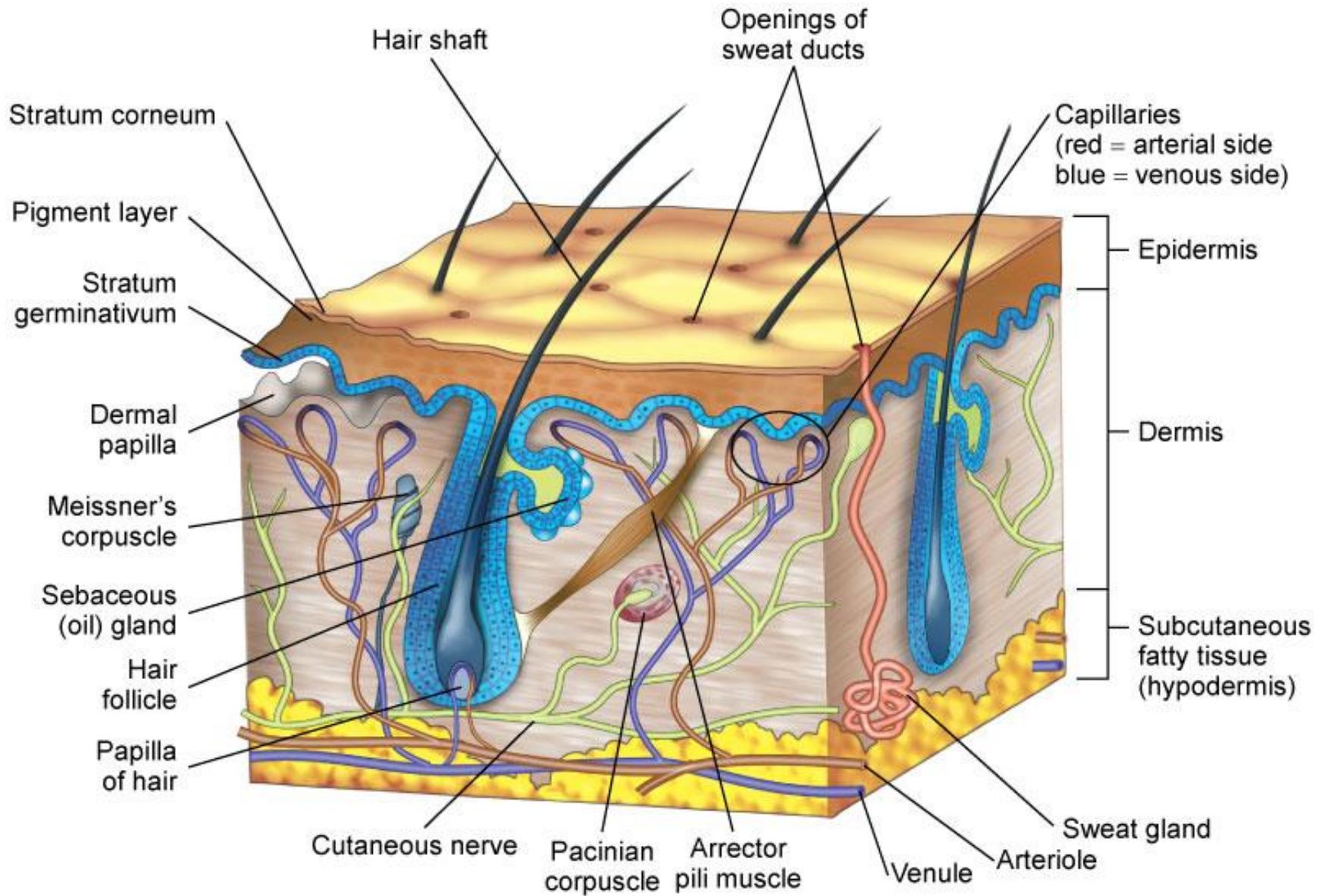


Dermatologic Drugs

Skin

- Largest organ of the body
- Two layers
 - Dermis
 - Epidermis



Modified from Thibodeau GA, Patton KT: *Anatomy and physiology*, ed 5, St Louis, 2003, Mosby.

Topical Dermatologic Drugs

- Antimicrobial drugs
 - Antibacterial drugs
 - Antifungal drugs
 - Antiviral drugs
- Antiinflammatory drugs
- Antineoplastic drugs
- Antipruritic drugs (for itching)
- Burn drugs

Functions of the Skin

- Protective barrier for the internal organs
- Senses changes in temperature, pressure, or pain
- Regulates body temperature
- Excretes fluid and electrolytes
- Stores fat
- Synthesizes vitamin D
- Provides a site for drug absorption

Topical Dermatologic Drugs (cont'd)

- Emollients (soften skin)
- Keratolytics (cause softening and peeling of the stratum corneum)
- Local anesthetics
- Topical vasodilators
- Débriding drugs (promote wound healing)
- Sunscreens

Topical Antimicrobial Drugs

- Antibacterial drugs
- Antifungal drugs
- Antiviral drugs

Antiacne Drugs

- Acne is caused by *Propionibacterium acnes*
- Drugs used to treat acne
 - benzoyl peroxide
 - erythromycin
 - tetracycline
 - isotretinoin (Amnesteem)
 - clindamycin (Cleocin T)
 - tretinoin (Renova, Retin-A)
 - Oral contraceptives (for female patients with acne)

Antiacne Drugs (cont'd)

- benzoyl peroxide
 - Causes death of the anaerobic *P. acnes* bacteria by slowly releasing oxygen
 - Antibacterial, antiseptic, drying, and keratolytic actions
 - Keratolytic: softens scales and loosens the outer layer of the skin
 - May cause peeling skin, redness, or sensation of warmth
 - Produces improvement in 4 to 6 weeks

Antiacne Drugs (cont'd)

- clindamycin (Cleocin T)
 - Antibiotic
 - Used topically to treat acne
 - Adverse reactions are usually limited to minor local skin reactions, including burning, itching, dryness, oiliness, and peeling

Antiacne Drugs (cont'd)

- isotretinoin (Amnesteem, Claravis, Sotret)
 - Treatment of severe recalcitrant cystic acne
 - Inhibits sebaceous gland activity and has antikeratinizing (anti-skin hardening) and antiinflammatory effects
 - The company that produced the brand name Accutane has withdrawn it from the market

Antiacne Drugs (cont'd)

- isotretinoin (cont'd)
 - *Stringent* guidelines for prescribing and use
 - Required patient counseling regarding use of two forms of contraception and not becoming pregnant during use
 - Required “iPLEDGE” program for safety
 - Monitor for signs of depression, suicidal ideations

Antiacne Drugs (cont'd)

- tretinoin (retinoic acid, vitamin A acid) (Renova, Retin-A)
 - Used to treat acne
 - Also used to reduce dermatologic changes associated with sun damage
 - Stimulates the turnover of epithelial cells, resulting in skin peeling

Antiacne Drugs (cont'd)

- Main adverse effects are local inflammatory reactions, which are reversible when therapy is discontinued
- Common adverse effects are excessively red and edematous blisters, crusted skin, and temporary alterations in skin pigmentation

Topical Anesthetic Drugs

- Used to reduce pain or pruritus associated with
 - Insect bites
 - Sunburn
 - Poison ivy exposure
- Also used to numb the skin before a painful injection
- Ointments, creams, sprays, liquids, jellies
 - EMLA: lidocaine/prilocaine combination
 - Ela-max: lidocaine

Topical Antipruritic Drugs

- Antihistamines
- Corticosteroids
 - Antiinflammatory effects
 - Antipruritic effects
 - Vasoconstrictor actions

Other Topical Dermatologic Drugs (cont'd)

- Immunomodulators

- pimecrolimus (Elidel)

- Treats atopic dermatitis

- imiquimod (Aldara)

- Treats actinic keratosis, basal cell carcinoma, and anogenital warts

Herbal Products: Aloe

- Used for wound healing
- Adverse effects
 - Diarrhea
 - Abdominal pain
 - Dermatitis
- Drug interactions
 - digoxin
 - Antidysrhythmics
 - Diuretics

Nursing Implications

- Assess for presence of contraindications, especially drug allergies
- Do not apply antiinfective drugs until culture and sensitivity testing (if ordered) are completed

Nursing Implications (cont'd)

- For isotretinoin (Amnesteem)
 - Ensure that strict guidelines are in place for monthly pregnancy testing and prescription renewal
 - Monitor liver function before and during therapy

Nursing Implications (cont'd)

- Assess area affected thoroughly before applying medication
- Keep in mind that systemic absorption is higher in the very young and very old because the skin may be more permeable

Nursing Implications (cont'd)

- Follow specific manufacturer's guidelines for administration techniques
- Cleanse the area thoroughly to remove debris and residual medication; follow specific recommendations

Nursing Implications (cont'd)

- Wear gloves when applying topical drugs
- Apply dressings (e.g., wet, wet-to-dry, occlusive) as prescribed

Nursing Implications (cont'd)

- Document
 - Site of application
 - Drainage (color, amount)
 - Swelling, temperature
 - Odor, color, pain, or other sensations
 - Type of treatment given
 - Patient's response

Nursing Implications (cont'd)

- Protect affected area from sunlight
- Do not double up on dose if a dose is missed
- Ensure proper disposal of contaminated dressings

Nursing Implications (cont'd)

- Provide patient/family teaching as necessary for self-care
- Monitor for therapeutic responses
- Monitor for adverse effects