

# Mosby's PATHOLOGY for Massage Therapists

## Chapter 4 Dermatologic Pathologies

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## Lesson 4.1 Objectives

- Discuss anatomic structures and physiologic processes related to the integumentary system.
- Contrast and compare primary and secondary skin lesions.

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## Integumentary System Overview

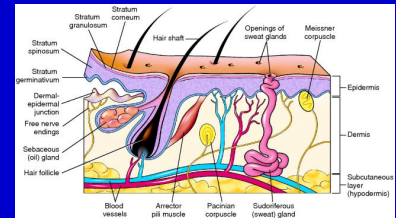
- The integumentary system includes the skin and its accessory structures:
  - Hair
  - Nails
  - Various glands
  - Various muscles
  - Various nerves

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## Integumentary System Overview (cont'd.)

- The skin is divided into two distinct regions:
  - Epidermis
  - Dermis



From Jarvis C. *Physical exam and health assessment*, ed 4, Philadelphia, 2004, Saunders.

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## Integumentary System Overview (cont'd.)

- The epidermis is the most superficial skin layer and contains:
  - Keratinocytes (skin cells)
  - Melanocytes (contribute to skin color)
  - Nails
  - Pores (allow passage for hair and glands)

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## Integumentary System Overview (cont'd.)

- The dermis is beneath the epidermis and contains:
  - Blood vessels
  - Sensory nerve receptors
  - Collagen
  - Elastin

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## Integumentary System Overview (cont'd.)

- Subcutaneous layer:
  - Beneath the dermis
  - Also known as superficial fascia or hypodermis
  - Not part of the skin but anchors skin to underlying tissues and organs

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## Integumentary System Overview (cont'd.)

- Skin functions:
  - Protection
  - Absorption
  - Sensory reception
  - Temperature regulation
  - Vitamin D production

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## Integumentary System Overview (cont'd.)

- Hairs:
  - grow from follicles
  - protect scalp, eyes, nostrils, ears
  - have touch receptors (activated by hair movement)
  - arrector pili muscle (erect hairs)

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## Integumentary System Overview (cont'd.)

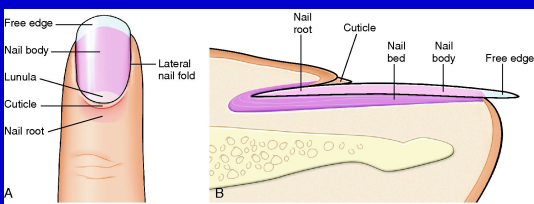
- Nails:
  - are plates of tightly packed epidermis cells
  - help when grasping and manipulating objects
  - protect ends of fingers and toes
  - enable scratching to remove irritants

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## Integumentary System Overview (cont'd.)

- Front view and cross section of a nail:



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## Dermatologic Pathologies

- Skin lesions
  - Defined as any deviation from the norm
  - Two categories
    - Primary: variation in skin color or texture (ex. freckle, blister)
    - Secondary: develops from a primary lesion, disease progression, or external forces (ex. ulcer, scar)
  - Differentiations not always clear

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## Dermatologic Pathologies (cont'd.)

- Primary skin lesions
  - Macule
  - Patch
  - Papule
  - Plaque
  - Wheal
  - Nodule
  - Tumor
  - Vesicle
  - Bulla
  - Pustule
  - Cyst
  - Telangiectasia

## Dermatologic Pathologies (cont'd.)

- Secondary skin lesions
  - Atrophy
  - Scar
  - Scale
  - Lichenification
  - Crust
  - Erosion
  - Excoriation
  - Ulcer
  - Fissure
  - Purpura
    - Petechiae
    - Ecchymoses

## Lesson 4.2 Objectives

- Define bacterial skin infections and list appropriate massage considerations.
- Identify fungal skin infections and list appropriate massage considerations.
- Name viral infections that affect the skin and state appropriate massage considerations.

## Lesson 4.2 Objectives (cont'd.)

- Discuss inflammatory skin conditions and list appropriate massage considerations.
- List materials and chemicals known to cause contact dermatitis.

## Bacterial Skin Infections

- Acne
- Impetigo
- Paronychia
- Folliculitis
- Boils (furuncles and carbuncles)
- Cellulitis
- Erysipelas

## Acne

- Inflammatory infection of hair follicles and associated sebaceous glands
- Presence of comedos, papules, and pustules
  - Blackheads: open comedos
  - Whiteheads: closed comedos
- Local contraindication

## Acne (cont'd.)



From Nishiyama S, et al.: *Atlas of regional dermatology: diagnosis and treatment*, St. Louis, 1998, Mosby; White G. *Color atlas of dermatology*, ed 3, 2004, Elsevier, Ltd., and Habif: *Clinical dermatology: a color guide to diagnosis and therapy*, ed 4, St. Louis, 2004, Mosby.  
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## Impetigo

- Infection around mouth, nose and hands
- Vesicles or pustules itch or burn then burst, leaving fluid that dries to form a crust
- Massage is postponed until areas have completely healed

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## Impetigo (cont'd.)

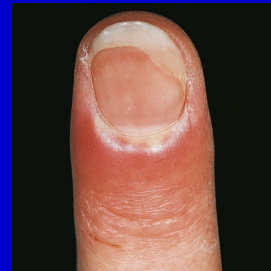


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## Paronychia

- Infection surrounding the nail
- Affected area is red, swollen, painful and tender; nail plate can be discolored or deformed
- Local contraindication



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## Folliculitis

- Inflammation limited to hair follicles
- Pustular rash with surrounding redness
- Local contraindication



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## Boil (Furuncle and Carbuncle)

- Infection of hair follicles and surrounding areas
- Painful, tender, red, firm, swollen; abscess formation
- Local contraindication



From Lookingbill D, Marks J: *Principles of dermatology*, ed 4, Philadelphia, 2006, Saunders, and Lawrence CH, Cox NH: *Physical signs in dermatology: color atlas and text*, ed 2, London, 2002, Mosby Europe.

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## Cellulitis and Erysipelas

- Infection of skin and subcutaneous tissues; erysipelas is a superficial form of cellulitis
- Swelling, redness, warm and tender skin
- Local contraindication in localized cases; absolute contraindication in widespread cases

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## Cellulitis and Erysipelas (cont'd.)



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## Fungal Skin Infections

- Ringworm
- Athlete's foot
- Jock itch
- Nail fungus

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## Ringworm (*Tinea corporis*)

- Fungal skin infection
- Red, raised, round/oval scaling area with a clear center
- Massage is contraindicated



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## Athlete's Foot (*Tinea pedis*)

- Fungal infection of the foot
- Skin discoloration with a ridge of red tissue
- Local contraindication



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## Nail fungus (*Tinea unguium*)

- Infection of the nails
- Nails become yellow or white, raised, thickened and brittle
- Local contraindication



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## Jock Itch (*Tinea cruris*)

- Fungal infection in groin area
- Local contraindication if widespread (inner thighs, buttocks)



A, from Salvo S: *Massage therapy: principles and practice*, ed 3, St. Louis, 2007, Saunders.  
 B, from Habif T: *Clinical dermatology: a color guide to diagnosis and therapy*, ed 4, St. Louis, 2004, Mosby.  
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## Viral Skin Infections

- Cold sores and fever blisters
- Chickenpox
- Shingles
- Warts

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## Cold Sore and Fever Blister

- Recurrent infection of skin and mucous membranes from HSV
- Painful, fluid-filled vesicles; usually around mouth
- Absolute contraindication



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## Chickenpox

- Acute infection; affects mostly children
- Itchy, widespread rash of fluid-filled blisters that erupt and crust over
- Massage is contraindicated



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## Shingles



- Reactivated varicella-zoster virus
- Painful vesicles in bandlike pattern along dermatomes
- Massage is contraindicated

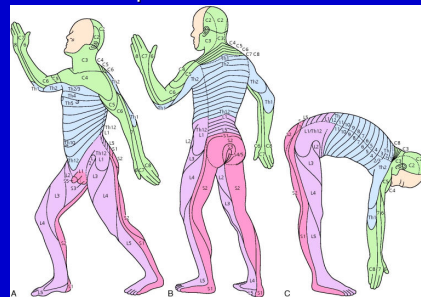
From Lemmi FD, Lemmi CAE: *Physical assessment findings CD-ROM*, Philadelphia, 2000, WB Saunders.

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## Shingles (cont'd.)

- Dermatome map:



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## Wart

- Small, benign mass from rapid skin growth
- Caused by HPV
- Local contraindication



From Zitelli B, Davis H. *Atlas of pediatric physical diagnosis*, ed 6, 2007, Mosby.

## Inflammatory Skin Disorders

- Eczema
- Contact dermatitis
- Seborrheic dermatitis
- Psoriasis
- Rosacea
- Pityriasis rosea
- Lichen planus
- Scleroderma
- Hives

## Eczema

- Chronic inflammatory disorder
- Dry skin, scaling, may itch or burn
- Adjust pressure over sensitive areas and avoid areas of broken skin



From Habif T. *Clinical dermatology: a color guide to diagnosis and therapy*, ed 4, St. Louis, 2004, Mosby.

## Psoriasis

- Accelerated proliferation of epidermal cells
- Elevated, thick, red skin covered with silver-white scales; dry plaques
- Adjust pressure over sensitive areas and avoid areas of inflamed or broken skin



From Habif T, Campbell J, Outcladamo M, Zug K. *Skin disease: diagnosis and treatment*, St. Louis, 2001, Mosby.

## Contact Dermatitis

- Inflammatory skin condition; types are irritant and allergic
- Rash with redness, swelling, and small vesicular lesions
- Local contraindication in localized cases; absolute contraindication in widespread cases

## Contact Dermatitis (cont'd.)



From Habif. *Clinical dermatology: a color guide to diagnosis and therapy*, ed 4, St. Louis, 2004, Mosby, and Habif T, Campbell J, Outcladamo M, Zug K. *Skin disease: diagnosis and treatment*, St. Louis, 2001, Mosby.

## Seborrheic Dermatitis

- Chronic inflammatory condition of sebaceous glands
- White to yellow, greasy-appearing scales
- Adjust pressure over hypersensitive areas



From Friedman-Kien AE, Cockerell CJ. Color atlas of AIDS, ed 2. Philadelphia, 1998, WB Saunders.

## Rosacea

- Progressive inflammatory skin disease
- Persistent redness usually in middle third of face
- Adjust pressure over sensitive areas; avoid areas containing pustules



From Habif. Clinical dermatology: a color guide to diagnosis and therapy, ed 4. St. Louis, 2004, Mosby.

## Pityriasis Rosea

- Self-limiting, occurs most often in winter
- Begins with a single lesion (herald patch) spreading to a more generalized rash
- Local contraindication in hypersensitive and inflamed areas



From Habif. Clinical dermatology: a color guide to diagnosis and therapy, ed 4. St. Louis, 2004, Mosby.

## Lichen Planus

- Self-limiting
- Rash of flat-topped, red- to violet-colored polygonal papules
- Local contraindication in hypersensitive and inflamed areas



From Ziletti B, Davis H. Atlas of pediatric physical diagnosis, ed 5, 2007, Mosby.

## Scleroderma

- Autoimmune disease causing overproduction of collagen
- Skin appears hard, shiny, and stretched across bones
- Massage indicated; adjust pressure in sensitive or numb areas



From Callen J et al. Color atlas of dermatology, ed 2. Philadelphia, 2000, WB Saunders.

## Hives (Urticaria)

- Inflammation, edema, wheals; severe itching
- Most often cause is unidentified
- Massage is contraindicated in acute cases; avoid affected area in chronic cases



From Roth I, Brostoff J, Males D. Immunology, ed 6, St. Louis, 2001, Mosby.



## Lesson 4.3 Objectives

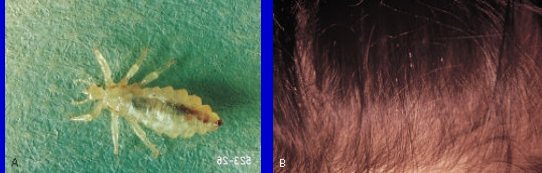
- Contrast and compare lice and mites.
- Define miscellaneous skin injuries and discuss other skin disorders.
- Delineate types of skin pigmentation.
- Name benign and premalignant skin proliferations and determine their appropriate massage considerations.

## Lice and Mites

- Lice
- Scabies

## Lice

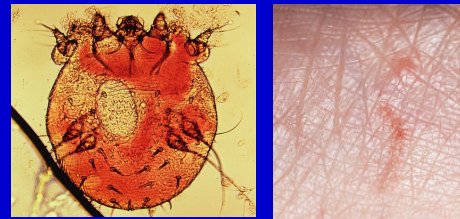
- Contagious parasitic infestation
- Presence of nits on hair shaft; rash on scalp, neck and shoulders
- Massage is contraindicated



A, from Habif T, Campbell J, Quiladamo M, Zug K: *Skin disease: diagnosis and treatment*, St. Louis, 2001, Mosby; B, Courtesy of Michael Sherlock, M.D., J. Lutherville, MD. In Zisall B, Davis H: *Atlas of pediatric physical diagnosis*, ed 5, Philadelphia, 2007, Mosby.

## Scabies

- Contagious burrowing parasitic mite infestation
- Rash of thin, tiny, light brown lines in skin creases
- Massage is contraindicated



From Habif T, Campbell J, Quiladamo M, Zug K: *Skin disease: diagnosis and treatment*, St. Louis, 2001, Mosby.

## Skin Injuries

- Bruises
- Burns
- Stretch marks
- Scars
- Corns and calluses
- Decubitus ulcers

## Bruise

- Injury that does not break the skin; usually induced by mechanical trauma
- Swelling, discoloration (blood leaked from broken vessels), tenderness, pain
- Avoid the area until it begins to turn greenish-yellow; adjust pressure over sensitive areas

## Burns

- Skin injury caused by heat, cold, radiation, chemicals, electricity, or friction
- First-degree burn: damage to epidermis
- Second-degree burn: damage to epidermis and upper layers of dermis
- Third-degree burn: destruction of epidermis, dermis, follicles, skin glands
- Postpone massage until affected area completely heals; adjust pressure over sensitive or numb areas

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## Burns (cont'd.)

- First degree burn
- Second degree burn



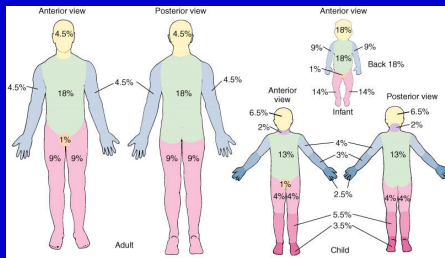
- Third degree burn



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- Rule of Nines



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## Stretch Marks

- Tearing, thinning, for overstretching of skin; reduces its thickness
- Red-pink streaks that eventually turn silvery white
- Reduce pressure over affected areas



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## Scars

- Mark left on damaged skin after it is healed
- Can be flat and pale, slightly elevated, or form depressions; two types of abnormal scars caused by excess collagen production are:
  - Hypertrophic (raised)
  - Keloid (raised and extend beyond boundaries of original wound)
- Postpone massage until the area completely heals; adjust pressure over sensitive areas

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## Scars (cont'd.)

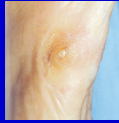


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## Corn and Callus

- Skin thickening from repeated friction or pressure
  - Corn: top and sides of toe
  - Callus: hands or sides and soles of the feet
- Adjust pressure or avoid affected area



Corn



Callus

From White GM: Color atlas of regional dermatology, St Louis, 1994, Mosby and Lawrence CM, Cox NH: Physical signs in dermatology: color atlas and text, ed 2, London, 2002, Mosby Europe.

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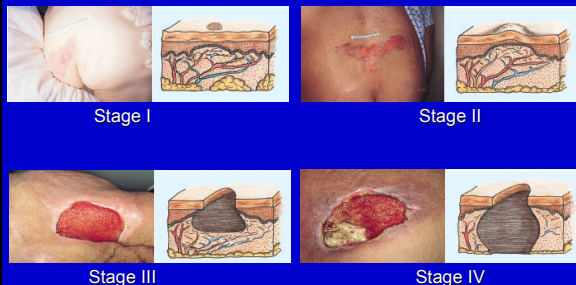
## Decubitus Ulcer

- Caused by local ischemia on area subjected to prolonged pressure
- Classified in four stages (I, II, III, IV)
- Signs and symptoms dependant on stage of severity
- Avoid affected area within a 4-inch radius around ulcer's edge

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## Decubitus Ulcer (cont'd.)



Stage I

Stage II

Stage III

Stage IV

From Courtesy Laurel Wiersma, RN, MSN, Clinical Nurse Specialist, Barnes-Jewish Hospital, St. Louis, in Potter PA, Perry AG: Fundamentals of nursing, ed 7, St. Louis, 2009, Mosby.

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## Other Skin Disorders

- Ichthyosis vulgaris
- Epidermal cyst
- Skin pigmentations

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## Ichthyosis Vulgaris

- Disruption of skin cell generation and removal
- Causes skin thickening and scaling
- Use emollient cream and adjust pressure over sensitive areas; avoid areas of broken skin

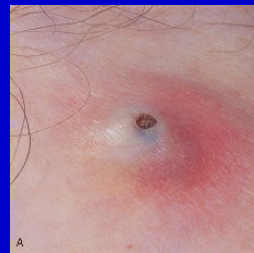


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## Epidermal Cyst



- Benign pouch filled with keratinous material
- Located beneath the skin, easily palpable, and usually mobile
- Local contraindication

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## Skin Pigmentations

- Birthmarks (Moles, café-au-lait spots, Mongolian blue spots, beauty marks)
- Hemangiomas (Strawberry and cherry hemangiomas, port wine stains, stork bites, angel's kiss)
- Age spots (solar lentigo, senile lentigo, liver spots)

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## Skin Pigmentations

- Freckles (ephelis)
- Melasma (chloasma, mask of pregnancy)
- Albinism (hypopigmentation)
- Vitiligo (leukoderma)

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## Benign and Premalignant Skin Proliferations

- Actinic keratosis
- Seborrheic keratosis
- Skin tags

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## Actinic Keratosis



- Premalignant; found on sunlight-exposed skin
- Yellow, brown, or red lesions; rough scaly surface
- Local contraindication

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## Seborrheic Keratosis



- Benign growth of epidermal cells
- Lesions have waxy or scaly surface and appearance of being stuck or pasted on
- Local contraindication

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## Skin Tags

- Benign skin growths
- Resemble tiny flaps of skin attached by a narrow stalk
- Adjust pressure if affected area is sensitive



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