you your CE certificate within 7 business days.