DERMATOLOGIC CONDITIONS IN YOUNG ATHLETES
Stephanie Jacks, MD
Assistant Professor, Dermatology and Pediatrics

DISCLOSURES
I have no conflicts of interest or disclosures.

OBJECTIVES
Diagnose common dermatologic conditions seen in young athletes
Formulate treatment strategies for skin conditions in young athletes
Summarize strategies to prevent the spread of dermatologic conditions among young athletes
OVERVIEW

- Skin infections represent 8% of sports-related medical conditions among high school athletes and 20% among college athletes.
- Likelihood of contracting a skin infection from an infected opponent is about 33%.

ERYTHEMATOUS EROSIONS WITH YELLOW CRUST

- Usually caused by *Staphylococcus aureus*
  - Can be caused by *Streptococcus* species or a mix
- Small pustules or vesicles rupture easily, containing yellow fluid that dries into a "honey-colored crust".
- Spreads easily
  - Hands, towels, clothing
- May see fever and lymphadenopathy

IMPETIGO


IMPETIGO
- Reservoir: asymptomatic nasal carriage in 20-40% of adults
- Treatment:
  - Localized, mild: topical antibiotics
    - mupirocin, bacitracin, polymyxin, gentamicin
  - More widespread: oral antibiotics
    - clindamycin, trimethoprim-sulfamethoxazole
- Prevent spread
  - Don't share towels, clothes, or equipment
  - Don't hang things on walls
  - Wash hands frequently
  - Inform parents who work in healthcare or childcare settings

ERYTHEMATOUS FOLLICULAR PUSTULES
- May be related to acne and/or Staph infection
- Favor upper trunk, buttocks, thighs
- Exacerbated by sweating, occlusive clothing, shaving
- Treatment:
  - Topical benzoyl peroxide (OTC washes or creams/gels)
  - Topical antibiotics (clindamycin lotion)
  - Oral antibiotics (doxycycline, minocycline)
- Prevention:
  - Shower after practice with an acne wash
  - Loose breathable clothing
  - Variant: acne mechanica, pomade acne

FOLLICULITIS
- May be related to acne and/or Staph infection
- Favor upper trunk, buttocks, thighs
- Exacerbated by sweating, occlusive clothing, shaving
- Treatment:
  - Topical benzoyl peroxide (OTC washes or creams/gels)
  - Topical antibiotics (clindamycin lotion)
  - Oral antibiotics (doxycycline, minocycline)
- Prevention:
  - Shower after practice with an acne wash
  - Loose breathable clothing
  - Variant: acne mechanica, pomade acne
ERYTHEMATOUS, SCALY, ANNULAR (RING-SHAPED)
PATCHES

- Spread by close contact with infected individuals or animals
  - Puppies, kittens, guinea pigs
- Caused by fungi in the dermatophyte family (Trichophyton and Microsporum)
- Topical steroids can mask the classic appearance (“tinea incognito”)
- Diagnosis can be confirmed with KOH preparation
- Treat with topical antifungals x 2-3 weeks
  - Terbinafine, ketoconazole, clotrimazole, miconazole, etc.
- Prevention
  - Difficult – very common among athletes in sports with skin-skin contact – eg. wrestlers

TINEA CORPORIS AKA RINGWORM

- Spread by close contact with infected individuals or animals
  - Puppies, kittens, guinea pigs
- Caused by fungi in the dermatophyte family (Trichophyton and Microsporum)
- Topical steroids can mask the classic appearance (“tinea incognito”)
- Diagnosis can be confirmed with KOH preparation
- Treat with topical antifungals x 2-3 weeks
  - Terbinafine, ketoconazole, clotrimazole, miconazole, etc.
- Prevention
  - Difficult – very common among athletes in sports with skin-skin contact – eg. wrestlers

SCALY ERYTHEMATOUS MACERATED PATCHES TO
PLANTAR FEET AND TOEWEB SPACES

- Spread by close contact with infected individuals or animals
  - Puppies, kittens, guinea pigs
- Caused by fungi in the dermatophyte family (Trichophyton and Microsporum)
- Topical steroids can mask the classic appearance (“tinea incognito”)
- Diagnosis can be confirmed with KOH preparation
- Treat with topical antifungals x 2-3 weeks
  - Terbinafine, ketoconazole, clotrimazole, miconazole, etc.
- Prevention
  - Difficult – very common among athletes in sports with skin-skin contact – eg. wrestlers
**TINEA PEDIS, AKA “ATHLETE’S FOOT”**

- Usually with redness, scaling, and maceration between toes or in “moccasin” pattern
- Rarely can see “bullous” form with large blisters
- Can confirm diagnosis with KOH preparation
- Treat with topical antifungals:
  - Oral antifungals if refractory (terbinafine, griseofulvin)
- Prevention:
  - Avoid walking barefoot in public places (e.g., locker rooms)
  - Keep feet dry (breathable socks, sandals, etc.)
  - Daily application of OTC antifungal powder to feet and shoes

---

**HYPOPIGMENTED MACULES AND PATCHES WITH SLIGHT SCALE ON THE UPPER TRUNK**

**Tinea Versicolor Aka Pityriasis Versicolor**

- Very common among adolescents
- Can cause light, dark, or red colored areas on the skin
- Scales when scratched
- Caused by yeast (Pityrosporum/Malassezia)
- Gets worse with sun exposure, due to darkening of normal skin

**Treatment**

- Wash with ketoconazole 2% shampoo or selenium sulfide 2.5% shampoo
- Topical antifungals may not be practical
- Oral antifungal – fluconazole 300mg x 2 doses spaced by 1 week

**Prevention**

- If prone to tinea versicolor, wash prophylactically with medicated shampoo 1-2 times per month

---

**Thickened, Deformed Great Toenail With Surrounding Erythema and Inflammation**

- Proximal nail plate gets embedded in nail fold due to chronic trauma, then new nail growth starts to stack with old nail
- More common in females
  - Risk factors:
    - Allowing nail plate to grow past tip of toe
    - Tight shoes
  - Ballet dancers, joggers, hikers
- Treatment is avulsion of nail plate
  - Regrows over 1-2 years
- Complication: disappearing nail bed
**FRICITION BLISTER**

- Develops in areas of rubbing, usually hands or feet
  - New shoes, thin socks, rough fabrics, etc
- If extensive friction blisters, refer to dermatology to consider other diagnoses
  - Systemic illness or other disorders
- If refractory, consider culture or skin biopsy
- Drain with sterile needle, but leave “roof” in place
- Preventing
  - Good-fitting shoes
  - 2 pairs of socks or moisture-absorbent socks
  - Padding or barrier products
  - Petroleum jelly or silicon-based products

---

**BLACK MACULE ON PLANTAR FOOT**

TALON NOIR

- Trauma ruptures blood vessels and hemoglobin gets caught in the stratum corneum (outermost layer of skin that is very thick on palms and soles)
  - Especially in basketball players
- Rule out melanoma
  - Paring with a scalpel can help differentiate
- No treatment needed

MONOMORPHIC ERYTHEMATOUS PAPULES AND PUSTULES ON CHEST


- Can be caused by anabolic steroids or glucocorticosteroids
- “Monomorphic” appearance is a clue
- Treatment:
  - Discontinue steroids
  - Routine acne treatments
- Anabolic steroids can also cause striae, male-pattern hair loss, gynecomastia
ERYTHEMATOUS PATCHES ON FACE

- Exposure to UV light (UVB>UVA)
- Redness peaks at 6-24 hours after exposure
- Lasts 3-5 days
- Ask about medications: doxycycline, NSAIDs, isotretinoin
- Treatment:
  - Cool baths
  - Topical emollients
  - Topical steroids
  - If severe, short course oral steroids
- Prevention:
  - Avoid mid-day sun
  - Sunscreen, SPF>30, mineral blockers
  - Protective clothing

SUNBURN

- Exposure to UV light (UVB>UVA)
- Redness peaks at 6-24 hours after exposure
- Lasts 3-5 days
- Ask about medications: doxycycline, NSAIDs, isotretinoin
- Treatment:
  - Cool baths
  - Topical emollients
  - Topical steroids
  - Pain relievers, short course oral steroids
- Prevention:
  - Avoid mid-day sun
  - Sunscreen, SPF>30, mineral blockers
  - Protective clothing

RETICULATED HYPERPIGMENTED PATCHES ON LOWER BACK
**ERYTHEMA AB IGNE**

- Lacy erythema or hyperpigmentation related to prolonged exposure to heat
  - Heating pad
  - Fireplace
  - Laptop
- May increase risk of skin cancer in involved areas
- No good treatment
  - Redness may fade but dark areas persist
- Prevention – avoid further heat exposures!

**CLUSTERED, CRUSTED VESICLES ON AN ERYTHEMATOUS BASE**


**HERPES GLADIATORUM**

- Viral herpes simplex infection
  - Most common in wrestlers
  - Most common on head, neck, arms
- Starts as clusters of vesicles that dry and form crusts
- Treatment:
  - Oral acyclovir or valacyclovir
- Prevention:
  - Don’t share towels, equipment, etc
  - Clean wrestling mats appropriately
  - If repeated outbreaks, consider prophylactic therapy

ERYTHEMATOUS EXCORIATED PAPULES ON HANDS, FEET, AND GROIN


- Common infestation with mite
- Spread through close contact, less likely through surfaces
- Hands, feet, groin, web spaces
- Risk factors: immune compromise, living in close quarters
- Rash takes about 1 month to develop
- Can confirm diagnosis with skin scraping
- Treatment:
  - Permethrin cream weekly x 2 doses with overnight application
  - Next morning launder all bedding, clothing, towels with HOT water and dryer
  - Can also place in sealed bags for 1 week
  - Oral ivermectin
- Treat all close contacts!
- Rash and pruritus will linger for an additional 4-6 weeks

SCABIES


RETURN TO PLAY GUIDELINES - FUNGAL


### RETURN TO PLAY GUIDELINES – VIRAL

<table>
<thead>
<tr>
<th>Condition</th>
<th>NCAA Guidelines</th>
<th>IHSA Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herpes simplex virus</td>
<td>No lesions noticed</td>
<td>Oral antiviral (10-12 h)</td>
</tr>
<tr>
<td></td>
<td>No prodromal symptoms</td>
<td>No oral lesions within established treatment (10-12 h)</td>
</tr>
<tr>
<td></td>
<td>No fever from 3 days</td>
<td>All lesions scabbed</td>
</tr>
<tr>
<td></td>
<td>No oral lesions</td>
<td>No fever from 3 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No fever from 3 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No fever from 3 days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition</th>
<th>NCAA Guidelines</th>
<th>IHSA Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varicella</td>
<td>Control as removed</td>
<td>Oral antiviral (10-12 h)</td>
</tr>
<tr>
<td></td>
<td>Site covered</td>
<td>No oral lesions within established treatment (10-12 h)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
</tbody>
</table>

### RETURN TO PLAY GUIDELINES – BACTERIAL/INFESTATIONS

<table>
<thead>
<tr>
<th>Condition</th>
<th>NCAA Guidelines</th>
<th>IHSA Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletes</td>
<td>No new lesions</td>
<td>Oral antiviral (10-12 h)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No oral lesions within established treatment (10-12 h)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition</th>
<th>NCAA Guidelines</th>
<th>IHSA Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletes</td>
<td>All lesions should be covered by antibiotics.</td>
<td>Oral antiviral (10-12 h)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No oral lesions within established treatment (10-12 h)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All lesions scabbed</td>
</tr>
</tbody>
</table>

### COMMENTS/QUESTIONS?