Skin Infections in Remote Environments: Why One Program Developed New Staph Protocols

What Is It?
Staphylococcus aureus, aka staph, is a bacteria that can cause an infection. MRSA is methicillin-resistant Staphylococcus aureus—a different strain that is resistant to several types of antibiotics. Though MRSA is often divided into two categories, HA (Hospital Acquired) and CA (Community Acquired), the differences in these strains and where/how they are actually found have been blurred over time. Generally speaking, CA-MRSA is more likely to be associated with skin infections in young people that have not been hospitalized recently, and is becoming more prevalent1.

Why Is It A Problem?
When an infection does take place it can cause serious injury or death, however rare, if not treated properly— late diagnosis of a MRSA strain in particular means a delay in effective treatment. Like with many illnesses, issues, remote environments often lack the resources to diagnose and treat staph infections in a timely manner. The accessibility of antibiotics for staph infections is not the same as for antibiotics that can treat MRSA. This is why many remote environments rely on the presence of a doctor or nurse for diagnosis and treatment. The lack of resources to diagnose and treat staph infections in a timely manner is a problem because many remote environments rely on the presence of an individual to provide diagnosis and treatment for staph infections. The presence of staph bacteria is not necessarily a cause for alarm— the CDC estimates that one in every three people carry it in their nose, and two out of one hundred carry MRSA1.

What Does It Look Like?
While it should be noted that an opening in the skin is not necessary for an infection to exist, most staph infections present with a cut or bump that is red, swollen, painful, and pus-filled. The area may be warm to the touch, may have red streaks in the skin nearby, and can be accompanied by a fever. Often staph infections are mistakenly confused with spider bites, as the infection can cause an abscess in the skin that looks like an unusual bump or bite. Staph infections can cause an abscess in the skin that looks like an unusual bump or bite. Staph infections can cause an abscess in the skin that looks like an unusual bump or bite. Staph infections can cause an abscess in the skin that looks like an unusual bump or bite.

How Is It Treated?
Whenever possible, consult local medical authorities for proper testing and treatment. Where location and resources prevent this, telemedicine options (particularly if photographs are available) are a good second option. However, providing basic first aid for wound care should not be delayed while seeking further medical opinions.

The wound care we are able to provide in the field typically involves the following:
- Cleaning the area with soap and water and/or alcohol wipes
- Application of a hot compress
- Application of ointment with Steri-tip (see handout for details)
- Marking the skin or photographing a track for progress checks
- Dressing with bandage to prevent irritation/contact with surfaces or people
- Documenting care provided
- Administration of oral antibiotics if directed by a physician
- Hibiclens

What’s Next
We are continuously evaluating our procedures and looking for ways to improve. Recent initiatives include ensuring our current cleaning procedures are implemented properly in the field, analysis of “green” alternative cleaning products, research into an industrial fogging device, post-trip medication documentation, and a more easily searchable clinic run database. While we still experience skin infections on our programs, we are not aware of any confirmed MRSA cases since 2011.

What Happened To Us?
While we have always been aware of, and have experienced, general skin infections, in 2011 our program experienced an outbreak of MRSA. Ultimately 16 students and staff received confirmed diagnoses, whether during our program or after returning home. These infections ranged from being manageable with topical or oral antibiotics, to treatment requiring hospitalization. It is impossible to know whether patient zero came colonized with MRSA into the program, or was exposed to it during the trip. Either way, the rapid spread to other program participants and the seriousness of the illnesses was an eye-opening experience and caused widespread change in our policies and protocols.

The CDC tracks HA-MRSA. Check with your state for any infectious disease reporting requirements.

What Did We Do About It?
Our biggest focus was, and still is, prevention. This comes in many forms, including education, personal and program hygiene expectations, and cleaning/disinfecting protocols. While ActionQuest is not a program that has had a documented MRSA outbreak, we sought advice from several healthcare professionals during this process. The addition of Hibiclens shampoos and Mupirocin ointment were suggested directly from a physician.

Before
After
Pre-trip Students
Nothing
Paragraphs in “final letter” email to all students and parents, reminding during program meeting with Director for final questions regarding MRSA/MRSA hygiene, and cleaning/disinfecting protocols

Who Are We?
ActionQuest runs three 17-21 day program sessions in the British Virgin Islands, with approx. 450 participants in total plus 50 staff. Teens ages 12-18 grouped by age and grade live on 200ft boats and learn to sail, scuba dive, windsurf, water/ski/wakeboard, and cook, clean, and participate fully in the running of the vessels (up to 10 crew operating at a time). ActionQuest places a strong emphasis on experiential education, leadership development, and personal integrity/responsibility during each program.

What You Can Do
Short term and long term recommendations:
- Review/evaluate your current policies
- Share and discuss your findings with peers (including us, please!)
- Educate everyone— including participants, parents, field staff, and staff
- Track data to find patterns
- Stay up to date on infection control research
- Help prevent superbugs— use antibiotics appropriately

Key Points
- Staph bacteria is normal, until infection occurs leading to a wide range of severity
- Prevention and early recognition are important
- Early diagnosis can prevent more severe illness
- Treatment does not always require antibiotics
- If it does, taking the right one the right way is crucial

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The information here was sourced from other programs, and should not be used as a source for medical advice.

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