Sports Dermatology

Chapter 12

Objectives

• Describe the etiology, clinical presentation, treatment and return to play guidelines for common sports related dermatology

Common Types of Lesions

• Vesicles
  – Small, fluid-filled blister < 10mm
  – Examples: empetigo, herpes labialis, herpes gladiatorum
Common Types of Lesions

• Bullae
  – Thin-walled sacs of fluid > 10mm
  – Example: blister

• Pustules
  – Small, inflamed, pus-filled blister-like lesions
  – Acne mechanica, acne, furuncles (boils)

• Papules
  – Solid, round bumps < 5mm
  – Examples: warts, molluscum contagiosum
Common Types of Lesions

• Nodules
  – Solid, raised bumps > 10mm
  – Examples: late stages of acne mechanica, furuncles

• Macules
  – Small, flat (nonpalpable) spots or blemishes
  – Example: tinea versicolor

• Plaques
  – Broad, raised (palpable) area on the skin
  – Example: psoriasis
Common Types of Lesions

- Wheals
  - Circumscribed lesions of inflamed skin
  - Examples: urticaria, hives

- Scales
  - Excess epidermis forming small flakes
  - Examples: Eczema, tinea pedis

Common Sports Dermatology

- Etiology
  - mechanical trauma
  - infection
    - bacterial
    - viral
    - fungal
  - local inflammatory reactions
  - environmental exposure
  - other
Mechanical Trauma

- Abrasions
- Lacerations
- Blisters
- Calluses
- Acne mechanica
- Talon noir

Mechanical Trauma: Blisters

- Etiology
  - Tender vesicles or bullae filled with clear or serous fluid
  - Occur most frequently on the feet and hands
  - Caused by a combination of moisture and friction
  - Usually precipitated by hot spot

Mechanical Trauma: Blisters

- Prevention
  - Wear absorbent socks or two pairs of socks
  - Lubricating the skin
  - Applying moleskin to a friction area
Mechanical Trauma: Blisters

• Treatment
  – When possible, the roof of blister should be left intact
  – Large blisters that may tear – the blister should be drained using a sterile needle and syringe or a scalpel
  – Once drained or punctured, must be treated as open wound

Mechanical Trauma: Blisters

• Treatment
  – Cover blister with donut pad with lubricating gel or antibiotic ointment
  – Other products:
    • Second-skin
    • Moleskin
    • Bioclusive dressing

Mechanical Trauma: Calluses
Mechanical Trauma: Calluses

• Etiology
  – Thickened areas of skin that develop in response to chronic friction
  – Usually asymptomatic unless they become overly large or a blister develops under the callus

Mechanical Trauma: Calluses

• Prevention
  – Reduce friction by wearing protective layer
  – Keep calluses filed to prevent excess growth or blisters

Mechanical Trauma: Calluses

• Treatment
  – Soak
  – Apply salicylic acid
  – File using pumice stone or callus file
Mechanical Trauma: Acne Mechanica

• Etiology
  – Papules or pustules that may transition to nodules
  – Caused by combination of:
    • Pressure
    • Friction
    • Heat
    • Occlusion
  – Occurs commonly under protective equipment

Mechanical Trauma: Acne Mechanica

• Etiology
  – Most common sites include:
    • Forehead
    • Chin
    • Shoulders
    • Upper back
  – Sometimes referred to as sports acne or football acne

Mechanical Trauma: Acne Mechanica

• Prevention
  – Wear absorbent t-shirt under protective equipment
  – Remove perspiration soaked clothing and shower immediately after practice
Mechanical Trauma: Acne Mechanica

• Treatment
  – Will usually resolve on its own at the end of the season
• Return to play
  – Does not preclude an athlete from participation

Mechanical Trauma: Talon Noir
(Black Heel)

• Etiology
  – Caused by constant stopping and starting
  – Lateral shearing causes bleeding within small capillaries
  – Commonly seen in tennis basketball athletes
  – Presents with rows of dots along posterior or posterolateral heel

• Treatment
  – Not necessary
• Prevention
  – Proper fitting shoes and gloves
• Return to Play
  – No restrictions
Infectious Skin Disorders

Infectious Skin Conditions

- Bacterial
- Viral
- Fungal

Bacterial Skin Infections

- Community acquired methicillin-resistant staphylococcus aureus (CA-MRSA)
- Impetigo
- Furuncles and carbuncles
- Folliculitis
CA-MRSA

- Used to occur only in the hospital settings
- Now becoming more common in the general community
- Staph infections that are resistant to β lactam antibiotics (penicillin group and cephalosporins)

Etiology
- Presents with a small pimple-like lesion
- Often mistaken for an insect bite
- Usually occurs at the site of a previous wound (abrasion, laceration)
- Can quickly progress to large, painful lesion
- Often treated in the hospital, depending on the severity

Prevention
- Wash hands thoroughly with soap & water or an alcohol-based hand cleaner before and after treating a wound
- Individuals should shower immediately after activity
- Do not treat individuals with open wounds in a common whirlpool or tub
- Individuals should not share towels, razors, athletic clothing, or equipment
CA-MRSA

• Prevention
  – Athletic clothing and towels should be properly washed after each use
  – Facilities and equipment should be kept clean
  – Refer all individuals with active skin lesions that do not respond to initial therapy
  – Proper first aid procedures should be followed when treating all wounds

Bacterial Skin Infections

CA-MRSA

• Prevention
  – Individuals with suspicious lesions should be referred for a bacterial culture to establish a diagnosis
  – All skin lesions should be covered before participation in a sports activity

Bacterial Skin Infections

CA-MRSA

• Treatment
  – Antibiotics (often require hospitalization for IV antibiotics)
  – Repeated occurrences within the same person or team warrants a nasal swab test to identify a potential carriers
CA-MRSA

• Return to Play
  – No published guidelines yet established
  – Many physicians are using the guidelines from NCAA wrestling rules

Impetigo

• Etiology
  – Caused by staph virus

• Clinical Presentation
  – Presents with honey colored, crusted lesions
  – Occurs most commonly on the face and other exposed areas
  – Particularly common in wrestlers, swimmers, & gymnasts

• Treatment
  – Debridement with hydrogen peroxide
  – 7-10 days of antibiotics
    • Localized lesions treated with topical antibiotics
    • More extensive lesions treated with systemic antibiotics
Impetigo

- **Return to Play**
  - Athletes may return to play when:
    - Lesions are dried
    - After completing 5 days of antibiotics
    - They have no new lesions within the last 48 hours

Bacterial Skin Infections

Furuncles & Carbuncles

- **Furuncles (boils)**
  - Infected hair follicle (similar to folliculitis, but infection is deeper in the hair follicle)
  - Presents as tender, red nodule
Furuncles & Carbuncles

• Carbuncles
  – Clusters of boil

Bacterial Skin Infections

Furuncles & Carbuncles

• Treatment
  – Warm moist compresses 3 x day, 10 min each
  – Allow boil to come to a head
  – Do NOT "pop" boil
  – Once pus pocket is opened, clean & dress wound
  – If the warm compresses do not bring the boil to a head, a physician may need to lance the lesion

Bacterial Skin Infections

Furuncles & Carbuncles

• Return to Play
  – Furuncles & carbuncles are not contagious
  – Playing with active lesion can cause further tissue damage
  – Can return after 5 days of antibiotics if there are no new lesions within the past 48 hrs
Folliculitis

**Etiology:**
- *Staphylococcus aureus* infection in hair follicles
- May occur following shaving
- May occur following exposure to hot tub

**Clinical Presentation**
- Papules and pustules in and around hair follicles

**Treatment**
- nothing
- OTC acne meds
- topical or systemic antibiotics
Folliculitis

- Return to Play
  - Athletes can play with active folliculitis

Viral Skin Infections

- Herpes simplex virus (HSV)
- Molluscum contagiosum virus (MCV)
- Human papilloma virus (HPV)

The spread of viral skin infections requires direct skin contact with an infected person

Herpes Simplex Virus (HSV)

- Two types of HSV
  - HSV-1
    - Herpes labialis
    - Herpes gladiatorum
  - HSV-2
    - Genital herpes
- The HSV virus can go dormant in the neural ganglia – return later
Herpes Labialis

- **Etiology**
  - Caused by HSV-1
- **Clinical presentation**
  - Single vesicle or cluster of vesicles
  - Prodromal symptoms
    - Burning
    - Tingling

Herpes Labialis

- **Treatment**
  - OTC ointments
    - Abreva
    - Carmex
  - Oral antivirals
    - Acyclovir
    - Famciclovir
    - Valacyclovir

Herpes Labialis

- **Prevention**
  - Antivirals can be used to prevent return of lesions during season
**Herpes Labialis**

- **Return to Play**
  - Athletes with direct skin-to-skin contact are not allowed to participate with active lesions
  - Lesions must be crusted
  - No new lesions within past 3 days
  - At least 5 days of antivirals

**Herpes Gladiatorum**

- **Etiology**
  - Caused by HSV-1
  - Occurs in area of existing open wound

**Clinical Presentation**

- Clustered vesicles with erythematous base
- May also report prodromal symptoms
- Occurs most frequently on head, face, and extremities
- Medical emergency if it spreads to the eyes
Herpes Gladiatorum

- Treatment
  - Oral antivirals
- Return to Play
  - Same as that for herpes labialis

Molluscum Contagiosum

- Etiology
  - Caused by molluscum contagiosum virus
- Clinical presentation
  - Dome shaped papules with a center dimple
  - Can be individual papules or groups of papules

Molluscum Contagiosum

- Treatment
  - Removal of lesions
    - Curettage
    - Laser
    - Cryotherapy
    - Salicylic acid
Molluscum Contagiosum

- Return to Play
  - Athletes can return once lesions have been removed
  - Wound area must be covered with gas-permeable dressing

Warts

Plantar Warts

- Etiology
  - Caused by Human Papilloma virus (HPV)
- Clinical Presentation
  - Found on the soles of the feet
  - Can occur within a callus
  - Grow into the foot rather than on the surface
  - Appear to have little seeds within the core of the wart
Warts

• Treatment
  – Donut pad to dissipate weight bearing forces
  – Wart can be pared down
  – OTC wart removal meds (salicylic acid)
  – Cryotherapy
  – Excision

Warts

• Prevention
  – Wearing shower shoes or other types of shoes in both showers and locker rooms
• Return to Play
  – No restrictions

Fungal Skin Infections
Fungal Skin Infections

- Etiology
  - Caused by dermatophytes
  - Occur within warm, moist areas
- Specific types of dermatophyte infections are named according to their location
  - Tinea capitis – head
  - Tinea pedis – foot
  - Tinea cruris – groin
  - Tinea unguium – finger and toe nails
  - Tinea corporis – all other areas

Tinea Pedis

- Clinical Presentation
  - Scaly, peeling area between the toes
  - Vesicular lesions on the midfoot

Tinea Pedis

- Treatment
  - Topical antifungal powders or creams
    - Tinactin (powder)
    - Mycelex (cream)
    - Lotrimin (cream)
    - Lamisil (cream)
Tinea Pedis

• Treatment
  – Topical anti-fungal meds should be applied at least 2 cm onto health skin

Tinea Pedis

• Prevention
  – Wearing shoes in showers and locker rooms
  – Keeping feet dry
• Return to Play
  – No restrictions

Tinea Cruris

• Clinical Presentation
  – Large, round, scaly plaques with pustules and papules along the edges
  – Most commonly occurs in proximal medial thighs, inguinal folds, and buttocks
  – May occur secondary to tinea pedis
Tinea Cruris

• Treatment
  – Topical antifungal meds
• Return to Play
  – No restrictions

Tinea Unguium

• Clinical Presentation
  – White patch under the nail
• Treatment
  – Will not respond to topical antifungals
  – Must use oral meds
• Return to Play
  – No restrictions

Tinea Corporis (ringworm)

• Also referred to as tinea gladiatorum
• Clinical Presentation
  – Circular, erythematous plaque with a raised edge and central clearing
  – May itch
  – May be confused with psoriasis (although psoriasis lesions do not have central clearing
  – Occurs most often on head, neck, and arms
Tinea Corporis (ringworm)

Treatment
- Topical antifungals for most cases
- Extensive cases may require oral meds
- Meds should be taken for 2 weeks after lesions are gone

Prevention
- Shower immediately after practice or competition

Return to Play
- Must have been on antifungal meds for at least 72 hours
- Lesions must be covered
**Tinea Versicolor**

- **Etiology**
  - Caused by *Malassezia furfur* organism
- **Clinical Presentation**
  - Macules or patches of hypopigmented or hyperpigmented skin
  - Most commonly affects back, trunk, abdominal, and arms

**Tinea Versicolor**

- **Treatment**
  - Topical antifungal meds
    - These creams must be left on for extended periods
  - Oral antifungals
  - Return to Play
    - No restrictions

**Inflammatory Skin Conditions**

- Eczema or Dermatitis
- Psoriasis
Inflammatory Skin Conditions: Dermatitis

Inflammatory Skin Conditions: Psoriasis

Environmental Skin Conditions
Environmental Skin Conditions: Frost Nip

Environmental Skin Conditions: Frost Bite

ABCDs of Skin Cancer

LOOK FOR DANGER SIGNS IN PIGMENTED LESIONS OF THE SKIN. Consult your dermatologist immediately if any of your moles or growths change in any way.