



## 15.6 Methicillin Resistant *Staphylococcus aureus* (MRSA) Fact Sheet for Healthcare Workers

### **What is *Staphylococcus aureus*?**

*Staphylococcus aureus* (*S. aureus*) is a bacteria or germ that normally lives on the skin or in the nose of many people. Usually, these individuals are not aware of it and are completely healthy. This is called colonization. It is normal to be colonized with bacteria in many parts of our bodies. *S. aureus* is capable of causing infections from mild skin irritation to severe systemic infections such as pneumonia and bacteremias. *S. aureus* is one of the most common causes of community and hospital acquired infections, and affects individuals of all ages.

### **What is Methicillin Resistant *Staphylococcus aureus* (MRSA)?**

The usual treatment for *S. aureus* infections is a group of antibiotics related to penicillin, which include methicillin, oxacillin and cloxacillin. Over the past 50 years, *S. aureus* has become resistant to multiple antibiotics including this specific group of antibiotics. These resistant bacteria are called Methicillin Resistant *Staphylococcus aureus*, or MRSA. MRSA causes colonization and/or infections similar to antibiotic sensitive *S. aureus* strains. Infections caused by MRSA are sometimes more difficult and expensive to treat because the usual antibiotics cannot be used.

### **What to look for (signs and symptoms of MRSA)?**

For most people, MRSA causes no harm. If symptoms of infection develop, antibiotics should be used in consultation with an Infectious Disease Specialist. Infections caused by MRSA present in the same way as infections caused by non-MRSA.

Symptoms will depend on the site of infection. For example, MRSA can cause an infection in a wound, lung or in the blood, etc.

### **How is MRSA transmitted (spread)?**

MRSA is spread by direct contact with an MRSA positive individual or by indirect contact, e.g. equipment contaminated with MRSA. MRSA can be spread from one person to another by healthcare workers' hands or by sharing contaminated equipment.

### **How is MRSA detected?**

The laboratory can identify MRSA either by a screening swab of the nose or wound or by a clinical specimen obtained from an infected individual. Laboratories perform tests to determine which antibiotics will be effective (sensitive) or not effective (resistant) for treatment. If *S. aureus* is identified as resistant to oxacillin, additional tests are done to confirm the resistance. MRSA are often resistant to multiple commonly used antibiotics.



### **Who is at risk?**

**Patients:** Some patients are at higher risk for acquiring MRSA. Some risk factors are:

- Prolonged hospital stay.
- Receiving extended antibiotic therapy.
- Hospitalization in an intensive care or burn unit.
- Exposure to patients with MRSA.
- Exposure to MRSA contaminated equipment.

**Healthcare worker/staff:** Healthcare workers are not usually at risk for MRSA colonization/infection. The chances of colonization/infection with MRSA do not increase even if you have been in contact with an individual with MRSA, e.g. at work. Healthcare workers/staff including pregnant healthcare workers are at minimal risk of acquiring MRSA colonization/infection provided they adhere to Routine Practices and Additional Precautions for the specific situation. If you are immunocompromised the risk is also very small. Please contact Occupational & Environmental Safety & Health if you have concerns about working with patients who are colonized/infected with MRSA.

### **How is MRSA treated?**

Colonized individuals do not routinely need treatment. Treatment of MRSA infections will be directed by the individual's doctor in consultation with an Infectious Diseases Specialist.

### **What are the infection prevention and control considerations?**

Routine Practices are required for all care activities to limit the spread of microorganisms. Key points include:

- Hand hygiene with soap and water or alcohol based hand rub before and after contact with every patient.
- Good environmental cleaning including reusable patient care equipment.
- If gloves are used they must be changed and hand hygiene performed between procedures and patients.

Special attention to environmental cleaning is required as MRSA can live in the environment for long periods (days to months) if adequate cleaning is not performed.

To reduce the risk of MRSA transmission in a healthcare institution, known MRSA positive patients are placed on Contact Precautions as outlined in the WRHA Infection Prevention and Control Manual. Known MRSA positive



patients on readmission will be screened for MRSA and placed on Contact Precautions.

Screening of patient contacts and/or environmental culturing if required, will be directed by Infection Prevention and Control. If necessary, screening of healthcare worker contacts will be directed by Occupational & Environmental Safety & Health. Healthcare workers are not screened for MRSA unless a worker is linked to patient transmission.

**Hand washing or using alcohol-based hand rub is the best way to prevent the spread of these organisms.**