Skin Disorders and Skin Cancer
Chapter 4

Objectives
1. Recognize the symptoms and causes of infections and allergies of the skin.
2. Differentiate between first-, second-, and third degree burns.
3. Explain the importance of the “rule of nines”
4. Summarize the characteristics of basal cell, squamous cell carcinomas and malignant melanoma.

ATHLETES’ FOOT
• Fungal infection
• Symptoms: itchy, red, cracking or peeling areas between toes.
• Also called tinea pedis

BOILS/ CARBUNCLES
• Inflammation of the hair follicles and sebaceous glands.
• Carbuncles are composite boils commonly caused by bacteria- (staphylococcus aureus)
COLD SORES (Fever blisters)

- Symptoms: small, fluid filled blisters that itch and sting
- Usually around the lips and oral mucosa
- Caused by a virus (*herpes simplex*)
- Virus remains dormant in a cutaneous nerve (latent virus)
- Virus becomes active because of stress, fever, sunburn

CONTACT DERMATITIS

- Symptoms: itching, redness and swelling of the skin that may progress to blistering.
- Cause: exposure to chemicals or plant oils that provoke an allergic response in sensitive individuals

IMPETIGO

- Symptoms: pink, water-filled, raised lesions that develop a yellow crust.
- Common around mouth and nose
- Elementary students
- Cause: bacterial (*staphylococcus aureus* or *streptococcus pyogenes*)
**PSORIASIS**

- A chronic condition
- Symptoms: red epidermal lesions covered with dry, silvery scales
- Can be disfiguring when severe
- Cause: White blood cells (T cells) in immune system malfunction
- May be genetic or environmental
- Attacks triggered by stress, infection, hormonal changes or trauma

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**Porphyria**

- Lack of iron in hemoglobin
- Inherited
- Sunlight easily damages skin
- Rapid growth of hair

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**Epidermolysis bullosa**

- Inherited disorder
- Inability to synthesize keratin
- Layers of skin cannot fuse together
- Light touch tears membranes & blisters skin

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**BURNS**

- Tissue damage and cell death
- Can be caused by intense heat, electricity, UV radiation or chemicals
- Two problems result
  - Body loses fluids, dehydration and electrolyte imbalance can lead to kidney shutdown or shock
  - Infection (leading cause of death)

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**Rule of Nines**

- Determines amount of body surface damaged
- Used to predict volume of fluid loss
- Body is divided into 11 areas each about 9% of body area and the genital area (1%)
First-degree burns
- Partial thickness burn - epidermis
- Red and swollen skin
- Regrowth of skin possible
- Not usually serious
- Heals in 1-2 days

Second-degree Burns
- Partial thickness burn – epidermis & upper dermis
- Skin is red and painful with blisters
- Regrowth of skin possible
- Can get infected

Third-degree Burns
- Full thickness burn – all layers damaged
- Blanched or blackened skin
- Nerve endings destroyed – not painful
- Regeneration not possible
- Requires skin grafts

When are burns serious?
- More serious on face – possible blockage of airways
- Over 25% of body has second-degree burns
- Over 10% of body has third-degree burns
- Third-degree burns on face, hands or feet
- Burns near a joint limited mobility

SKIN CANCER
- MOST COMMON TYPE OF CANCER IN HUMANS
- Risk factors: over exposure to sun, frequent irritation of skin by infections or chemicals or physical trauma
**BASAL CELL CARCINOMA**

- Least malignant and most common
- Cells of stratum basale no longer form keratin, boundary between dermis and epidermis compromised
- Central ulcer with “pearly edge”
- Often on sun exposed areas
- 99% cure if removed

**SQUAMOUS CELL CARCINOMA**

- Cells altered in stratum spinosum
- Scaly reddened papule that ulcerates
- Appears on scalp, ears, dorsum of hand and lower lip
- Sun-induced
- Grows rapidly (to lymph nodes)
- If removed early- good prognosis
MALIGNANT MELANOMA
• Cancer of melanocytes
• Characterized by spreading brown black moles
• Metastasizes to lymph and blood
• 50% survival

ABCD RULE
• Asymmetry- 2 SIDES OF PIGMENTED PATCH DO NOT MATCH

ABCD RULE
• Border
• IRREGULARITY
• BORDERS OF LESION EXHIBIT INDENTATIONS

ABCD RULE
• Color
• DIFFERENT SHADES WITHIN THE PIGMENTED AREA

ABCD RULE
• Diameter
• LARGER THAN 6 MM