Skin Conditions in Athletes: The "Down and Dirty for Athletic Participation

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Great Lakes Athletic Trainers Association

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Conflict of Interest

- There is **NO** conflict of interest in this presentation.
- The purpose of the presentation is NOT to promote goods or services to participants.
- The views expressed in these slides and in the today's discussion are an account of my personal experiences dealing with skin conditions in my role as an athletic trainer.

Introduction

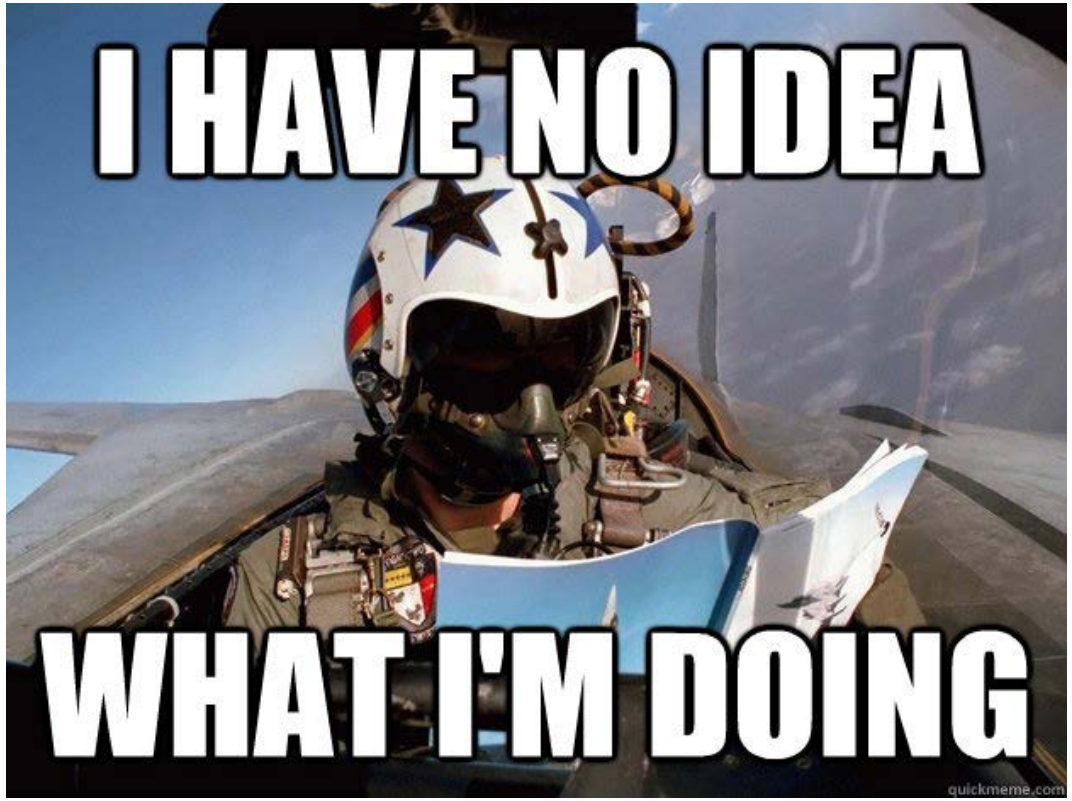
- Skin infections are associated with time loss in sports
- Health and safety of the athlete is our primary concern
  - Protection of other athletes, coaches and support personnel is a secondary concern
- Recognizing common skin infections enables ATs to make appropriate decisions regarding Tx and RTP decisions

Objectives

- At the end of this presentation, participants will be able to:
  - Discuss the differences between common bacterial, fungal and viral skin infections seen in the athletic population
  - Identify the differences between a bacterial, fungal and viral skin infections
  - Identify the appropriate treatment for common bacterial, fungal and viral infections seen in the athletic population
  - Discuss return to play implications for bacterial, fungal and viral infections seen in the athletic population

Today's Agenda

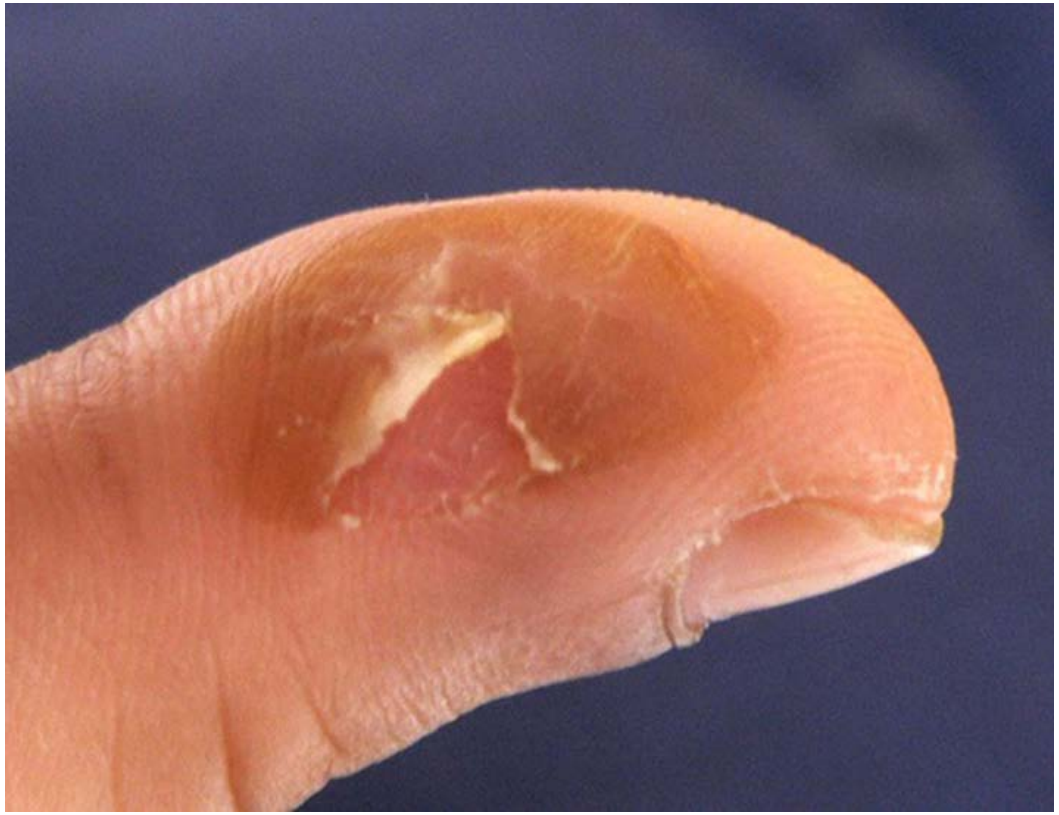
- Is it infected?
- Folliculitis/Abscess
- MRSA (Methicillin Resistant Staph Aureus)
- Impetigo
- Tinea (Ringworm)
- Herpes Simplex
- Molluscum Contagiosum
- Warts
- Eczma
- Others

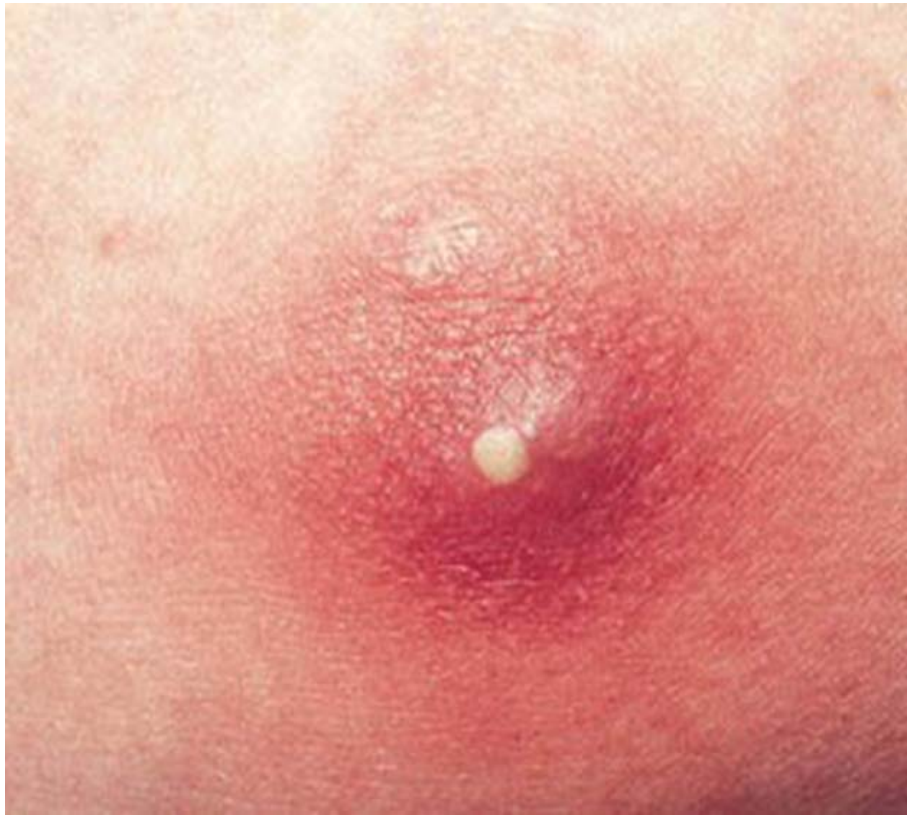


The Difficult

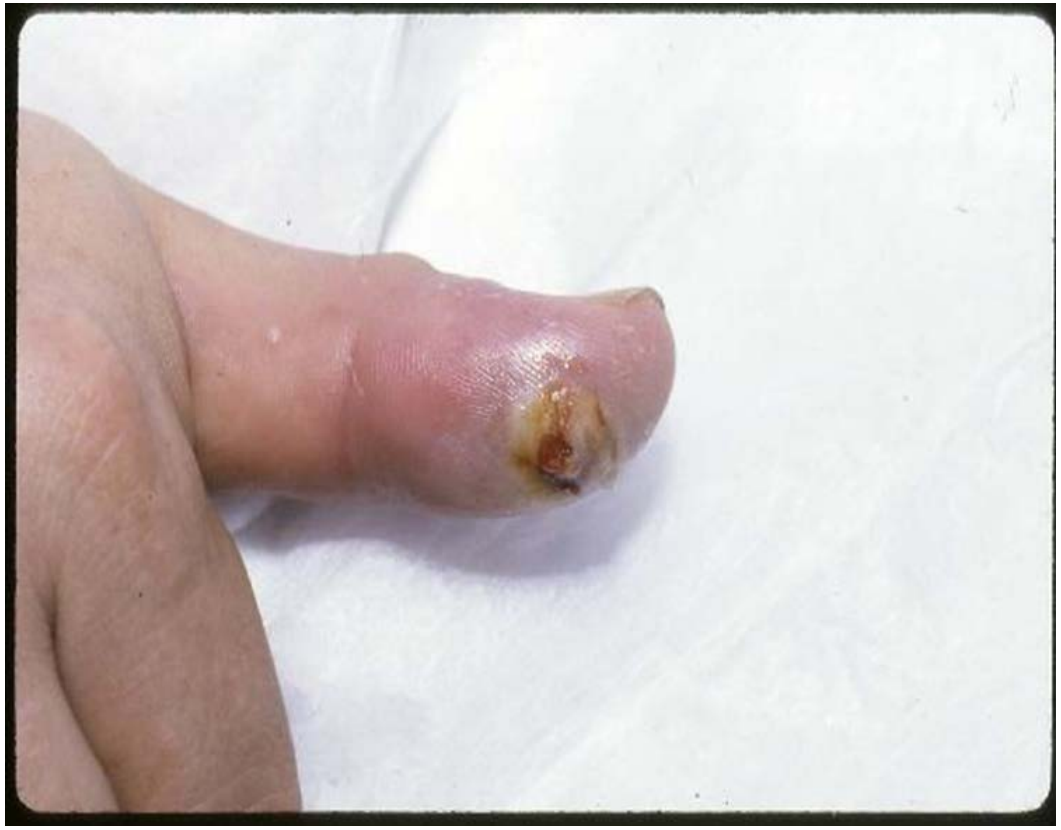
- Things change and mutate
- Unfortunately lesions you will see often do not present in textbook form
- This can make identification difficult

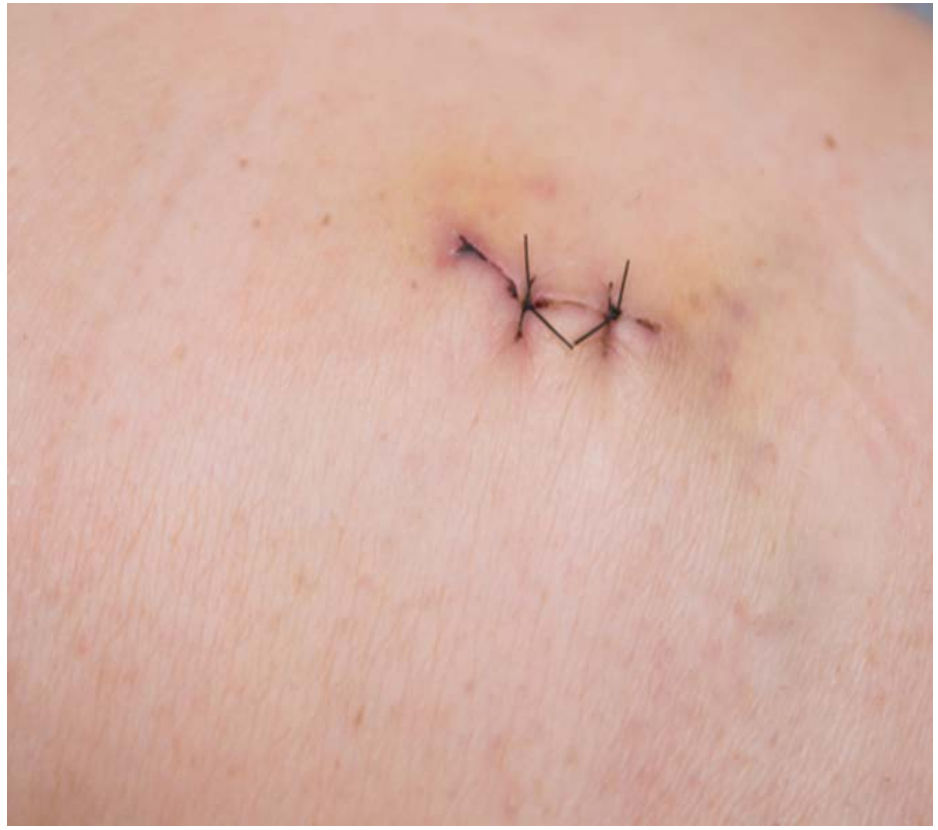
Is it infected???



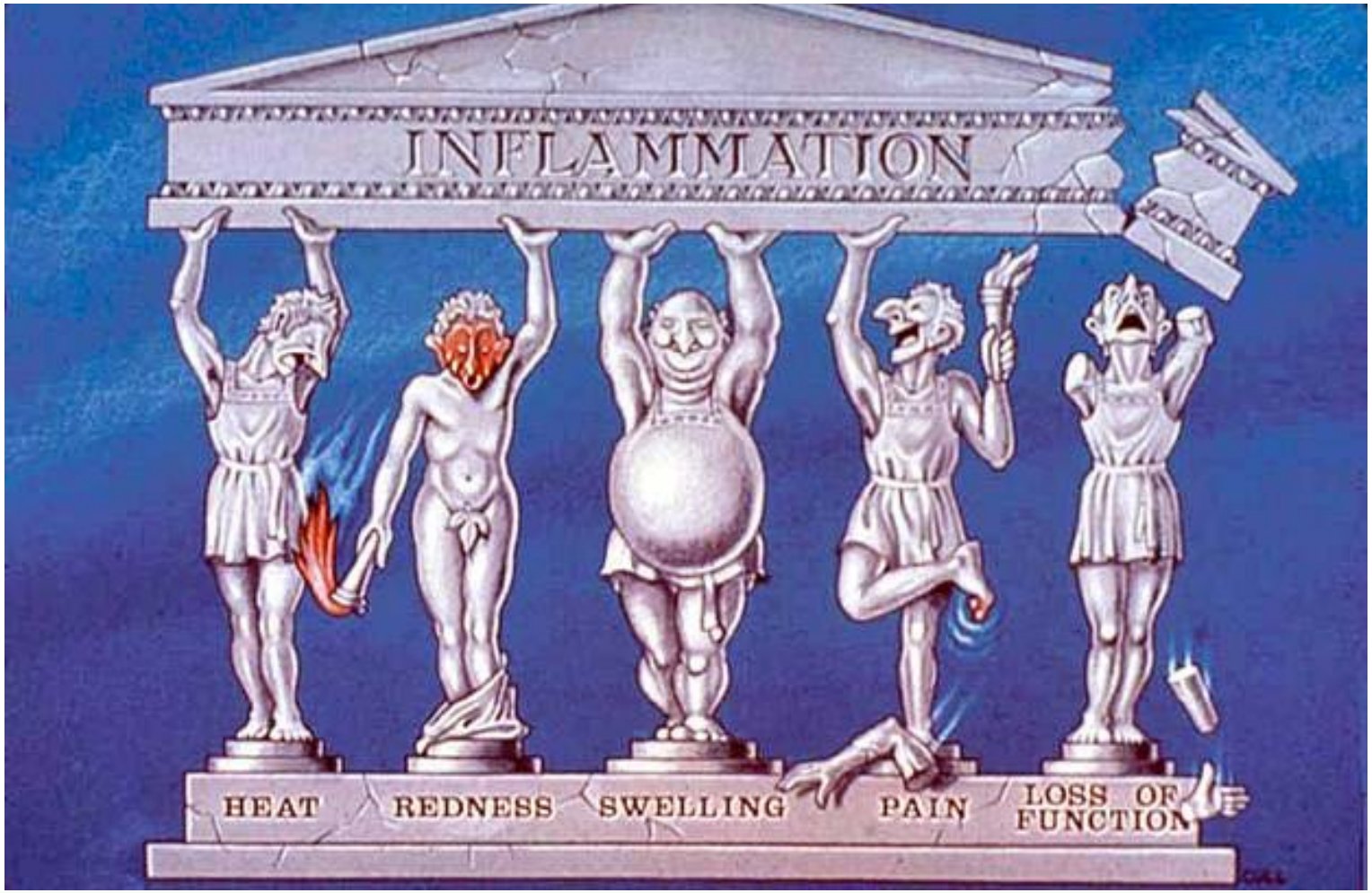


Is It Infected???





Cardinal Signs of Inflammation



General Wound Care

- Observe for Fever, Redness, Warmth, Swelling, Drainage
- Drain and Debride as appropriate
- Cleanse thoroughly
- Keep clean & dry
- Cover and use topical ATB initially
- Oral ATB for obvious infection

Bacterial Infections

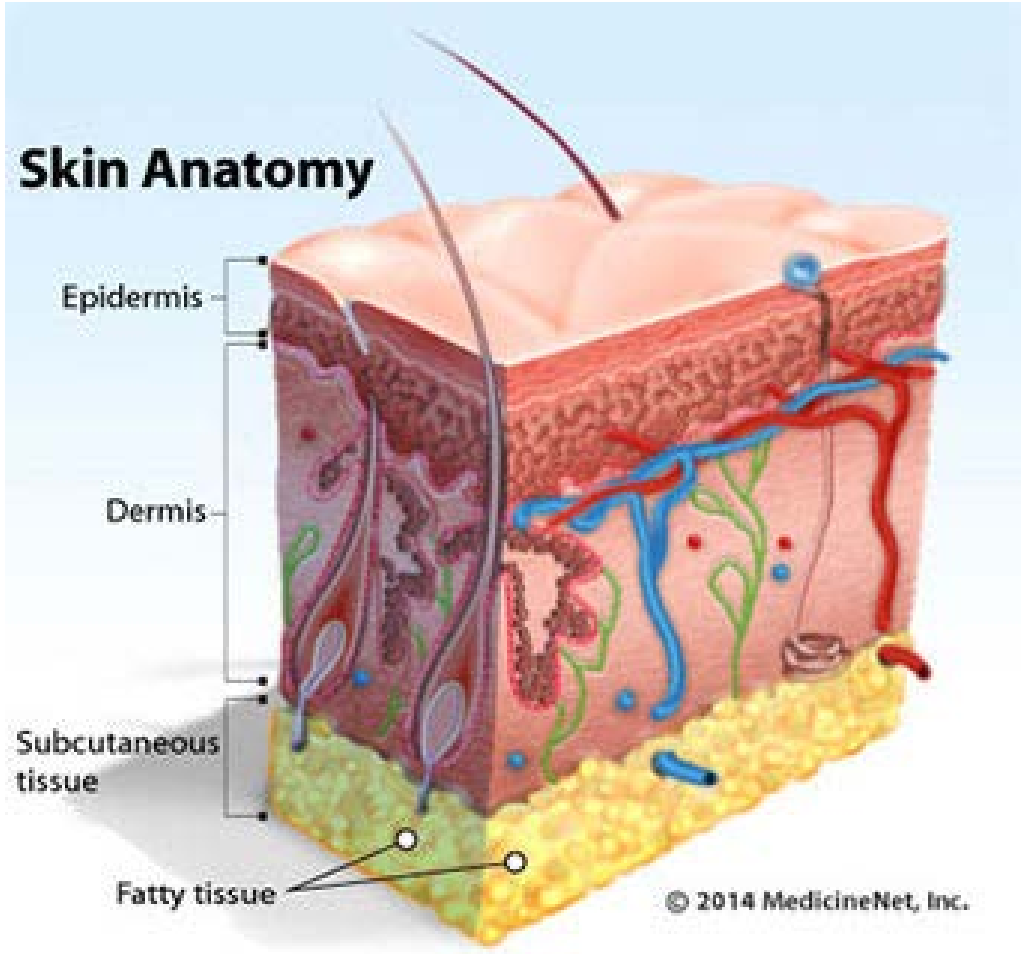
- Collectively know as *Pyoderma*
- Caused by common bacteria: *Staphylococcus aureus* and *Streptococcus*
- These conditions are characterized by infected *purulent* (causes pus) lesions to the skin

Bacterial Infections

- Folliculitis
- Boil (furuncle)
- Impetigo
- Acne Vulgaris - most common

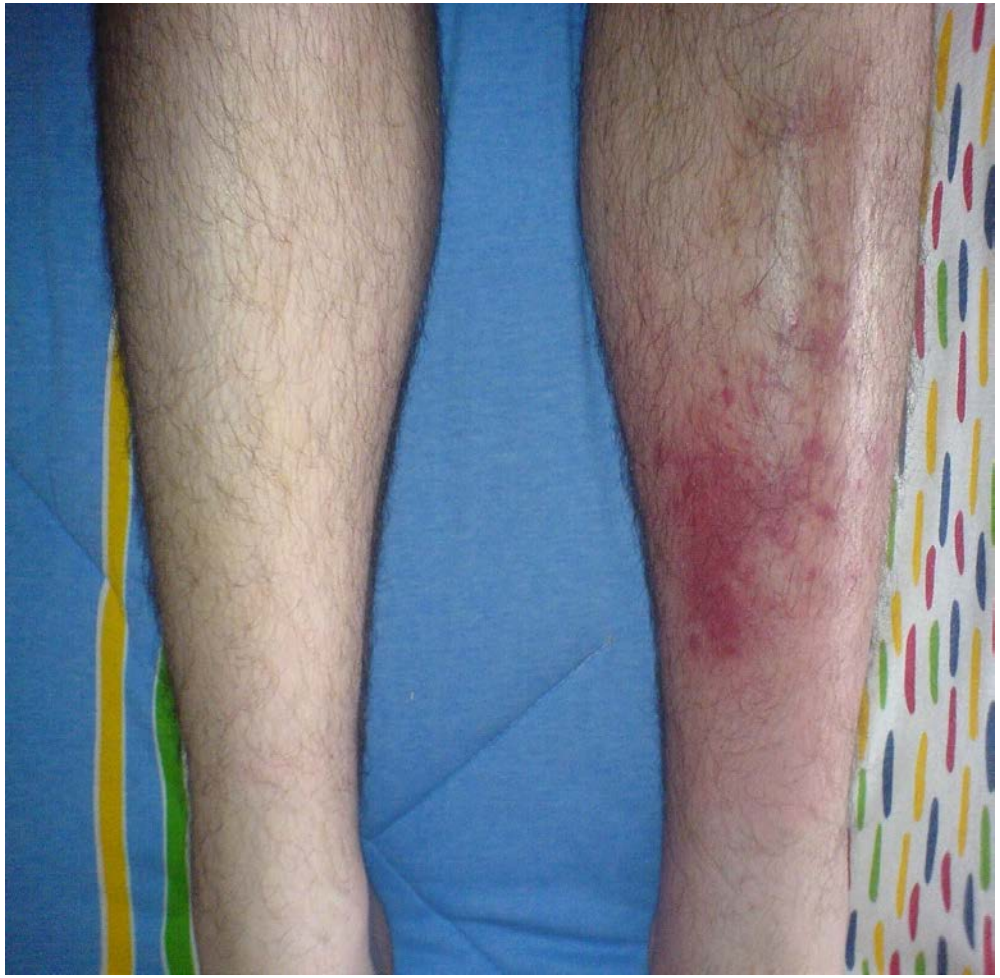
Cellulitis, Folliculitis & Boils, Oh My!

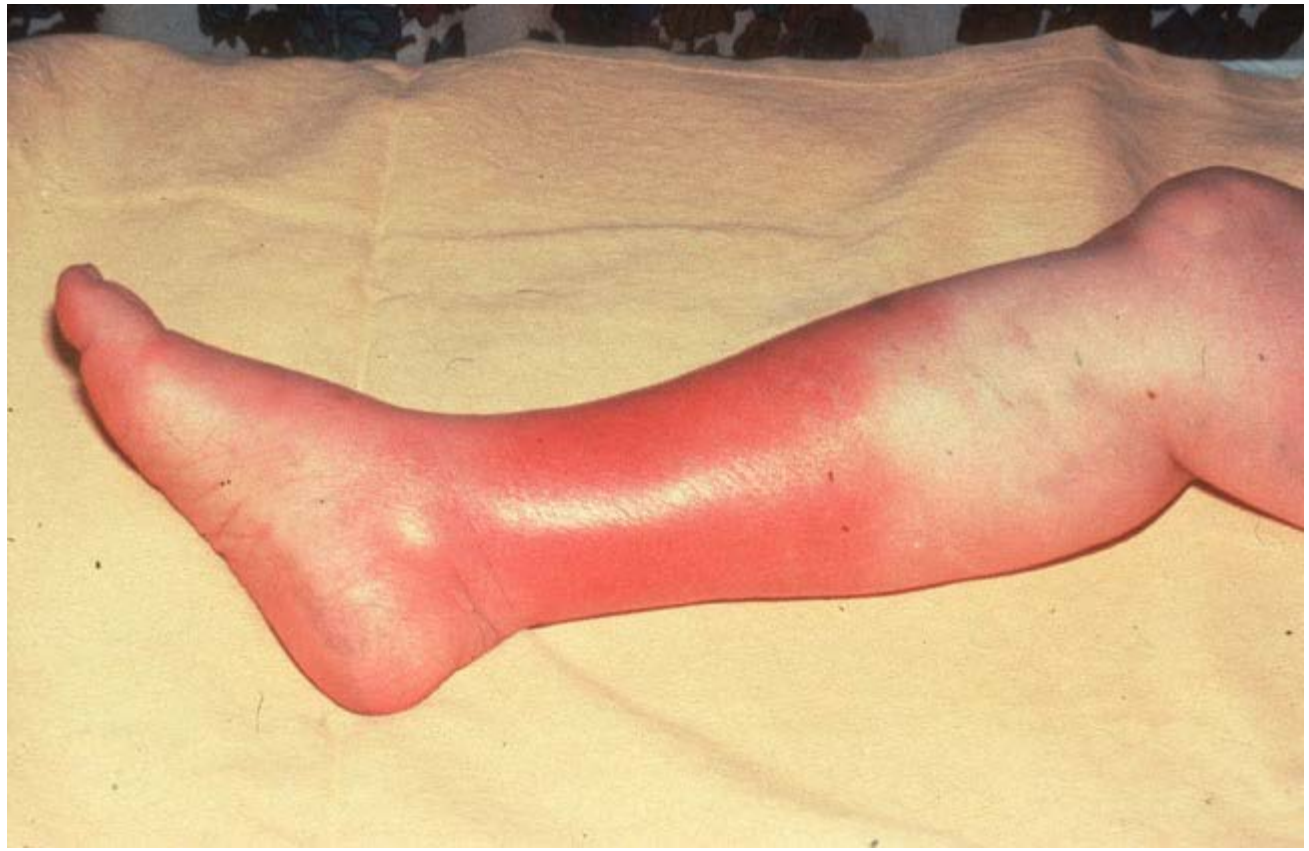
Cellulitis



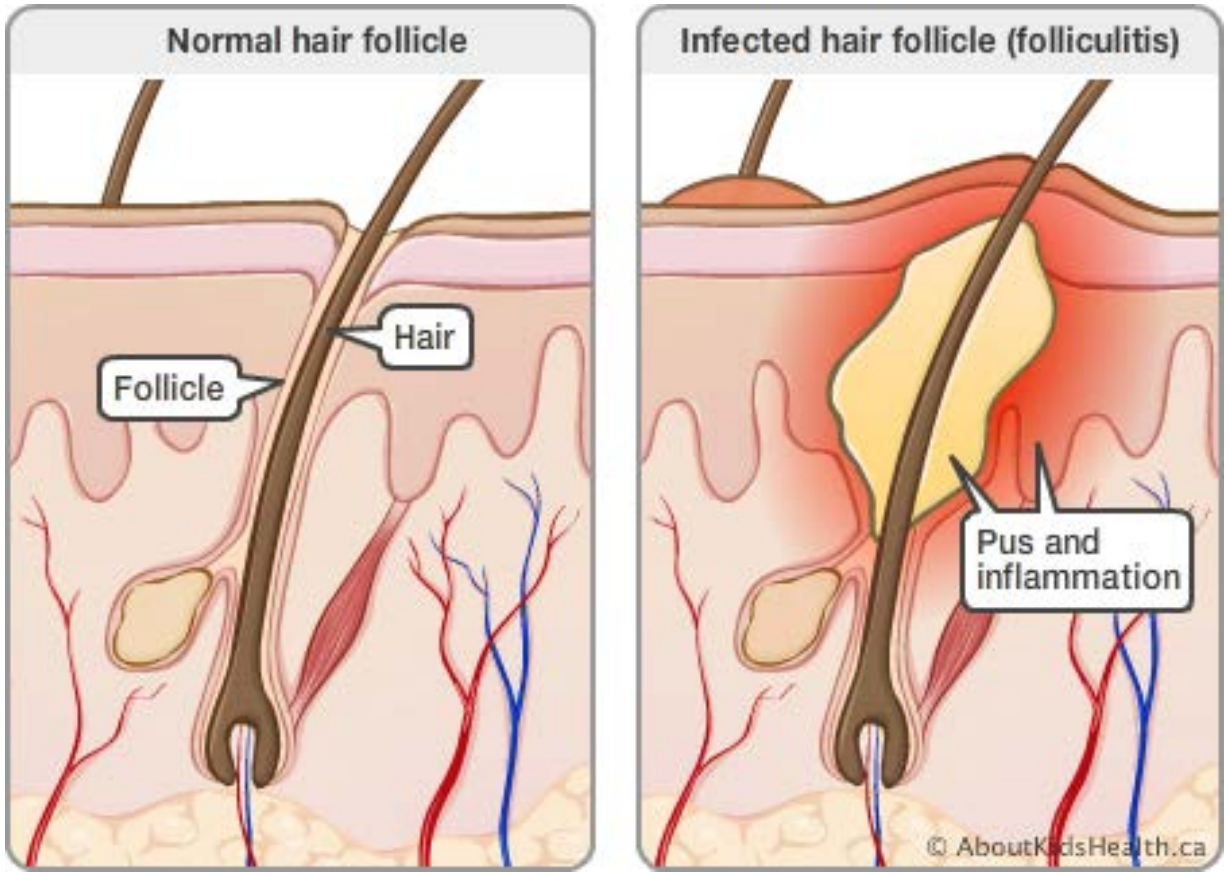
- Infection of dermis and subsequent tissue layers
- Erythema, warmth, edema , and pain
- Culture not helpful
- Usually Strep, some staph
- Elevate, compresses
- Oral ATB’s

Cellulitis



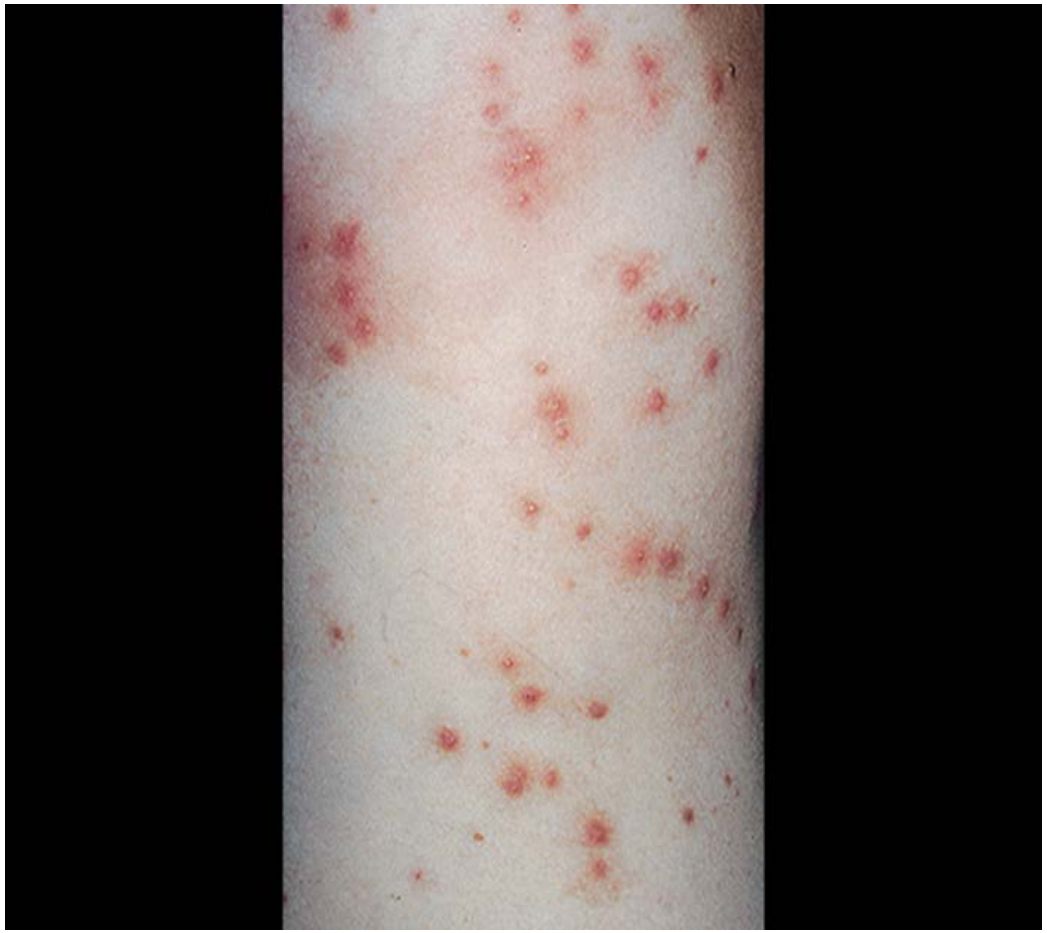


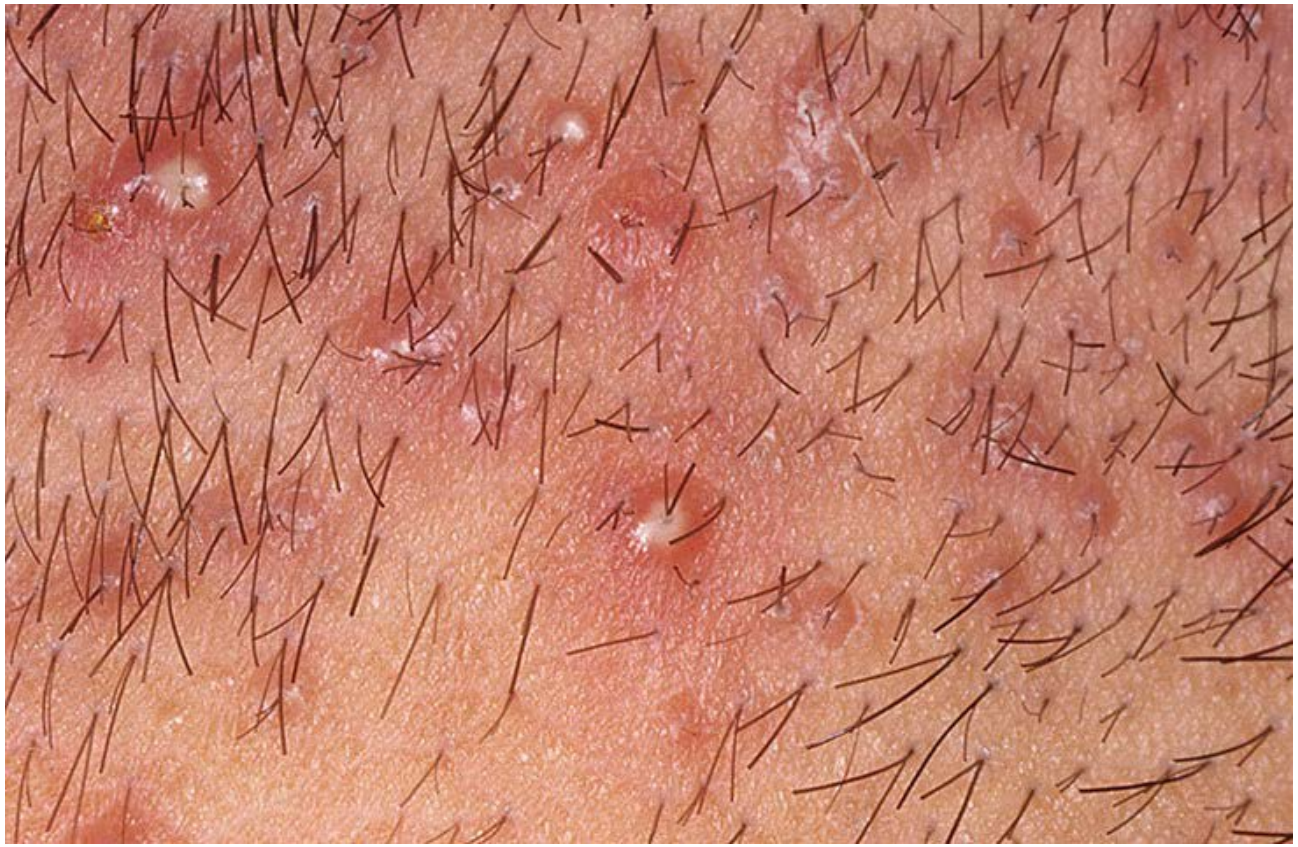
Folliculitis



- Superficial infection of the hair follicles
- Small red pustules
- Occurs in areas of occlusive barriers ie kneepads, headgear, or close shaven areas
- Rx: Oral ATB's, and Topical scrubs

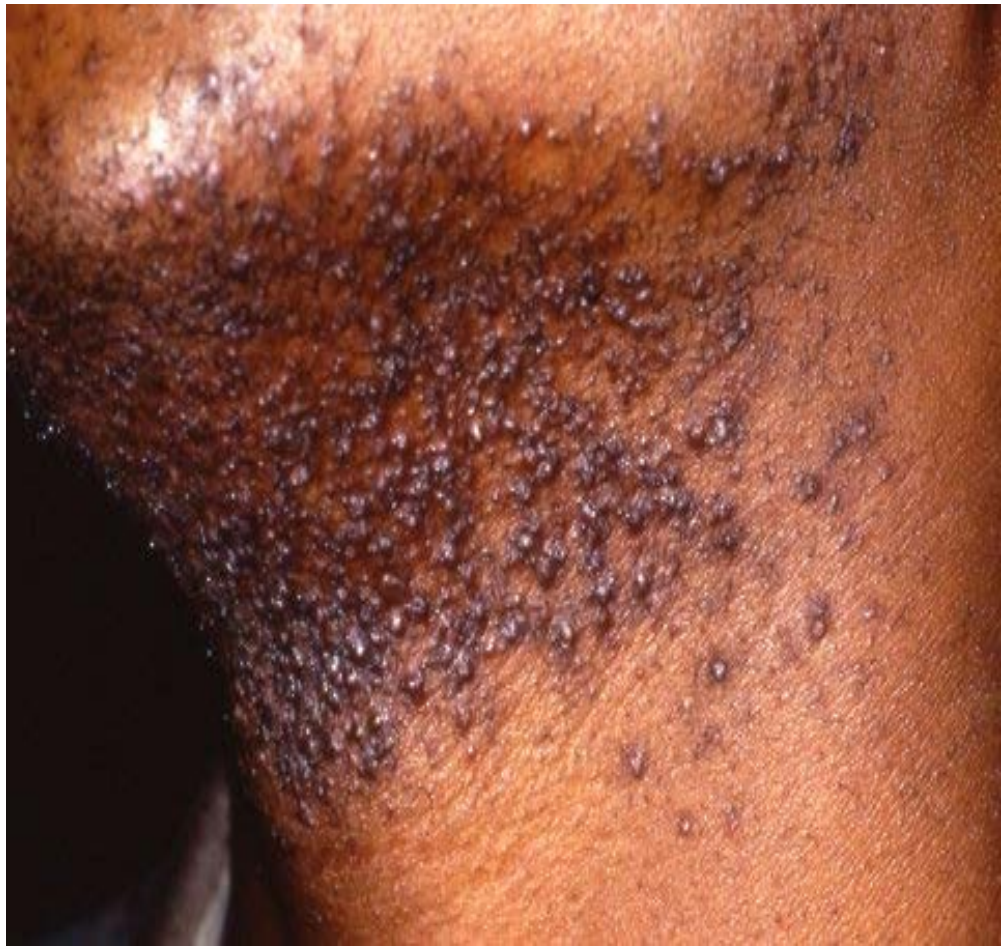
Folliculitis





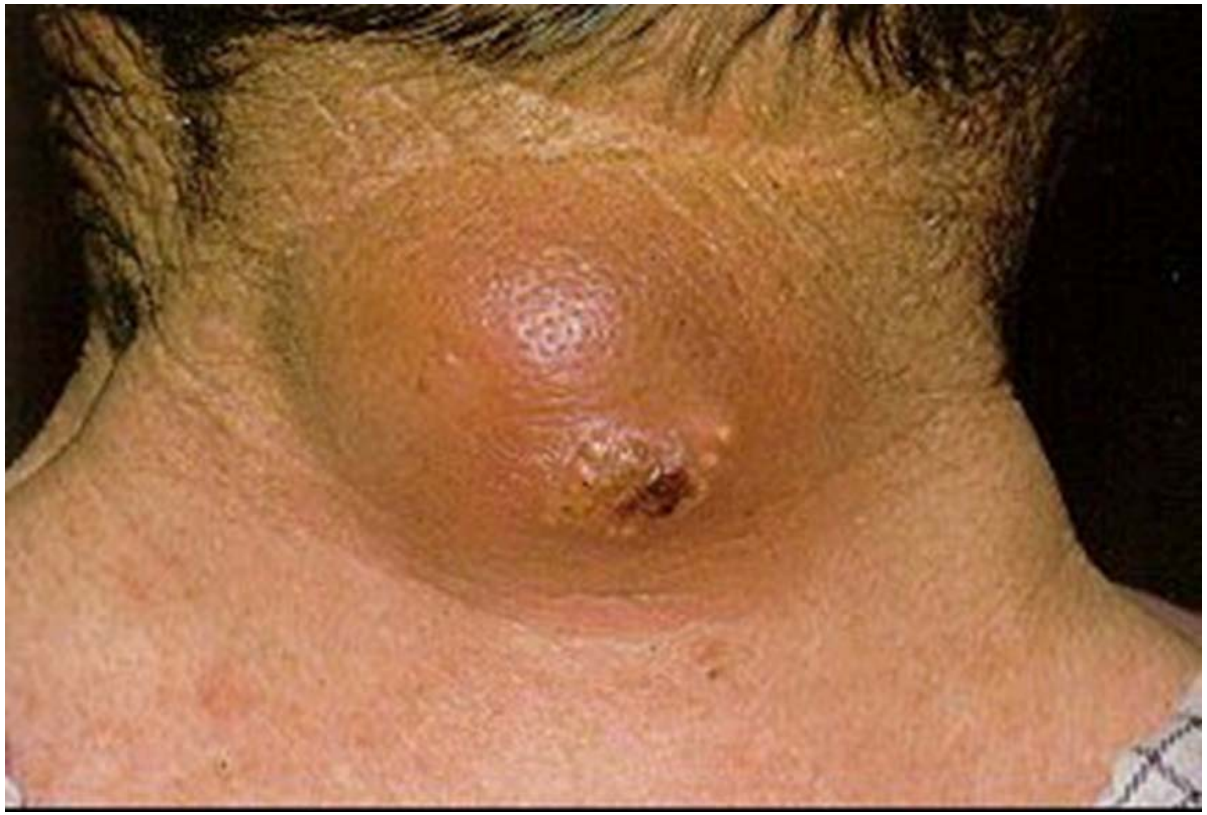
Pseudofolliculitis Barbae

- “ Razor Bumps”
- Common in African-American males
- Result of close shaving and ingrown hairs, and inflammation
- Not infectious
- Rx: Remove ingrown hairs, Electric razors, or hydrating shaving gels
- Steroids?

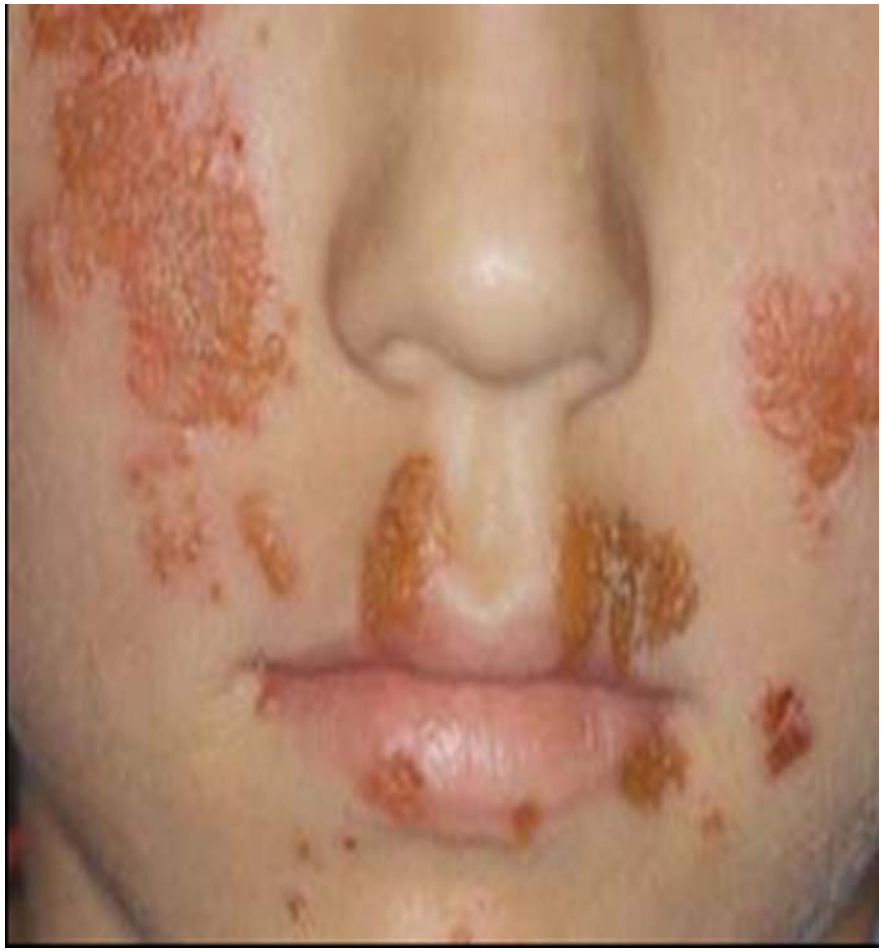


Boils (Furuncle)

- Infected hair follicle that becomes an abscess
  - Walled off collection of pus
- Red, hot, swollen, and painful
- Rx: incision & drainage
- Hot compresses for early lesions
- Oral ATB's with cellulitis



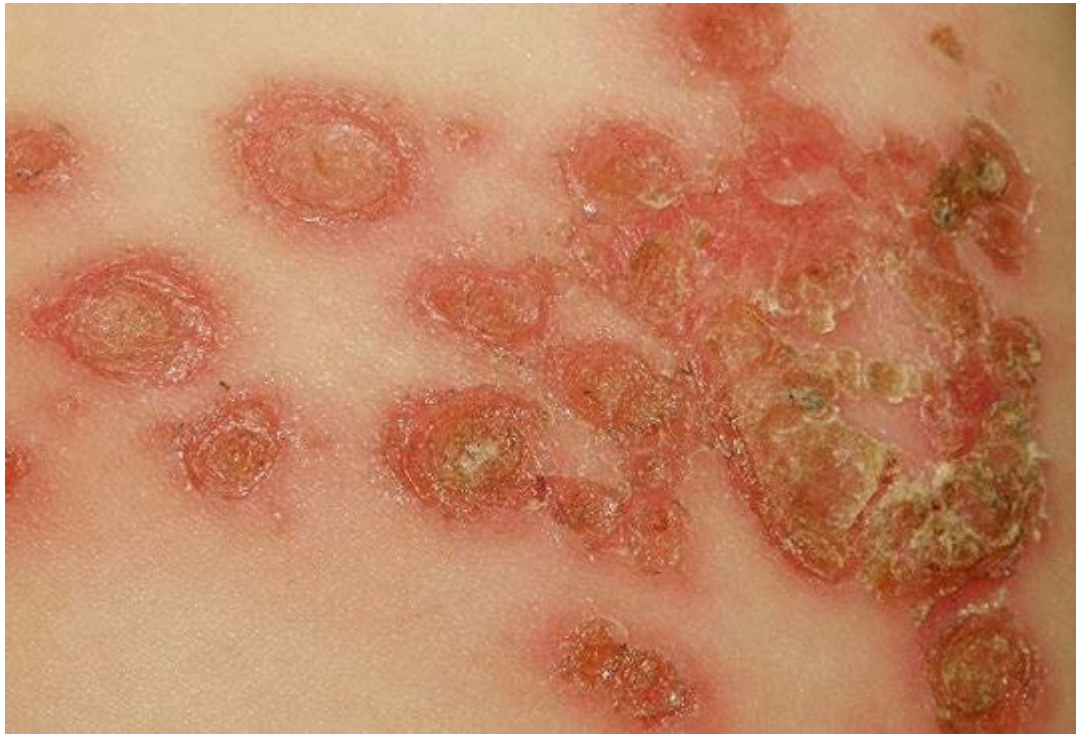
Impetigo



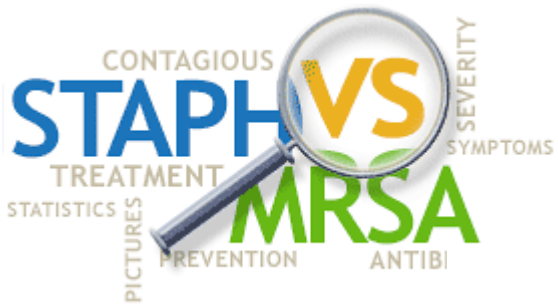
- Common & Contagious
- Strep or Staph
- Small vesicles that rupture
- Yellow crust then forms
  - Honey Colored
- Erythema and induration rare
- Minimal pain
- Spread easily
- Face is most common location

Impetigo Treatment

- Mupirocin (Bactroban) topical ointment
- Oral ATB's –Keflex or Zithromax
- Topical: Warm soapy scrubs to remove crusts
- If not improving may need to consider MRSA
- RTP: All lesions Scabbed and dry, & Oral ATB's for 72 hours



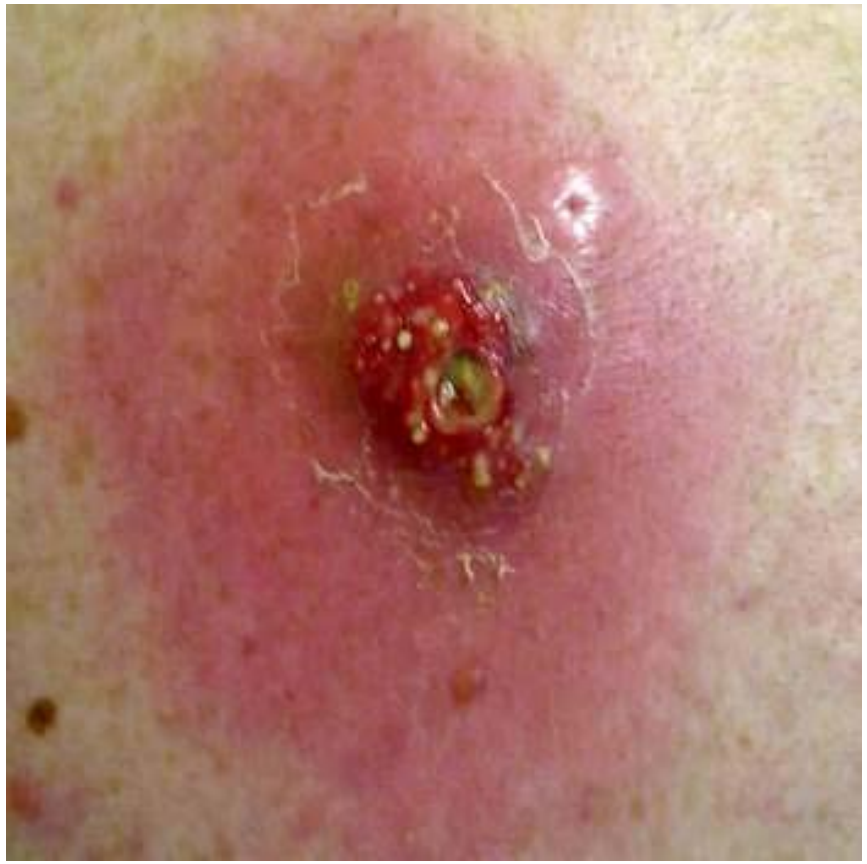
Methicillin-Resistant Staphylococcus Aureus--MRSA



- Originally only in hospitals
- Now common in the community
- Can be lethal
- Transmission: skin to skin, clothing, towels, and equipment
- More common in those with previous ATB use

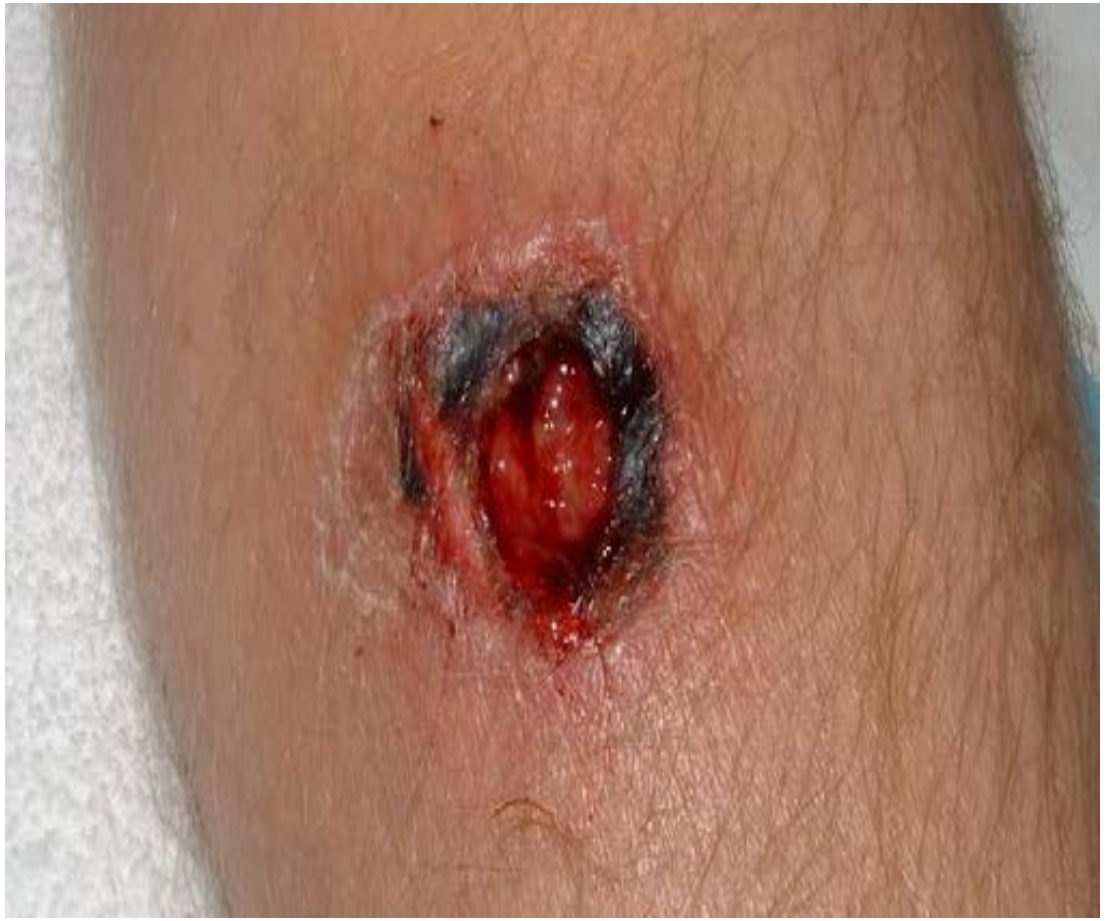
MRSA

- Reported in almost all sports, but more common in FB, Rugby, Wrestling
- Presents as folliculitis, cellulitis, or abscesses.
- Non-healing wound 3-4 days in otherwise healthy individual is considered MRSA until proven otherwise
- Often mistaken for spider bites
- Usually remains localized



MRSA--Treatment

- Incision & Drainage or Debride—Send Cultures
- Dressing changes
- Antibiotics often not necessary
- Used for large lesions, fever, cellulitis
- Antibiotics
  - Clindamycin,
  - Bactrim
  - Tetracycline

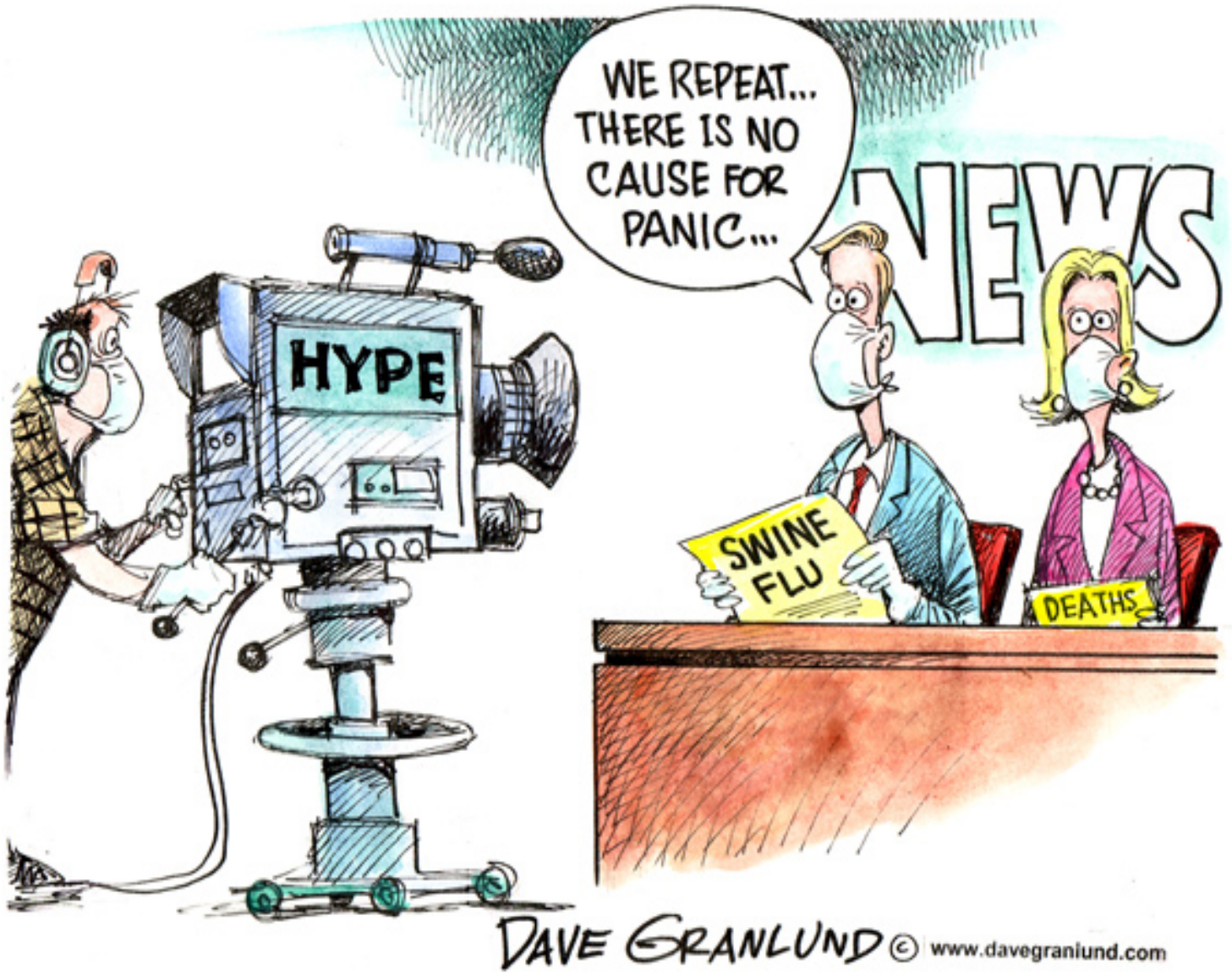


MRSA—Return to Play

- No play with systemic symptoms
- Infection localized-may cover for some sports
- When lesions are dry and scabbed over-OK to play
- Documented MRSA-Wrestling
  - 10 days of ATB Rx, or all lesions scabbed, whichever occurs last

MRSA--Prevention

- Educate Staff & Athletes
- Enforce Hand Washing
- Shower/Scrub after Workouts
- Use Soap Dispensers, not bars
- Don’t share personal items, ie towels
- Wash and dry clothes/equipment
- Report all skin lesions
- Perform proper wound care/coverage
- Disinfect equipment, showers, etc.
- Use ATB’s appropriately


WE REPEAT... THERE IS NO CAUSE FOR PANIC...
HYPE
NEWS
SWINE FLU
DEATHS
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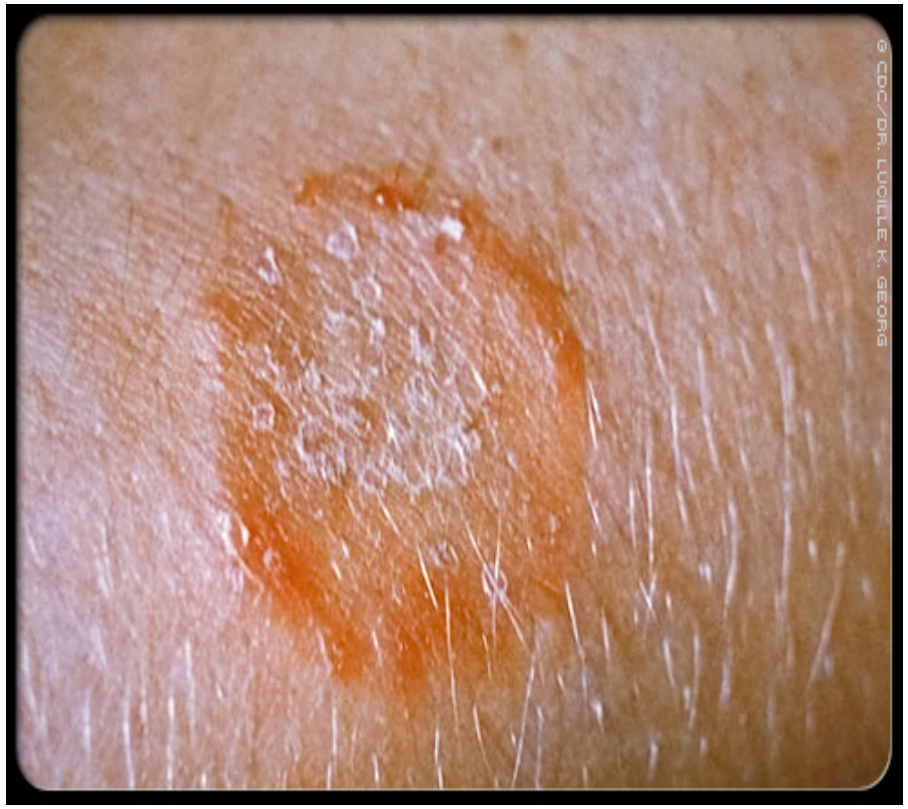
Fungal Infections

- Tinea Corporis
  - "Ringworm"
- Tinea Pedis
  - "Athlete's Foot"
- Tinea Versacolor

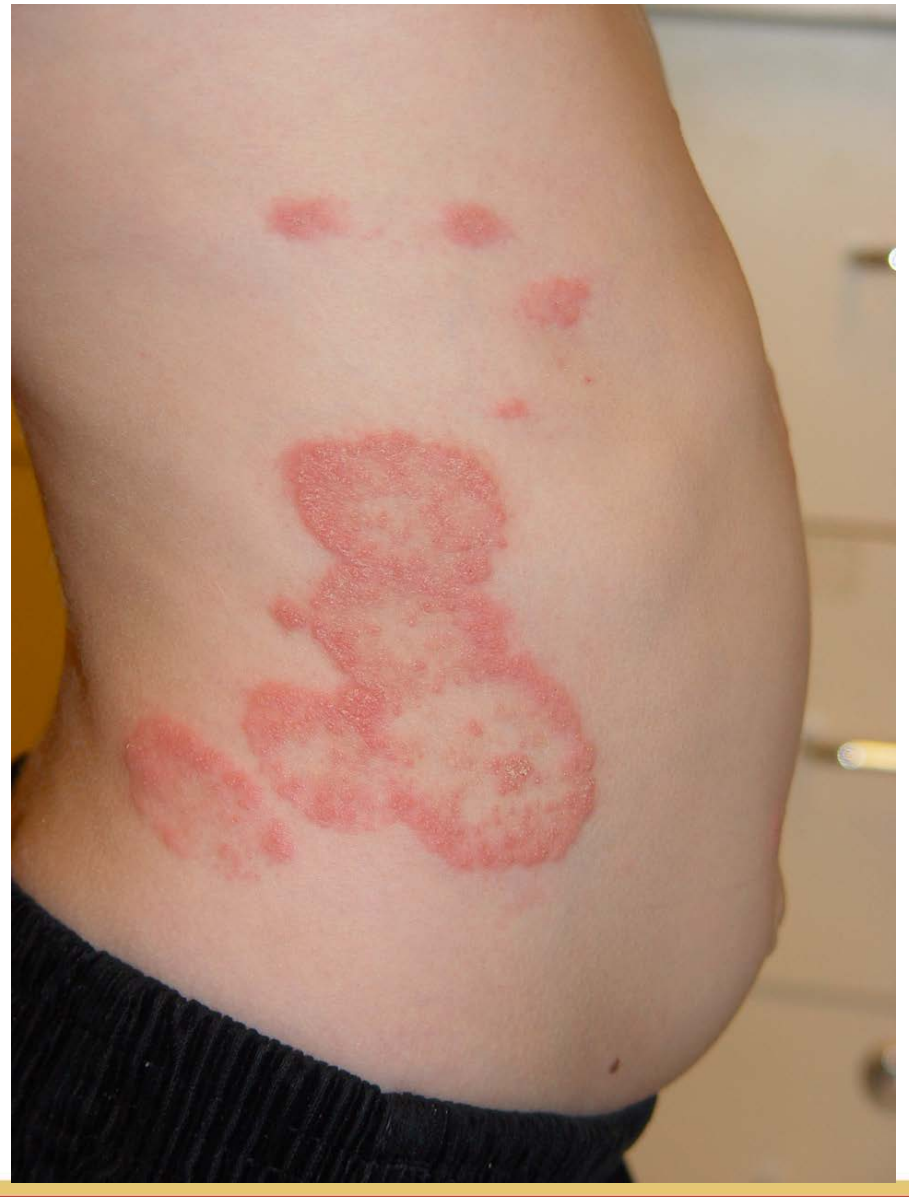
Tinea Infections



- Infection of the skin caused by a group of fungi
- Fungus infections grow in warm, dark enviornments
- Common in Wrestling
- Usually itchy
- Rarely painful
- Many individuals are susceptible, others are relatively immune

Tinea Corporis (Ringworm)

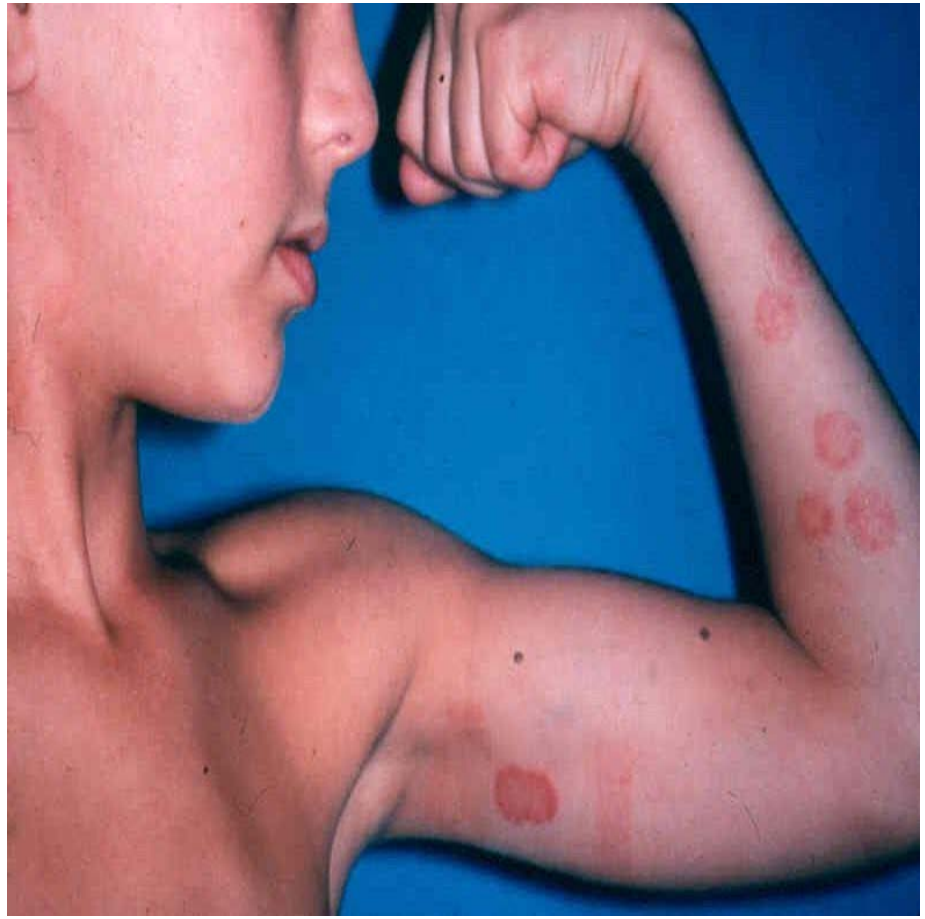
- A fungal infection of the skin found on the body



Ringworm Treatment

- All tinea infections except for scalp can be treated with topical creams(Lamisil)
- Oral Meds for resistant infx, or scalp infx
- Study on HS Wrestlers in OH used oral meds to prevent tinea
  - Reduced Infx rate from 67% to 3%
  - 3 doses before season and 3 doses mid-season

Brickman, CJSM, '09

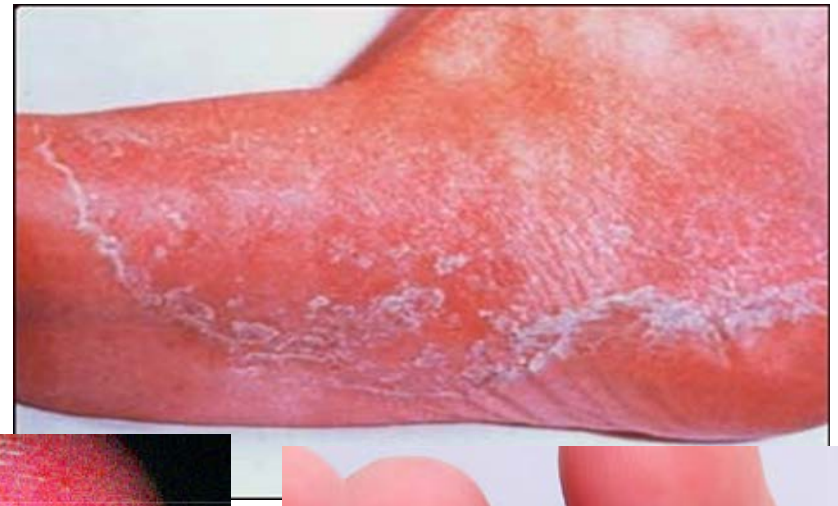


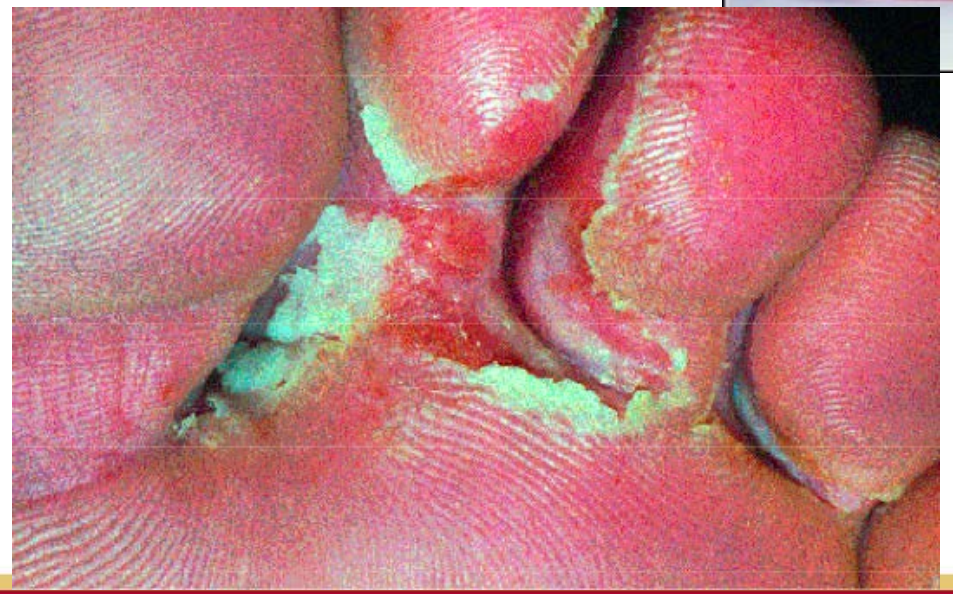
Tinea & Return to Play

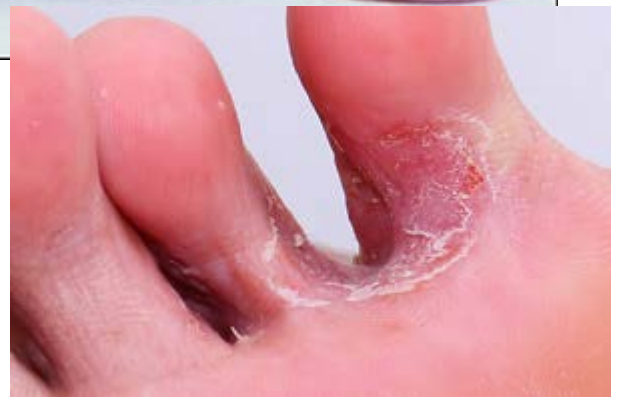
- Oral or Topical RX for 72 hours on skin and 14 days on scalp (NCAA)
- Prevent spread by early diagnosis, early treatment and covering all suspicious lesions

Tinea Pedis (Athlete's Foot)

- Dry, cracked skin
- Common between 1st/2nd toes
- Itchy
- Red
- c/o burning

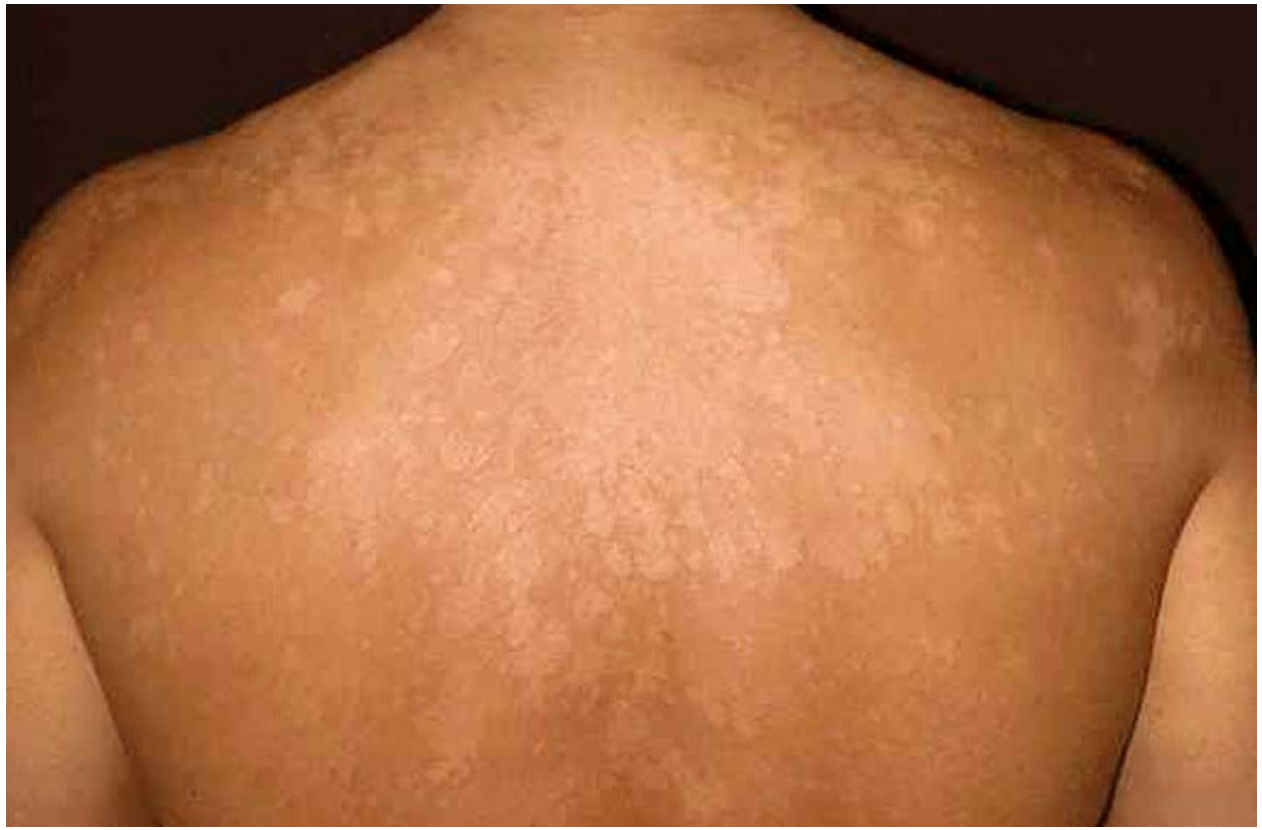






Tinea Versicolor (TV)

- Circular lesions that appear either lighter or darker than adjacent unaffected skin
- Most common warm weather related skin problem
- Common located on the back and chest



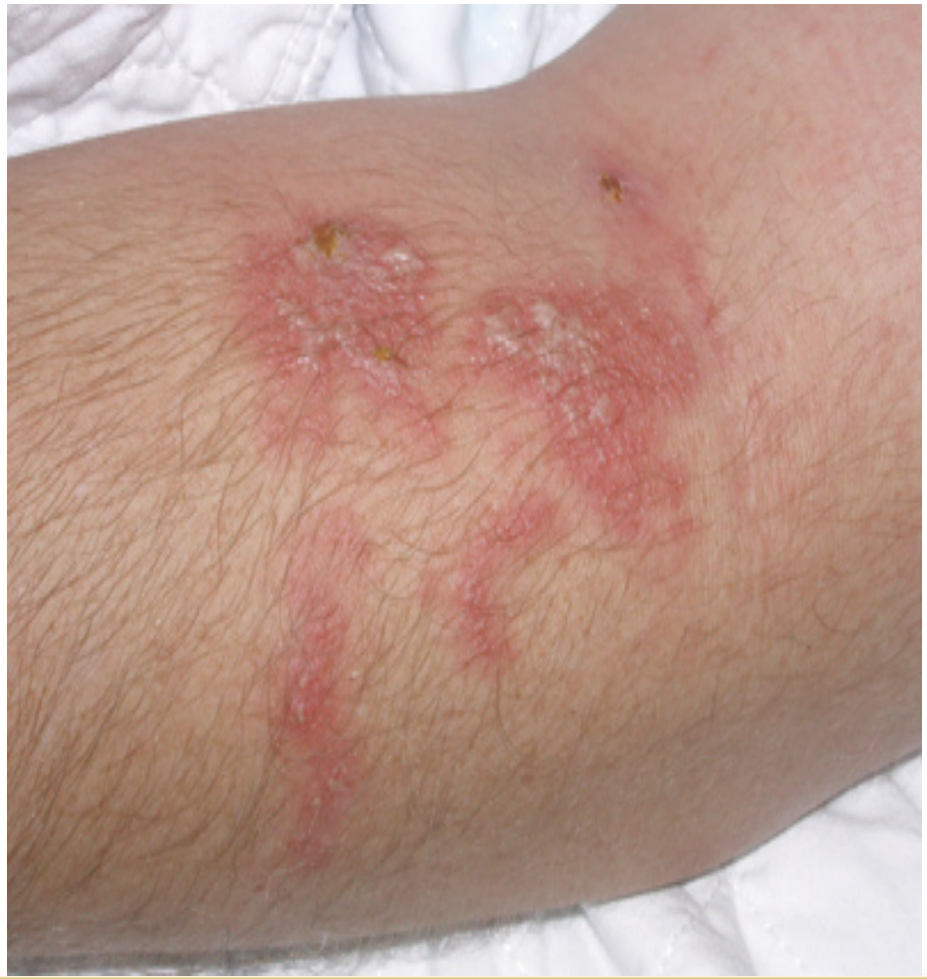
Conclusions

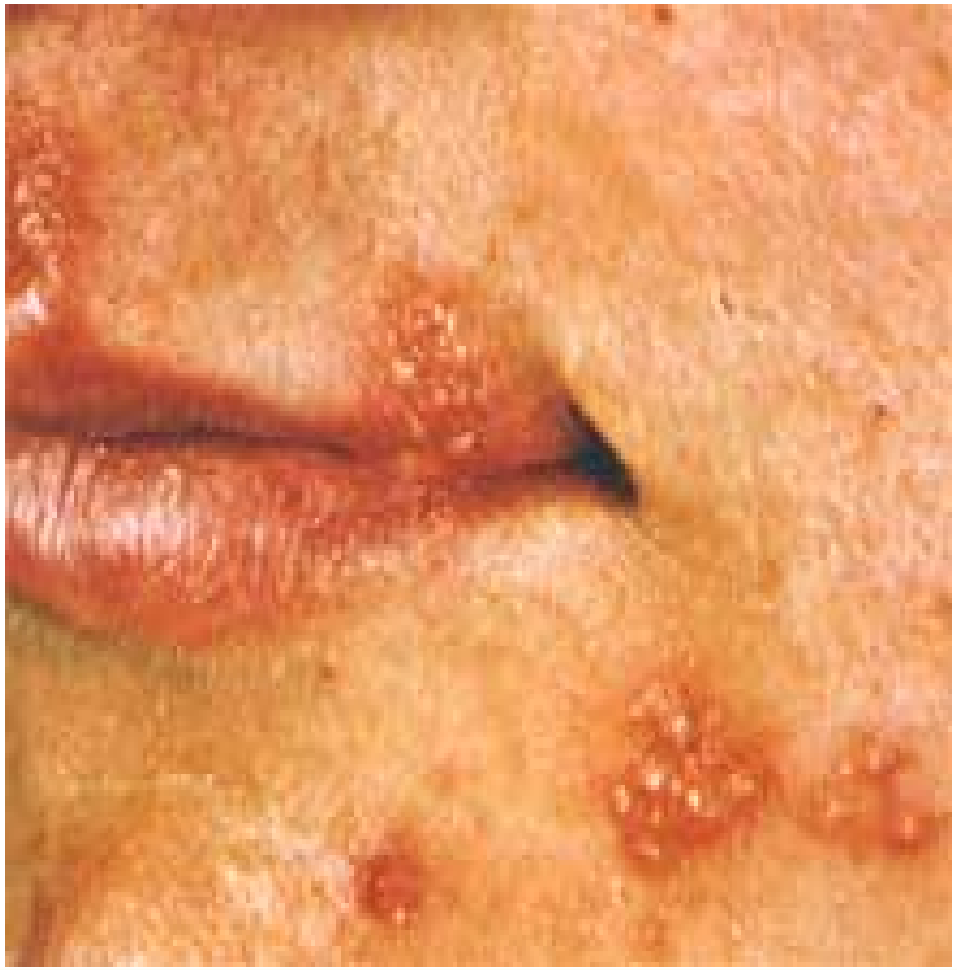
- There is more to athletic training then just orthopedic injuries
- Understanding the pathology of the condition will help you understand the signs and symptoms
- Pay attention during your General Medical Course
  - Knowing what you are looking for is extremely important
    - Because we deal with these type of conditions far less then orthopedic injuries

Herpes Gladiatorum

- Herpes Simplex virus type 1 (HSV-1)
- Skin to skin contact (not on mats)
- Maybe 20-40% college wrestlers infected
- Grouped vesicles on red base
- Recurs @ same site often- a lifetime infection
- Prodromal symptoms common
    - May itch, burn, or be painful

Herpes Gladiatorum





Herpes Risks

- Ocular herpes
- Encephalitis
- Meningitis
- Team Outbreak
- Recurrent infections
- Limit practice time

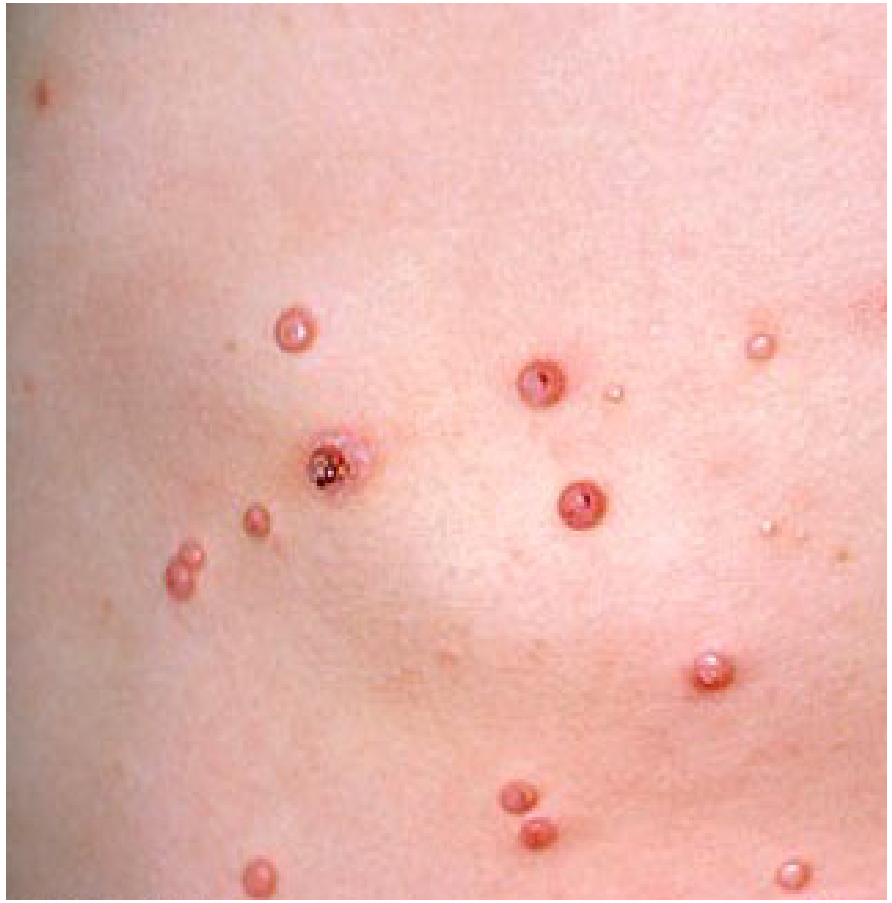
Herpes Treatment

- Treatment may shorten course & reduce transmission
- Acyclovir 400 mg tid x 5 days $10 (90 day supply)
- Valacyclovir 500 mg bid x 5 days $8 a pill
- Prophylaxis is usually beneficial for wrestlers with frequent outbreaks

Herpes—Return to Play

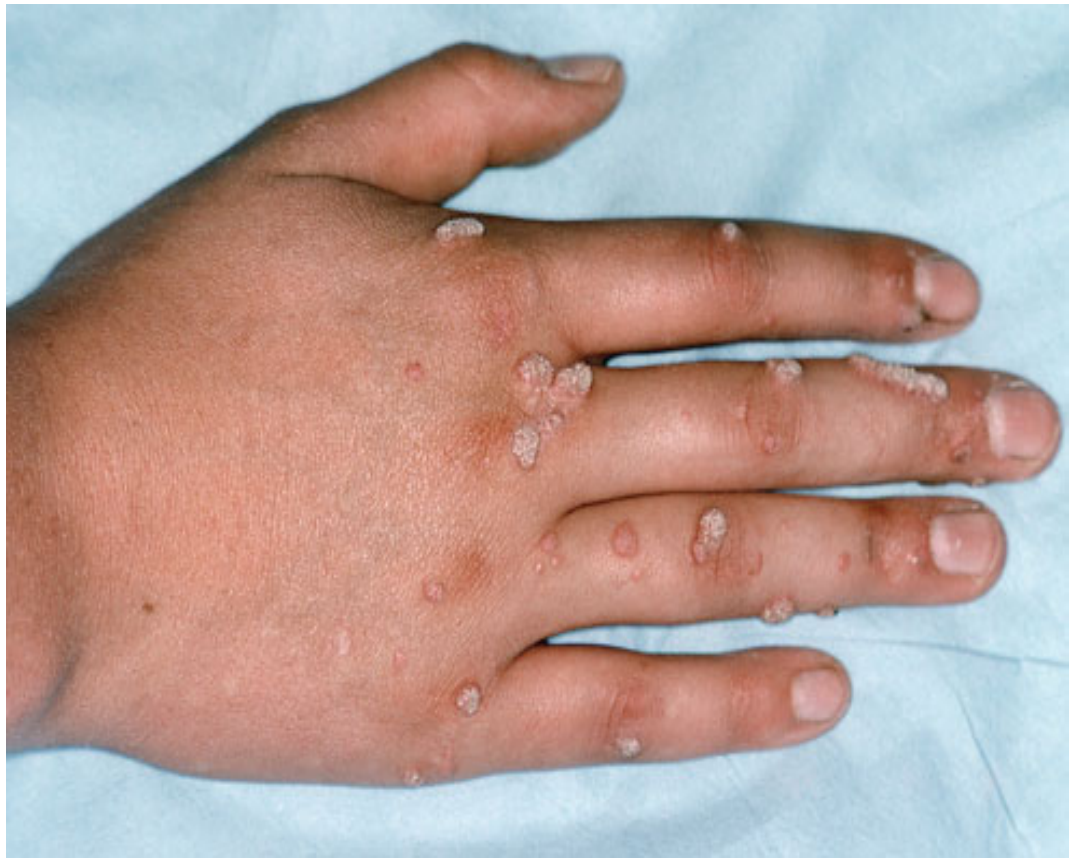
- NCAA Guidelines
  - All lesions dry and scabbed over
  - Rx for 10 days for primary episode
  - Rx for 5 days for recurrence
  - May not cover and wrestle with communicable lesions before the written Rx period has elapsed
  - Release form should be completed in most cases by physician

Molluscum Contagiosum



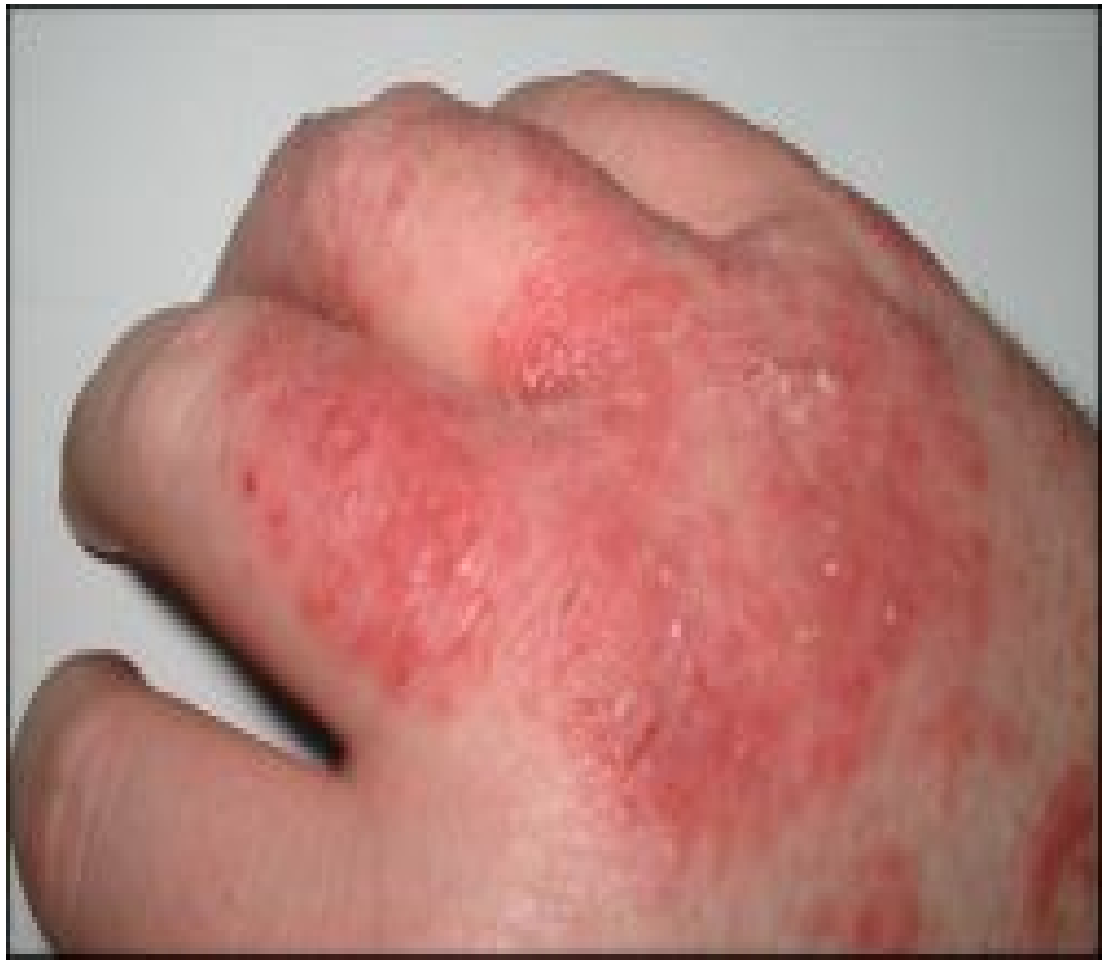
- Viral Infection
- 2-5 mm lesions
- Umbilicated, flesh-colored, dome-shaped, papules
- Not on palms or soles
- Easily spread
- Treated with curettage, or cryotherapy

HPV (Warts)



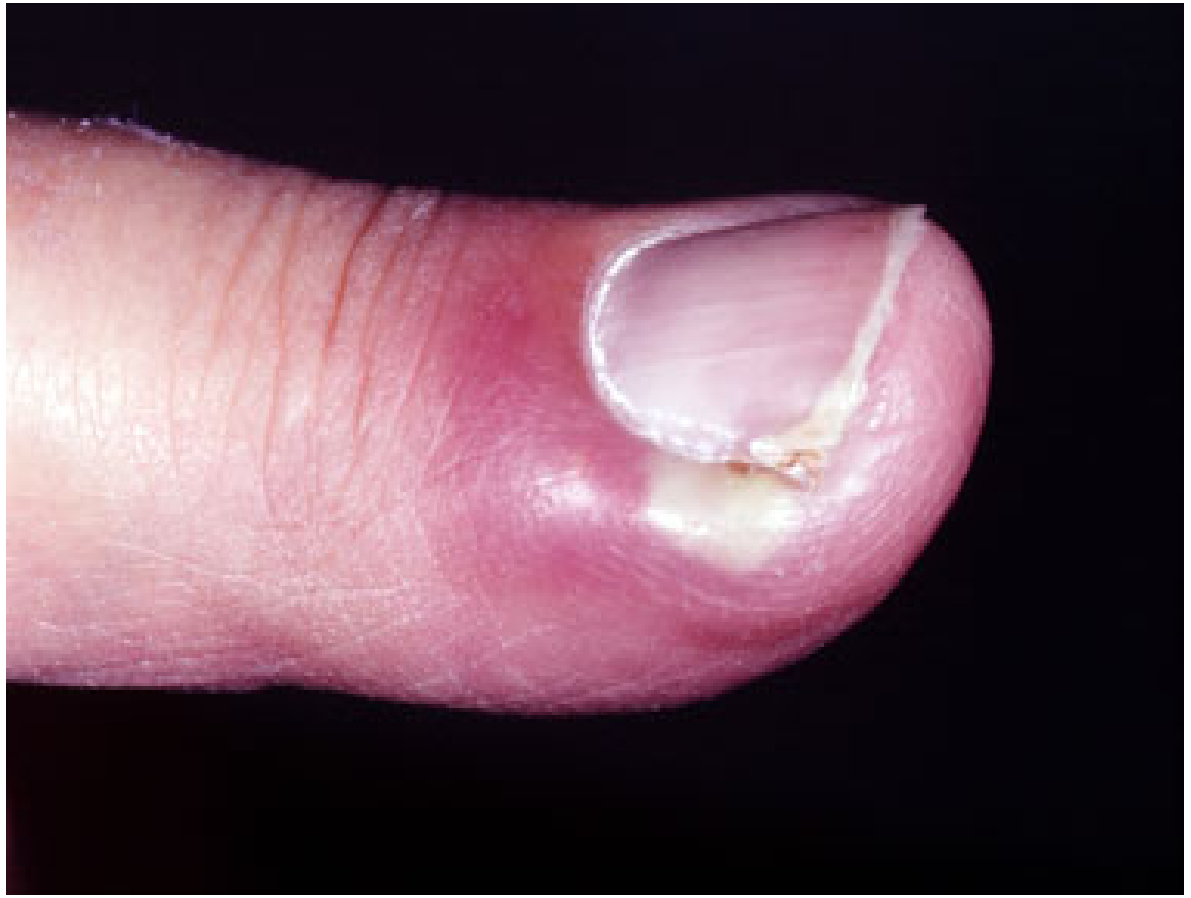
- Viral Infection
- May resolve spontaneously
- Treated with cryotherapy or salicylic acid topically

Eczema



- Most common skin disease
- Allergic type rash
- Erythema, scale, possible blisters
- Topical Steroids, Lubricating Lotions, Antibiotics if infected

Paronychia



- Infection of proximal and lateral nail fold
- Drainage is the key to resolution

RETURN TO PLAY

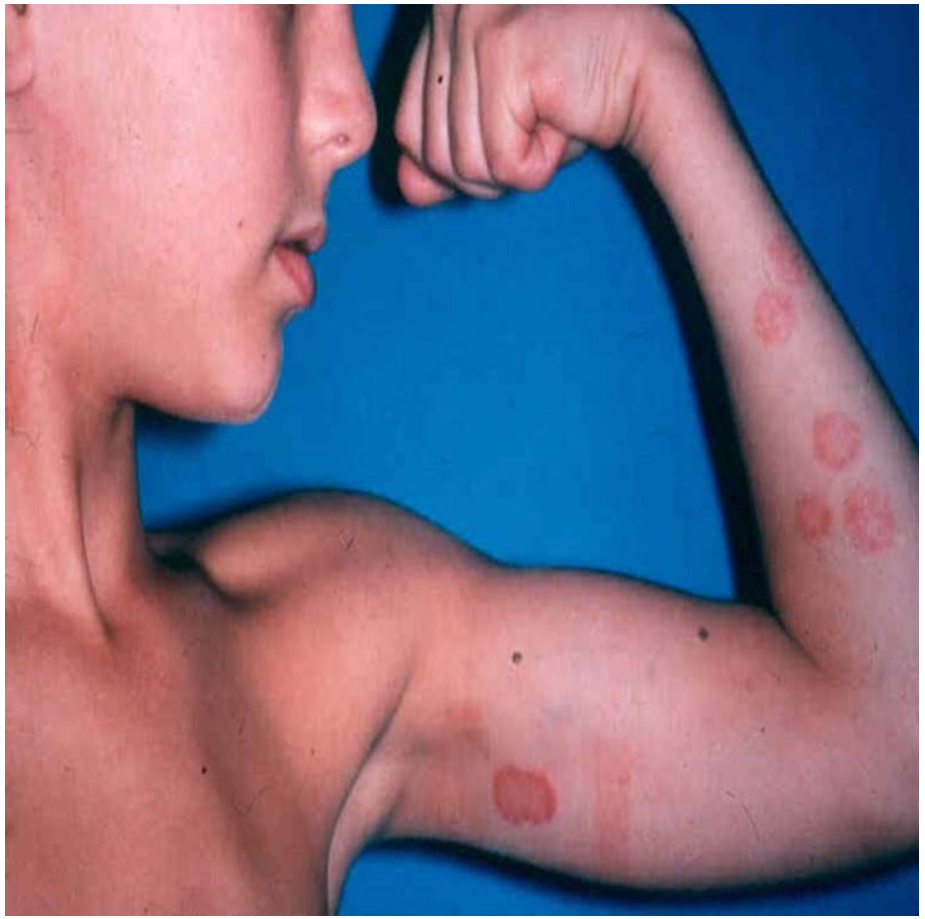
are your athletes at risk?

- A decision must be made whether the athlete will be allowed to return to participation
- The health and safety of the athlete is the primary concern
- Protection of the other athletes, coaches, and personnel is the secondary concern
- High contact sports require proper protection if the athlete is to return to participation

Athletic Participation and Skin Infection Decisions

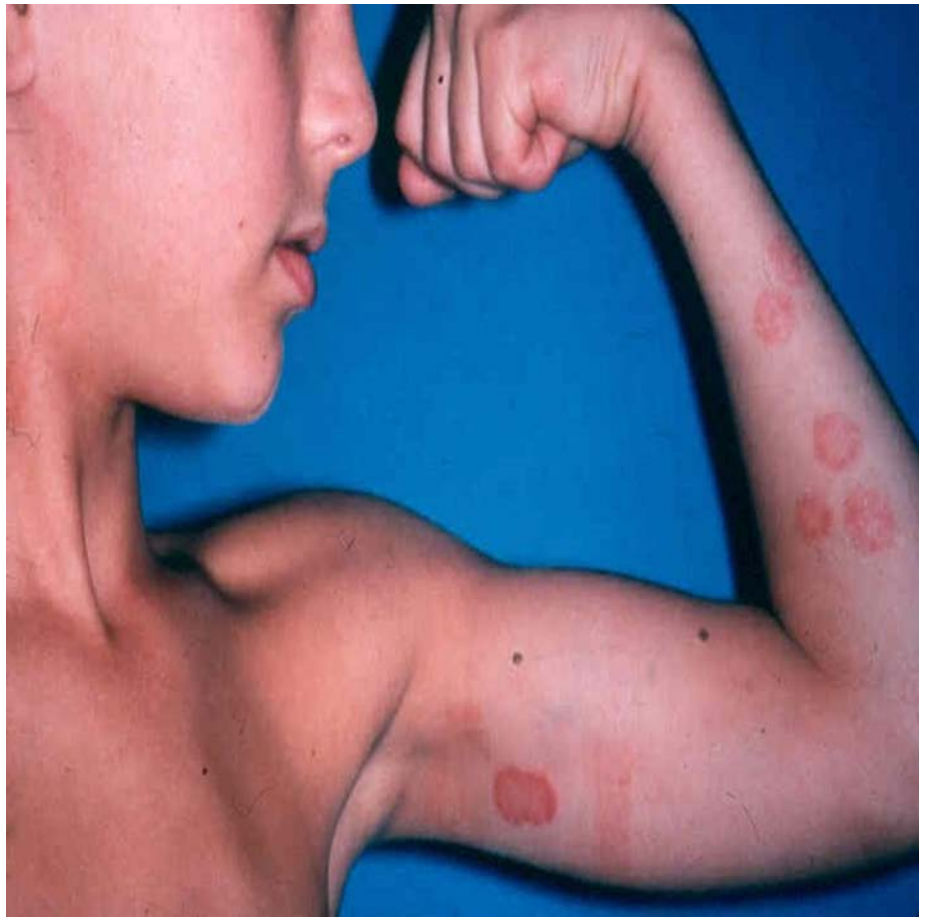
- Common sense should prevail
- Use NCAA guidelines
- Following infections are considered hazardous according to NCAA recommendations
  - Fungal
  - Herpes
  - Impetigo

Name that Skin Funk!



Treatment/Care - Fungal

- Use anti-fungal cream/powder
- Can also use oral meds in cases with common outbreak/extended time period
- Covered with non-permeable dressing for athletic participation
- An athlete with outbreak must have been on meds for 3 days prior to competing in NCAA wrestling event, lesions crusted and covered



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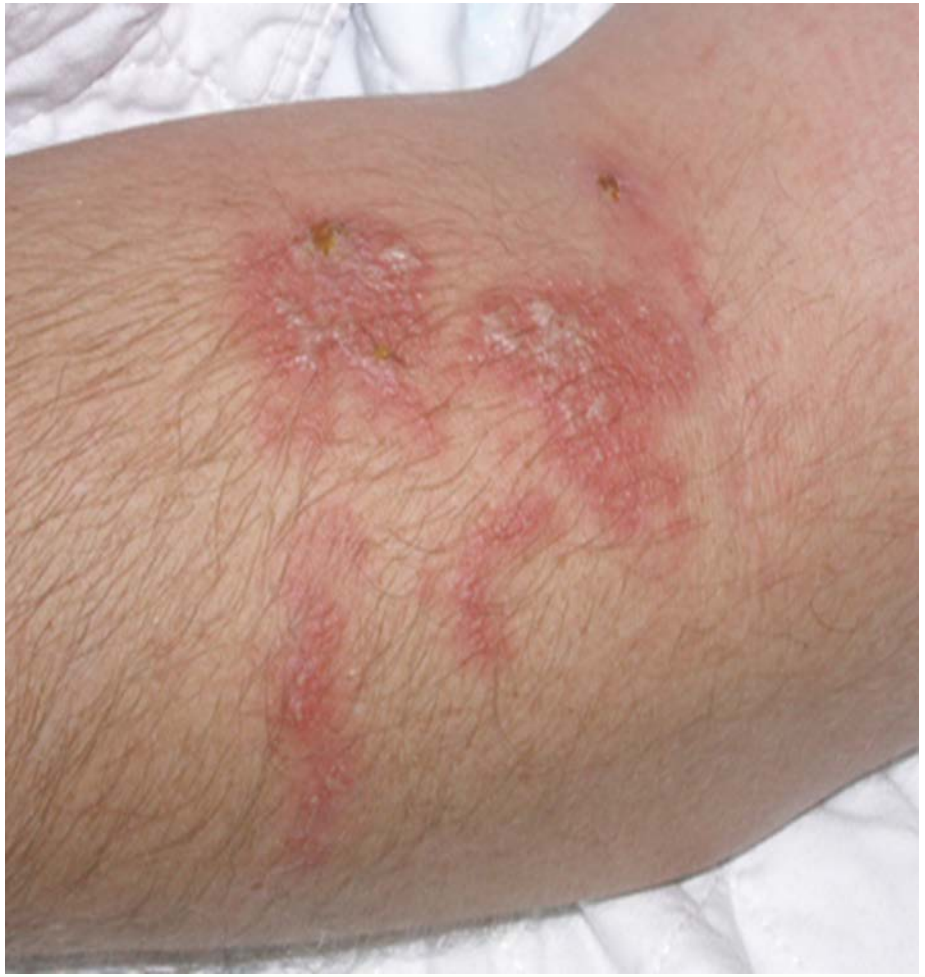
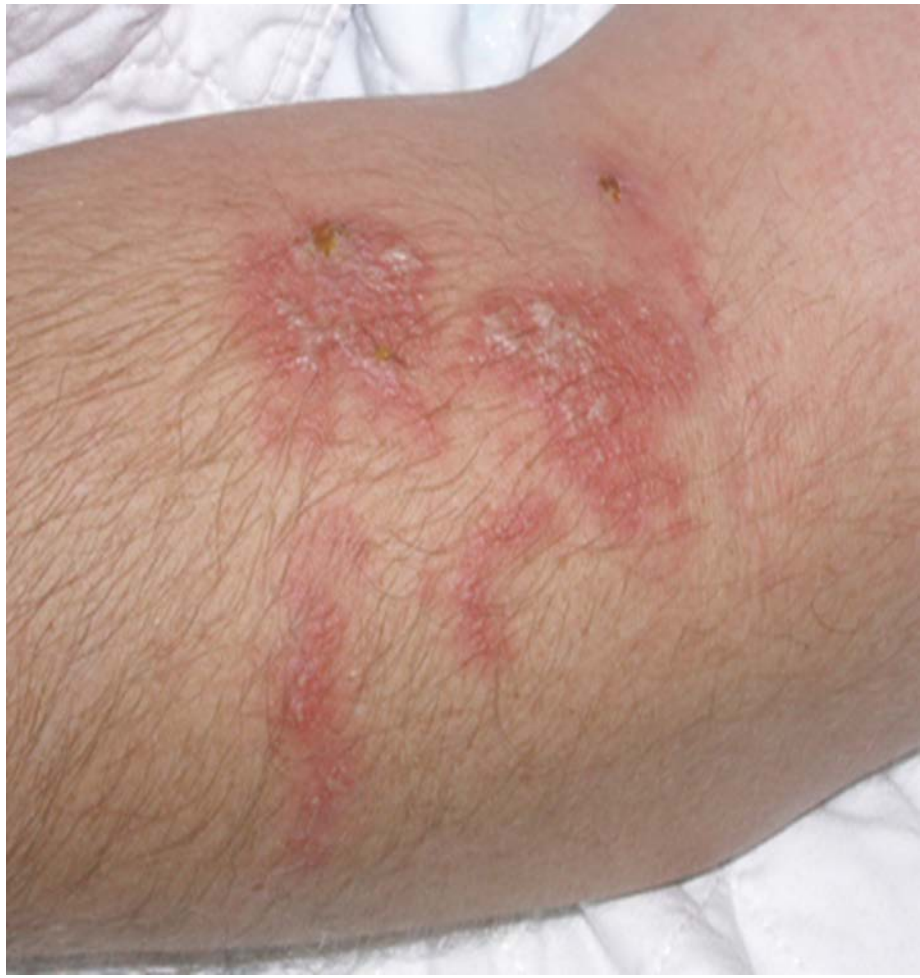
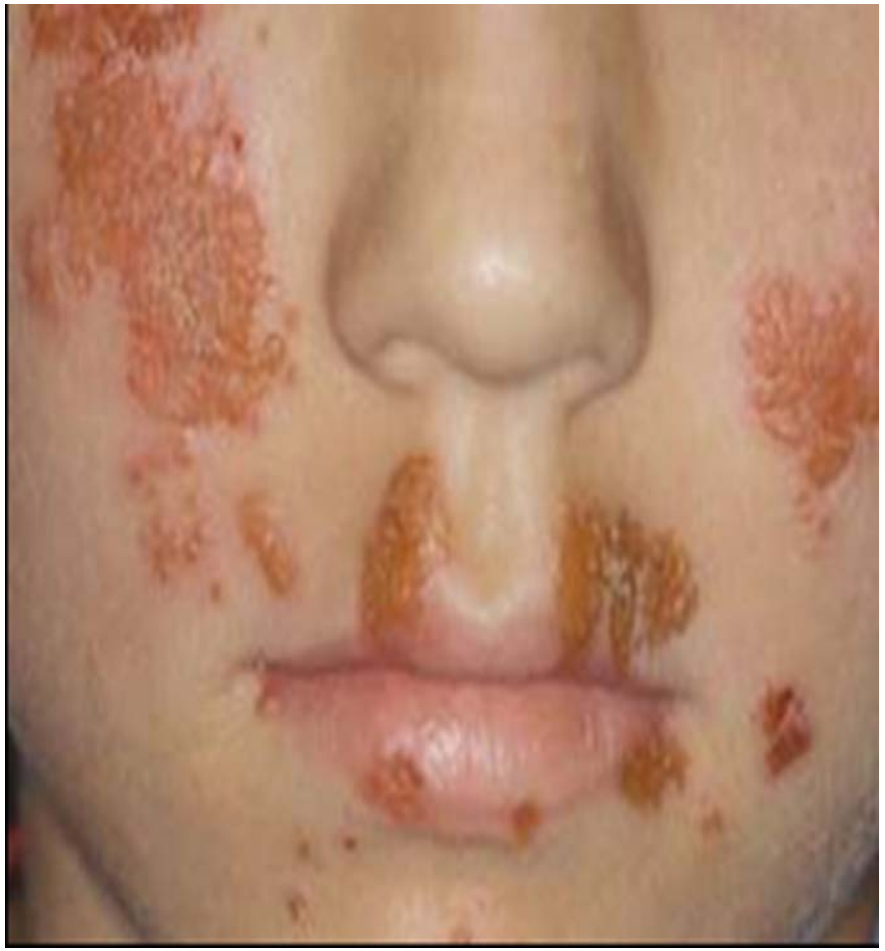


Treatment/Care - Herpes

- At first onset of noticeable outbreak participant must be withheld from participation
- No return to activity until all lesions have a hardened crust
- Anti-viral meds (valtrex, acyclovir, zovirax) may be used
- An athlete with outbreak must have been on meds for 5 days prior to competing in NCAA wrestling event, lesions crusted and covered
- No new lesions for 72 hours

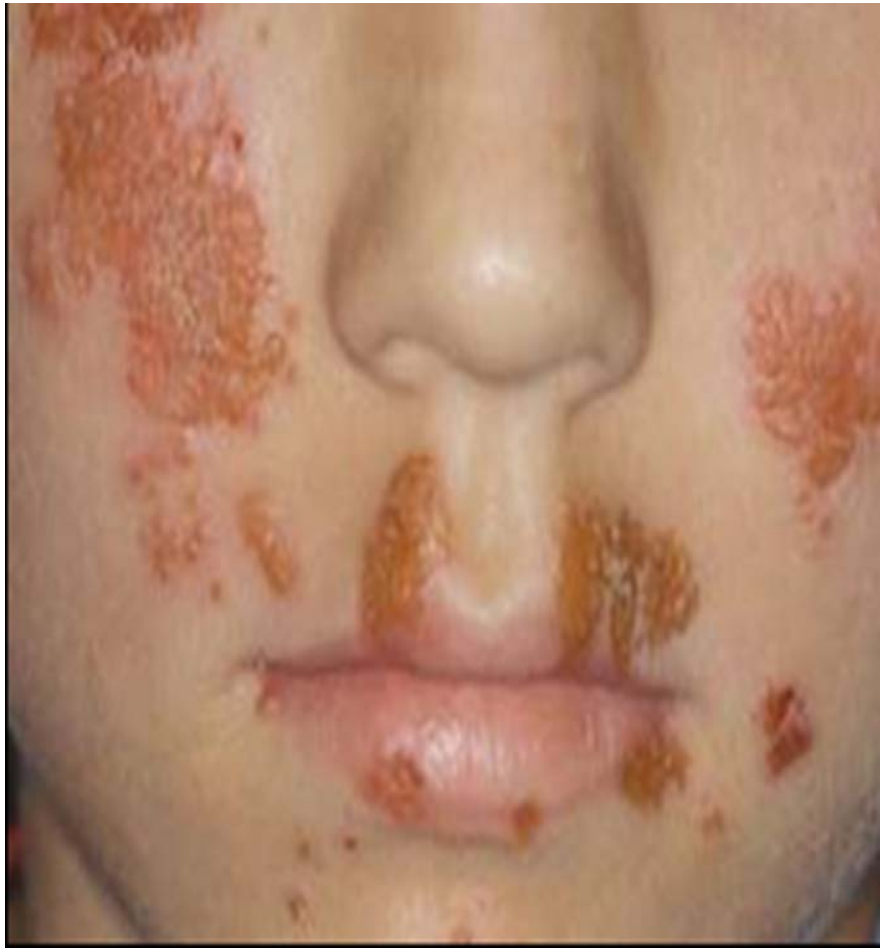


Name that Skin Funk!



Treatment/Care - Impetigo

- At first onset of noticeable outbreak participant must be withheld from participation
- No return to activity until all lesions have a hardened crust
- Once crusted over the lesion may be covered by a nonpermeable dressing
- An athlete with outbreak must have been on meds for 3 days prior to competing in NCAA wrestling event, lesions crusted and covered
- No new lesions for 48 hours



Thank You!

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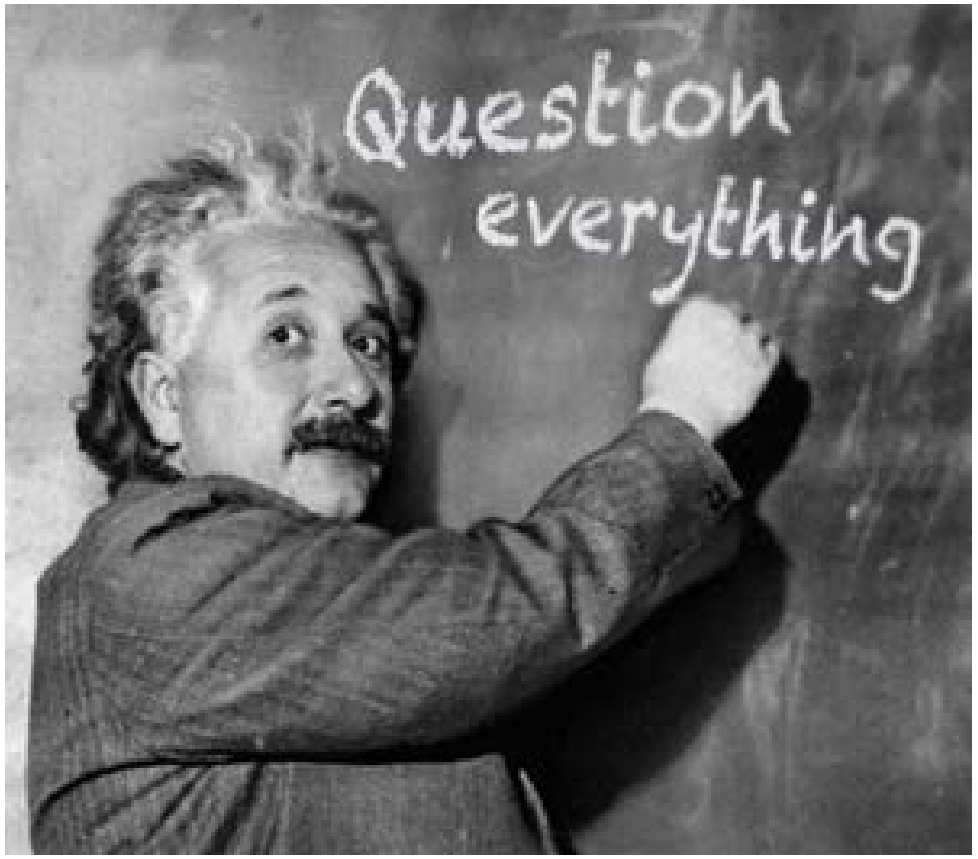
Inspiring Excellence.

Questions??



Resources/References

- Google Images
- *CA-MRSA Infection Incidence and Care in High School and Intercollegiate Athletics*; Tim Braun, Leamor Kahanov, Kathleen Dannelly, Christine Lauber; American College of Sports Medicine, August 2016; 1530-1538
- Likeness LP. Common Dermatologic Infections in Athletes and Return to Play Guidelines. The Journal of the American Osteopathic Association, June 2011, Vol. 111, 373-379.
- Brickman, K, Einstein, E, Sinha, S, Ryno, J, Guiness, M. Fluconazole As a Prophylactic Measure for Tinea Gladiatorum in High School Wrestlers. Clinical Journal of Sports Medicine, Sep 2009; 19(5); 412-414
- Bickers DR, Lim HW, Margolis D, et al. The burden of skin diseases: 2004 a joint project of the American Academy of Dermatology Association and the Society for Investigative Dermatology. J Am Acad Dermatol. Sep 2006;55(3):490-500.
- Thorpe KE, Florence CS, Joski P. Which medical conditions account for the rise in health care spending? Health Aff (Millwood). Jul-Dec 2004;Suppl Web Exclusives:W4-437-445.
- Murphy GF. The skin. In: Cotran RS, Kumar V, Collins T, eds. Robbins pathologic basis of disease. 6th Edition . Philadelphia: WB Saunders; 1999:1170-1213.
- Pleacher MD, Dexter WW. Cutaneous fungal and viral infections in athletes. Clin Sports Med. Jul 2007;26(3):397-411
- Carroll JA. Common bacterial pyodermas. Taking aim against the most likely pathogens. Postgrad Med. Sep 1996;100(3):311-313, 317-322.
- Kluytmans J, van Belkum A, Verbrugh H. Nasal carriage of Staphylococcus aureus: epidemiology, underlying mechanisms, and associated risks. Clin Microbiol Rev. Jul 1997;10(3):505-520.
- Adams BB. Dermatologic disorders of the athlete. Sports Med. 2002;32(5):309-321. Gorwitz RJ, Jernigan DB, Powers JH, Jernigan JA. Strategies for Clinical Management of MRSA in the Community: Summary of an Experts' Meeting Convened by the Centers for Disease Control and Prevention. 2006; http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca.html
- Klevens RM, Morrison MA, Nadle J, et al. In vasive methicillin-resist ant Staphylococcus aureus infections in the United States. JAMA. Oct 17 2007;298(15):1763-1771