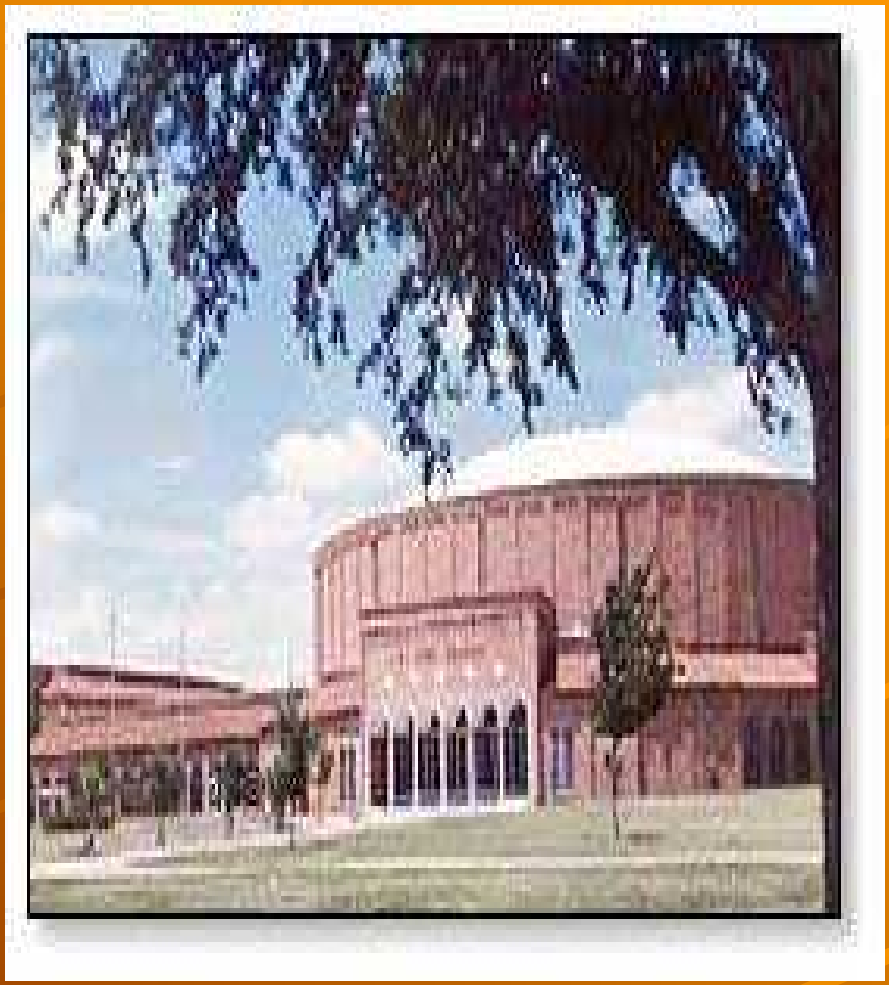
Staphylococcus aureus MRSA

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Pre-Test

- Bacteria cause disease only at the site of infection
- Epidemiology is the analysis of a disease process within a specific population
- A majority of athletes that complain of a “spider bite” usually are bitten by a Brown Recluse
- CA-MRSA is largely a disease of debilitated people

MRSA

- Methicillin-resistant Staphylococcus aureus.
- Referred to as Staph
- Researchers have been stunned at how quickly MRSA bacteria have spread through American cities, suburbs and rural areas

What is MRSA

- Methicillin-resistant Staphylococcus aureus
  - CA-MRSA
    - Community-acquired
  - HA-MRSA
    - Hospital-acquired MRSA



Staphylococcus areus: Epidemiology

- Mid 1970s first reports of resistant isolates(<10% of all isolates USA)
- Currently >55% of all Sa isolates are resistant



Risk Groups for S. aureus Infection

- Renal Failure
- Dibetetes Mellitus
- IVDU
- Immune-suppressed
- Chronic liver disease
- Cardiovascular disease
- Prisons
- Schools
- Military
- Athletes



Staphylococcus aureus: Major Syndromes of CA-MRSA

- Skin/Soft tissue
  - History of “Spider bite”
  - Athletes, college dorms
  - Boils, Cellulitis, Folliculitis, Impetigo, and Paronychia



- Community Acquired Pneumonitis
  - Predominately young otherwise healthy adults
  - Influenza like symptoms
  - Associated with skin infections with rapid progression to pneumonia
  - High fatality rates

Boils

- An abcess within the skin.
- Also called furuncle
- It is estimated that 25% of the population are staph. carrier on the surface of the skin
- Also associated with Folliculitis



Boils



Boils



Cellulitis

- A localized skin infection which can make the skin red, painful, warm, and swollen



Cellulitis

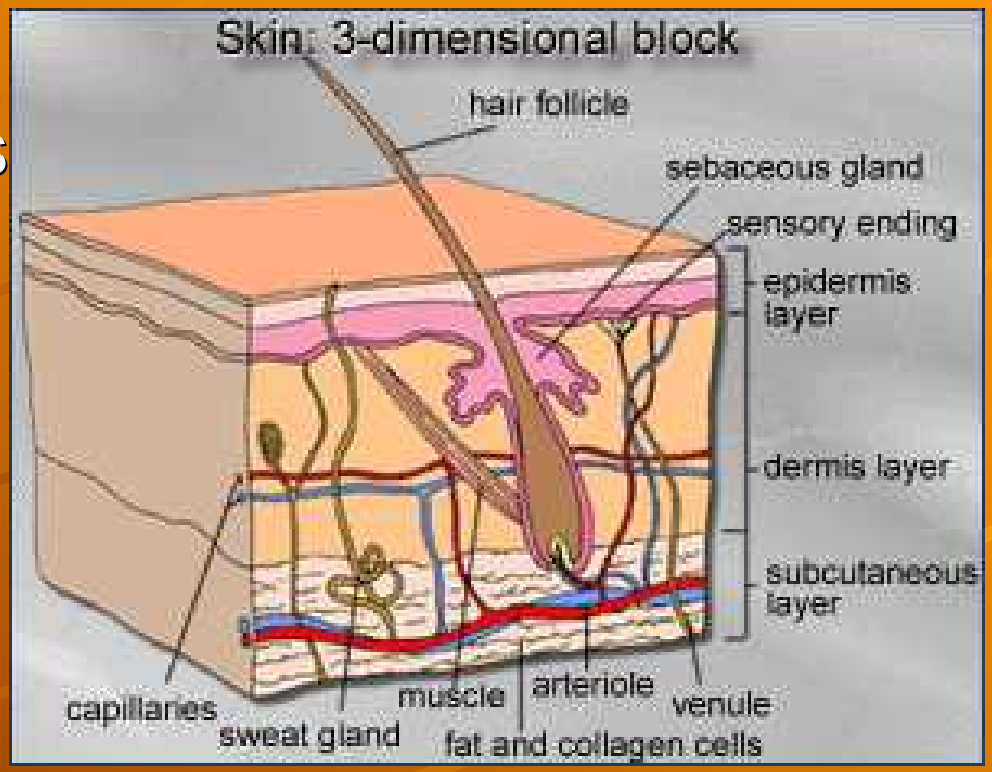


Cellulitis



Folliculitis

- An bacterial infection of the skin that originates with in the hair follicles
- Also associated with Boils



Folliculitis



Folliculitis



Folliculitis



Impetigo



- Causes blisters or honey colored crusted lesions on the skin
- Infection is usually predisposed by different factors
  - General diseases lowering the general defense mechanisms
  - Malnutrition
  - Mild trauma to the skin
  - Insect bites
  - Poor hygiene

Impetigo



Bullous Impetigo



Paronychia

- An infection of the skin folds of the nails



Paronychia



Necrotizing Fasciitis

- Is an infectious emergency but is easy to recognize



Toxic Shock Syndrome

- Is a multi-system infection disease precipitated by S. aureus
- Mortality rate is high
- It is more common in Females
- Symptoms include
  - Influenza like symptoms
  - Fever
  - Confusion
  - Signs of soft tissue infection
  - Also can have
    - Chills, Nausea, Vomiting and Diarrhea



Treatments

- Rx
  - Vancomycin
  - Linezolid (Zyvox)
  - Doxycycline or Minocycline
  - Bactrim
  - Rifampin
  - Daptomycin
  - Augmentin
  - Duricef
  - Cephalexin (Keflex)
  - Other
- Excise and drain
- Topical
- Warm compresses
- More serious surgical drainage
- Body wash with hibiclens

Who is at Risk



- All athletes
- Health care providers (Athletic Trainers)
- Coaches
- Equipment personel

A Good Offense Is Still The Best Defense!

Prevention

- An ounce of prevention is worth a pound of cure



- S. aureus bacteria commonly lives on or colonizes on the skin of children and adults. It especially common to find it in the nose.

Prevention Continued

- Hand Washing
- Cleaning of clothing (Uniforms) and Athletic Training Facilities, Locker rooms
- Follow Rules for Blood Borne Pathogens



Prevention Continued

- Education of the Athletes
  - Shower after activity (Use anti-bacterial soap)
  - Clean all wounds
  - Report all spider bites, pimples, ect.
  - Don't share personal items



Prevention Continued



- Eradication of MRSA from nasal passages may consist of a topical application of an antibiotic ointment such as mupirocin or fucidin, tid for 3-5 days

Post Test

- CA-MRSA affects predominantly healthy adults and children
- Necrotizing fascitis is not an infectious emergency and is tough to evaluate
- A “spider-bite” history correlates well with CA-MRSA
- Healthy athletes are not at risk for CA-MRSA

Post Test Continued

- CA-MRSA pneumonia is a medical emergency
- Hair follicles are normally sterile
- TSS could be confused the flu



