

## ***Section 14-2 – Addressing Questions Asked by Staff: Nasal Mupirocin for MRSA Carriers With Devices***

### **What is mupirocin and how safe is it?**

Mupirocin is a topical antibiotic ointment to prevent infections. The Food and Drug Administration approved mupirocin in 2002 to clear *Staphylococcus aureus* from its main reservoir, the nose. Nasal mupirocin has been used in thousands of patients prior to surgery, in intensive care units (ICUs), and in the outpatient setting to prevent methicillin-resistant *Staphylococcus aureus* (MRSA) and methicillin-sensitive *Staphylococcus aureus* (MSSA) infection. Side effects are uncommon and mild, and resolve with discontinuation. The most common complaint is that the ointment feels thick or goopy once applied inside the nose. This can be alleviated by having the patient blow their nose, if possible, before application. It can also be alleviated by having the patient gently massaging the nostrils to further distribute the ointment. Other side effects that may involve burning, stinging, or itching are rare.

### **What is the purpose of putting mupirocin in the nose?**

Mupirocin removes germs that commonly live in the nose, including MRSA, which is known to cause thousands of invasive infections in the United States annually. Many recent studies have shown the effectiveness of decolonization in reducing risk of infections due to MRSA and other multidrug-resistant organisms in hospitalized patients. Because having MRSA in the nose is a known risk factor for later infection, our hospital has decided to adopt the use of mupirocin to prevent transmission and infection in your patients who have medical devices and are known to be MRSA carriers by history, screening test (if performed), or clinical culture, per our hospital's usual MRSA screening/testing guidelines.

### **Is there an advantage to using mupirocin over iodophor?**

Hospitals have a choice about which nasal decolonization product to use. Our hospital leadership has chosen to use mupirocin. A current clinical trial (the Mupirocin-Iodophor Swap Out Trial) is directly comparing the effectiveness of mupirocin and iodophor on *S. aureus* in the context of CHG bathing in the ICU setting (<https://clinicaltrials.gov/ct2/show/NCT03140423>). While we await the results of that trial (anticipated by 2021), considerations for selecting one versus the other include the extensive clinical trials and studies using mupirocin, local data on mupirocin resistance, nursing preference for the application method of one versus the other, local cost estimates, and physician preference.

### **What will be the process for providing mupirocin?**

Check our approved mupirocin protocol and with our local champion for how mupirocin will be ordered.

### **What if my patients want to blow their noses after application?**

Patients should be told to blow their noses before the application to help clear the nasal area. For best effects, they should be encouraged not to blow their noses immediately after application.

### **What if my patients have been prescribed other nasal medications?**

Some nasal products may inactivate mupirocin and prevent it from working against MRSA. If the patient's doctor has prescribed or recommended other nasal medicines, the patient should continue to use them as prescribed. If possible, separate the provision of those medications from nasal mupirocin application by several hours.

### **Some patients leave the hospital for a short time and return in less than 24 hours. Does the 5-day nasal decolonization regimen pick up where a patient left off (e.g., day 3) or start over at day 1?**

If a MRSA carrier still has a medical device at the time of readmission, the nasal protocol begins anew, regardless of the duration of absence.

### **If a patient is transferred from an adult ICU performing decolonization and has fully or partially completed the mupirocin decolonization protocol, does the mupirocin decolonization start again?**

Yes. If the patient has a medical device and is a MRSA carrier by history, screening test, or clinical culture, they should receive a new 5-day course when they arrive on a general non-ICU floor, even if they already received a partial or complete 5-day course of nasal decolonization in the ICU.

### **What if the patient transfers from another non-ICU unit? Does mupirocin continue or start over for 5 days?**

Because mupirocin is a prescribed drug, it is possible to track administration across units and to ensure that a 5-day course is given. If this 5-day course is interrupted for any reason, then follow the missed doses protocol. If more than two doses are missed, it is recommended that the entire 5-day course be restarted. A total of 10 doses of twice daily mupirocin should be given.

### **How do I handle missed doses of mupirocin?**

Check the approved mupirocin protocol, which has detailed instructions on missed doses. In general, if one dose is missed, resume mupirocin use as soon as possible on the original schedule. Do not double up doses. If more than two doses of mupirocin are missed, the protocol should be restarted and a new count for 5 days of therapy should begin.

### **How important it is for the patient's nose to be massaged for 60 seconds after the nasal mupirocin ointment is applied?**

Massaging the patient's nose will ensure that the nasal mupirocin ointment is spread throughout the nostrils to get rid of bacteria. Massaging can also make the patient feel more comfortable because the ointment is thick. Sixty seconds may feel like a long time, so staff can also encourage patients to perform the massaging themselves if they are able.

### **What if my patient develops a reaction?**

Any potential issues related to nasal mupirocin should be brought to the attention of the treating nurse and physician, who will decide all necessary actions related to discontinuing product and ordering any medications to address the reaction.

### **If my patient refused the last mupirocin dose, should I offer it again?**

This protective regimen should be encouraged among patients with devices. For example, if a patient refuses to take prescribed blood pressure medication, staff would try to encourage the patient to take it at a later time. Similarly, if a patient refuses a protective bath, then staff should try to encourage a bath at a later time. Staff need to assess whether the patient is refusing at this time (e.g., because of being tired, in pain, or irritable), or whether the patient is refusing all further doses. Staff also should determine whether or not the patient understands the reasons for and the value of mupirocin (i.e., to prevent infection due to MRSA and other bacteria). Most patients who understand that the product protects them from infection will agree to the nasal decolonization. Review the nursing protocols for details on escalation pathways for addressing patient refusals.

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