

MRSA and appropriate use of antibiotics

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There has been a significant spread of MRSA (the 'super bug') in hospitals in recent times and it is possible that it could become a problem in the future for our Members.

One of our Members has provided the following note to assist in understanding of the problem.

MRSA is a type of staphylococcus aureus ('S aureus', often referred to simply as 'staph'). S aureus are bacteria commonly carried on the skin or in the nose of healthy people. Some are resistant to the class of antibiotics frequently used to treat them, such as methicillin – and thus are known as methicillin-resistant staphylococcus aureus (MRSA).

MRSA infections are usually mild, superficial infections of the skin that can be treated successfully with proper skin care and antibiotics. However, they can be difficult to treat and can progress to life-threatening blood or bone infections due to there being fewer effective antibiotics available for treatment.

Transmission of MRSA – S aureus including MRSA can be spread through close contact with infected people. MRSA is almost always spread by direct physical contact and not through the air. Spread may also occur through indirect contact by touching objects (e.g. towels, sheets, wound dressings, clothes, work surfaces, tools or equipment) contaminated by contact with infected skin.

Identification of MRSA – A sample of the infected wound (either a small biopsy of skin or pus taken with a swab) must be obtained to grow the bacteria in the microbiology laboratory. Once the bacteria is growing, the organism is tested to determine which antibiotics will be effective for treating the infection. A culture of skin lesions is especially useful in recurrent or persistent cases of skin infection, in cases of antibiotic failure, and in cases that present with advanced or aggressive infections.

Antibiotic Resistance – Bacteria, fungi, and even viruses can become resistant to drugs. However, bacteria cause most of the drug-resistant problems. Bacteria can become resistant to antibiotics in a variety of ways and once a particular type of bacteria has developed resistance to a drug, it can pass on this resistance to other types of bacteria. Overall, 70% of the bacteria causing such infections are resistant to at least one of the drugs most commonly used to treat them. In some cases, these organisms are resistant to all approved antibiotics and must be treated with experimental and potentially very toxic drugs. The more often a drug is used, the more likely bacteria are to develop a resistance.

Preventing Antimicrobial Resistance

The following tips can help prevent diseases and avoid bacteria developing resistance to antibiotics:

- Vaccination against diseases that cause respiratory infections, including influenza and pneumococcal pneumonia may be appropriate for some personnel. Preventing respiratory infections and their complications decreases antibiotic use.
- Give health providers your complete medical history, including details about medication allergies and anything currently being taken, including all prescription and over-the-counter medications, home remedies, and dietary supplements. Such details help doctors/pharmacists make better-informed decisions should they need to prescribe antibiotics.
- When antibiotics are prescribed, the medication should be taken as instructed until the course is finished. Stopping early can mean not all infecting organisms are killed and that those which are already most resistant are left behind to grow.
- Never use antibiotics prescribed for someone else, and do not give someone else your medication. Improper use of antibiotics helps bacteria develop resistance and weakens the ability of antibiotics to fight disease.
- Common mistakes which can cause problems in the future include taking antibiotics unnecessarily (e.g. as treatment for viral infections, such as colds, which don't respond to antibiotics); not taking antibiotics as prescribed; and saving antibiotics for later self-prescription.

Ensuring good hygiene can help to prevent disease, with the following tips noted:

- Practice good hygiene, including showering and frequent hand washing.
- Ensure availability of adequate soap and hot water.
- Establish 'routine' cleaning schedules for spaces and equipment.
- Maintain sanitary berthing and food service standards.
- Discourage sharing of towels and personal items (e.g. clothing and equipment).
- Encourage employees to report all skin lesions.
- Cover all wounds.

Precautions Once an MRSA Skin Infection is Diagnosed

Individuals can prevent an MRSA infection from spreading to others around them by following these steps:

- Keep infections, particularly those that continue to produce pus or to drain material, covered with clean, dry bandages. Follow your healthcare provider's instructions on proper care of the wound. Pus from infected wounds can contain MRSA and spread the bacteria to others.
- Advise people in close contact to wash their hands frequently with soap and warm water, especially if they change your bandages or touch the infected wound or potentially infectious materials.

- Avoid sharing personal items (e.g. towels, washcloth, razor, clothing or uniforms) that may have been in contact with the infected wound and potentially infectious material. Wash linens and clothes that become soiled with hot water and laundry detergent. Drying clothes in a hot dryer, rather than air-drying, also helps kill bacteria in clothes.
- Tell any healthcare providers who treat you that you have been or are currently being treated for an antibiotic-resistant staph skin infection.

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