Team Sports and Skin Infections

- Jeffrey A. Downing, DO
- Orlando Orthopaedics Center
- Casselberry Walk in Clinic
- 2911 Red Bug Lake Road
- Monday-Friday 8 am - 8 pm
- Friday 8 am - 4 pm
- Saturday 8 am -1 pm
- orlandoortho.com

Staphylococcus aureus

- ***Staphylococcus aureus*: common cause of infection in the community**
- **Methicillin-resistant *Staphylococcus aureus* (MRSA):**
  - **Increasingly important cause of healthcare-associated infections since 1970s**
  - **In 1990s, emerged as cause of infection in the community**

Outbreaks of MRSA in the Community

- Often first detected as clusters of abscesses or “spider bites”
- Various settings
  - Sports participants (Team Sports)
  - Inmates in correctional facilities
  - Military recruits
  - Daycare attendees
  - Tattoo recipients
  - Hurricane evacuees in shelters

FIGURE. Methicillin-resistant *Staphylococcus aureus* in the leg of an evacuee from Hurricane Katrina — Dallas, Texas, September 2005

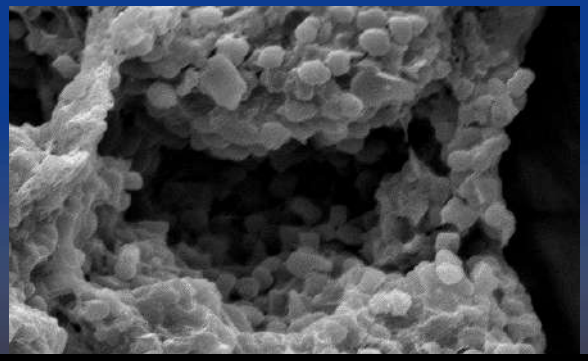
Photo/P Hicks, Children's Medical Center of Dallas

Factors that Facilitate Transmission

Crowding

Team Sports

Compromised Skin



Contaminated Surfaces and Shared Items

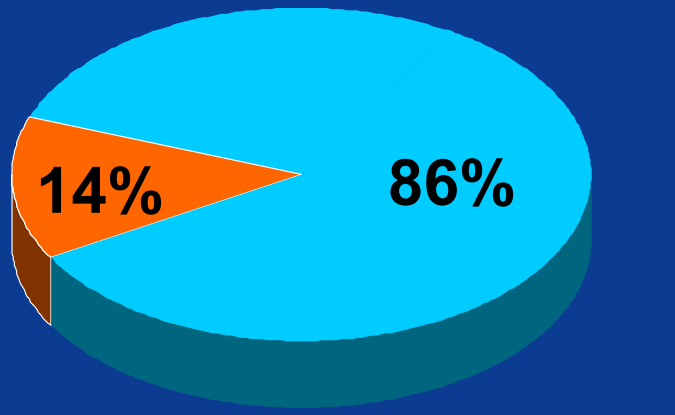
Cleanliness

CA-MRSA Infections are Mainly Skin Infections

Disease Syndrome	(%)
Skin/soft tissue	1,266 (77%)
Wound (Traumatic)	157 (10%)
Urinary Tract Infection	64 (4%)
Sinusitis	61 (4%)
Bacteremia	43 (3%)
Pneumonia	31 (2%)

Fridkin et al NEJM 2005;352:1436-44

Most Invasive MRSA Infections Are Healthcare-Associated



Klevens et al JAMA 2007;298:1763-71

Clinical Considerations - Evaluation

- MRSA belongs in the differential diagnosis of skin and soft tissue infections (SSTI's) compatible with *S. aureus* infection:

- Abscesses, pustular lesions, "boils"
- "Spider bites"
- Cellulitis

Management of Skin Infections in the Era of CA-MRSA

- I&D should be routine for purulent skin lesions
- Obtain material for culture
- Empiric antimicrobial therapy may be needed
- Use local data for treatment
- Patient education is critical!
- Maintain adequate follow-up

Screening and Decolonization

- In general, colonization cultures of infected or exposed persons in community settings are **not** recommended.
- Decolonization regimens:
  - May have a role in preventing recurrent infections (more data needed to establish efficacy and optimal regimens for use in community settings).
  - *After treating active infections and reinforcing hygiene and appropriate wound care*, consider consultation with an infectious disease specialist regarding use of decolonization when there are **recurrent** infections in an individual patient or members of a household.

Preventing Transmission

- Persons with skin infections should keep wounds covered, wash hands frequently (always after touching infected skin or changing dressings), dispose of used bandages in trash, avoid sharing personal items.
- Uninfected persons can minimize risk of infection by keeping cuts and scrapes clean and covered, avoiding contact with other persons' infected skin, washing hands frequently, avoiding sharing personal items.

Preventing Transmission

- Exclusion of patients from school, work, sports activities, etc should be reserved for those that are unable to keep the infected skin covered with a clean, dry bandage and maintain good personal hygiene.
- In general, it is not necessary to close schools to “disinfect” them when MRSA infections occur.
- In ambulatory care settings, use standard precautions for all patients (hand hygiene before and after contact, barriers such as gloves, gowns as appropriate for contact with wound drainage and other body fluids).

Role of Pets

- Greatest risk of *Staph aureus* / MRSA exposure in most humans is other humans
- When household pet animals carry MRSA, likely acquired from a human
- Transmission of MRSA from an infected or colonized pet to a human is possible, but likely accounts for a very small proportion of human infections
- Reasonable to consider pet as a source if transmission continues in a household despite optimizing other control strategies
- Little evidence that antimicrobial-based eradication therapy is effective in pets; however, colonization tends to be short-term*

Barton et al 2006;Can J Infect Dis Med Microbiol

Conclusions

- Incision and drainage remains a primary therapy for purulent skin infections.
- Oral treatment options are available for patients with skin infections that require ancillary antibiotic therapy.
- Patient education on proper wound care is a critical component of case management for patients with skin infections.
- Strategies focusing on increased awareness, early detection and appropriate management, enhanced hygiene, and maintenance of a clean environment have been successful in controlling clusters / outbreaks of infection.