

## WRMC Poster Presentation: Skin Infections in Remote Environments

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### Key Points:

- Staph bacteria is normal, until infection occurs
- Infections have a wide range of severity
- Prevention and early recognition are important
- Lab cultures are the only conclusive diagnosis
- Treatment does not always require antibiotics
- If it does, taking the right one the right way is crucial
- Infection rates in the community are rising

### Prevention- Some Issues We Focused On

#### Cleaning

“Cleanliness is not the act of cleaning, it is the absence of dirt” – GXG Director Travis

**Clean:** make a dish or surface free from visible food, crumbs, or dirt. A surface must be clean before it can be sanitized or disinfected.

**Sanitize:** to kill harmful germs with either high heat or a chemical solution. A dishwasher uses heat. To sanitize without a dishwasher, soak clean dishes and wipe food preparation equipment in a solution that will kill germs.

**Disinfect:** to wipe hard surfaces, such as counters or tables, clean and then wipe with a disinfecting solution, which is stronger than a sanitizing solution.

You probably already have the products, but are you using them correctly? For example, bleach and water in a spray bottle at the right ratio makes an excellent, convenient, and economic disinfecting product- but many people don't know (or forget) that once the solution is mixed it loses efficacy after approximately 24 hours (less if stored in the sun and heat). Check the manufacturer's instructions for the appropriate use of each product with your goal in mind (and make that information accessible if transferring supplies into unmarked containers for easier portability/storage, and in the language of those using it). We found that getting smarter about the basics, like using products correctly and encouraging hand washing, was going to make a bigger difference long term than “fancy” equipment or more chemicals.

#### Showering

Hibiclens (4% chlorhexidine gluconate) is a topical cleanser that is antiseptic/antimicrobial against a wide range of microorganisms, including MRSA. It is often recommended by doctors for preop use by surgical patients because of the protection it provides against skin infections. Hibiclens is not indicated as a treatment for skin infections, but is intended to reduce the risk of cross-infection. Hibiclens is available OTC in most drugstores; our students bring it with them and take “Hibiclens showers” approximately once-twice a week.

#### Instructions for use (from manufacturer)

1. If you plan to wash your hair, do so using regular shampoo. Then rinse hair and body thoroughly to remove any shampoo residue.
2. Thoroughly rinse your body with water from the neck down.
3. Apply HIBICLENS directly on your skin or on a wet washcloth and wash gently. If showering: Move away from the shower stream when applying HIBICLENS to avoid rinsing off too soon.
4. Rinse thoroughly with warm water.
5. Do not use regular soap after applying and rinsing HIBICLENS.
6. Dry your skin with a towel.
7. If lotions are required, use only those that are compatible with CHG.
8. Put on a freshly laundered gown or clothes after bathing.

### Treatment

#### Wound Care

The biggest changes in our wound treatment protocol have been the additions of hot compresses and Aquaphor/Mupirocin ointments. Several studies have shown that including a hot compress in early treatment of skin infections can reduce the need for antibiotics later on. Mupirocin ointment is an antibiotic cream that has shown effectiveness against MRSA, but like all antibiotics, should follow a specific schedule. Because not all cuts and bumps need antibiotic treatment, and starting and stopping use is part of the bigger picture problem, we use Aquaphor on minor cuts and scrapes if an ointment is needed.

### ActionQuest Basic First Aid Wound Care Protocol

Wear gloves, and also wash your hands before and after any wound care. Maintain proper handling and storage of any soiled bandages. Take photos/document with marker any areas you are uncertain of. Document all care in appropriate sections of binder.

#### Minor cuts and scrapes with no signs of infection

1. Clean area with soap and water or alcohol wipe, let air dry.
2. Using a clean Qtip, apply a thin layer of Aquaphor.
3. Cover with bandaid, gauze and tape, kerlix, coban, or other dressing.
4. Change dressings daily.
5. Monitor for signs of infection.

#### Minor cuts and scrapes with signs of infection

1. Clean area with soap and water or alcohol wipe, let air dry.
2. Using a clean Qtip, apply a thin layer of Mupirocin.
3. Cover with bandaid, gauze and tape, kerlix, coban, or other dressing.
4. Change dressings daily.
5. Monitor for further signs of infection.

#### Moderate/deep cuts and scrapes

1. Clean area with soap and water, let air dry.
2. Cover with bandaid, gauze and tape, kerlix, coban, or other dressing.
3. Change dressings daily.
4. Monitor for signs of infection.

#### Raised and/or fluid filled bumps

1. Clean area with soap and water or alcohol wipe.
2. Boil fresh water and let cool to hot but not scalding temperature.
3. Soak gauze/towel in water and apply to affected area for approx. 5-10 min (will turn cold).
4. Repeat as desired with fresh gauze/towel, reheating water as necessary.
5. Clean area with soap and water or alcohol wipe, let air dry.
6. Using a clean Qtip, apply a thin layer of Aquaphor or Mupirocin.
7. Cover with bandaid, gauze and tape, kerlix, coban, or other dressing.
8. Change dressings daily.
9. Monitor for signs of infection.

The decision of when to seek further medical treatment is dictated by the level of severity of the infection as determined by our staff and/or RMI, and our two biggest external obstacles are time of day and weather conditions.

### Some Questions To Ask Your Program

What expectations do you have written down for personal and physical hygiene/cleaning, and who has access to them?

What products are you using, and are you using and storing them according to their directions?

Do you collect skin infection history at any point in your application/participation process?

How do you deter sharing of personal items on program (ie towels, bathing suits, razors, etc)?

Do you document or track data specifically for skin infections?

Do you regulate the collection of photographs for medical purposes?

How are you disposing/cleaning contaminated bandages/linens?

How do you communicate issues with skin infections to parents post-trip?

### Take the Quiz!

1. When washing your hands, you should scrub for at least:
  - a. 10 seconds
  - b. 15 seconds
  - c. 20 seconds
  - d. 30 seconds
2. Where has staph bacteria been found?
  - a. Cell phones
  - b. Cats & dogs
  - c. The beach
  - d. All of the above
3. The average age of people infected with MRSA in the community is:
  - a. 6
  - b. 23
  - c. 55
  - d. 78
4. When will you be made aware of a skin issue in your program?
  - a. 15 minutes after the scheduled clinic run departs
  - b. 5 minutes after the last clinic run returns
  - c. The farthest away you can be from land
  - d. In a tropical storm

Answers: 1) c 2) d 3) b 4) for us, all of the above!

### Sources

- 1- Minnesota Dept of Health <http://www.health.state.mn.us/divs/idepc/diseases/mrsa/mrsahealthcare.html>
- 2- CDC <https://www.cdc.gov/mrsa/>
- 3- Oxford Academic Journals <https://academic.oup.com/cid/article/59/2/e10/2895845/Practice-Guidelines-for-the-Diagnosis-and>
- 4- IDSociety.org [http://www.idsociety.org/uploadedFiles/IDSA/Guidelines-Patient\\_Care/PDF\\_Library/MRSA.pdf](http://www.idsociety.org/uploadedFiles/IDSA/Guidelines-Patient_Care/PDF_Library/MRSA.pdf)

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