

# SESLHD PROCEDURE COVER SHEET



**Health**  
South Eastern Sydney  
Local Health District

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<b>FUNCTIONAL GROUP(S)</b>	Infection Control
<b>KEY TERMS</b>	Load reduction, pre-operative screening, decolonisation
<b>SUMMARY</b>	A procedure to guide pre-operative load reduction for patients undergoing cardiothoracic or elective orthopaedic (total joint replacement) surgery.

## **COMPLIANCE WITH THIS DOCUMENT IS MANDATORY**

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# SESLHD PROCEDURE

## Staphylococcus aureus (MSSA and MRSA) load reduction

**SESLHDPR/681**

### 1. POLICY STATEMENT

Clinicians should initiate load reduction regimen for Methicillin sensitive *Staphylococcus aureus* (MSSA) or Methicillin resistant *Staphylococcus aureus* (MRSA) colonised patients undergoing elective cardiothoracic, orthopaedic (total joint replacements), infrarenal vascular and haemodialysis procedures. Load reduction should also be considered for patients with frequent infections/ boils, and after any invasive MSSA or MRSA infection. Load reduction should be initiated within a sufficient timeframe to optimise efficacy which usually requires the regimen to be initiated at least five days prior to surgery.

### 2. BACKGROUND

Reducing the skin burden of Methicillin sensitive *Staphylococcus aureus* (MSSA) or Methicillin resistant *Staphylococcus aureus* (MRSA) has been proven to reduce the risk of post-operative infection following certain procedures.

### 3. RESPONSIBILITIES

#### 3.1 Employees will:

- Screen for *Staphylococcus aureus* 7-14 days before admission to a SESLHD facility for orthopaedic, cardiothoracic surgery, infrarenal vascular and haemodialysis procedures.
- Ensure positive patients start decolonisation therapy five days prior to surgery.

#### 3.2 Line Managers will:

- Ensure compliance with this procedure.

#### 3.3 Medical staff will:

- Order screening and decolonisation treatments for community or pre-admission patients within the optimal time range to optimise efficacy of treatment
- If MRSA or MSSA status is unknown at the time of admission (i.e. for emergency theatre) an assessment for risk should be undertaken. If a patient is assessed high risk, load reduction therapy should commence until a negative result is confirmed or treatment has concluded (whichever occurs first).

### 4. DEFINITIONS

**Pre-operative load reduction:** Use of topical or systemic antibiotics to reduce the burden of colonisation with *Staphylococcus aureus* prior to surgical procedures.

**MRSA: Methicillin-resistant *Staphylococcus aureus*** A strain of *Staphylococcus aureus* that is resistant to beta-lactam antibiotics including penicillins and cephalosporins.

**MSSA: Methicillin-sensitive *Staphylococcus aureus*** A strain of *Staphylococcus aureus* that is sensitive to beta-lactam antibiotics including penicillins and cephalosporins.

**5. PROCEDURE**

**5.1 Pre-operative load reduction/ Decolonisation principles**

- Patient should be screened prior to implementation of pre-operative load reduction. Pre-op load reduction should only be applied to patients with known (or suspected, if urgent-see below) colonisation, in line with general principles of antimicrobial stewardship
- Pre-op load reduction should be considered for MSSA/MRSA-colonised patients undergoing cardiothoracic, orthopaedic (total joint replacements), infra-renal vascular and haemodialysis procedures
- A pre-operative load reduction should be initiated within a sufficient time to optimise efficacy. This is usually at least five days prior to surgery, but for urgent procedures should be commenced prior to and continued after the procedure
- If patient is receiving a therapeutic course of anti-staphylococcal treatment, then load reduction can still proceed although in general is more successful after active infection is treated
- Ensure drug interactions and current medications are considered by the Clinician before prescription
- The individual must be co-operative and able to follow the MSSA/ MRSA decolonisation regimen when required.

**5.2 Pre-operative load reduction/ Decolonisation for Emergency surgery**

- Where colonisation status is unknown at time of surgery and the patient is assessed high risk factors for MSSA/MRSA colonisation (see risk factors below), the patient should be swabbed and load reduction therapy commenced
- Screening swab results must be checked by treating team and load reduction ceased if negative

<b>MSSA / MRSA Risk Factors<sup>10</sup></b>
<ul style="list-style-type: none"> <li>• Current or recent hospitalisation</li> <li>• Residing in a long-term care facility</li> <li>• Invasive procedures such as urinary catheters, arterial lines, or central venous lines</li> <li>• Recent or long-term antibiotic use</li> <li>• Family members or close contacts who are health care workers</li> <li>• Chronic renal dialysis</li> <li>• Having a weakened immune system, such as in persons with HIV/AIDS</li> <li>• Living in crowded or unsanitary conditions, such as prisons</li> </ul>
<p>Zeller JL, Golub RM. MRSA Infections. <i>JAMA</i>. 2011;306(16):1818. doi:10.1001/jama.306.16.1818 [cited April 2018]  <a href="https://jamanetwork.com/journals/jama/fullarticle/1104555">https://jamanetwork.com/journals/jama/fullarticle/1104555</a></p>

**5.3 Preparation prior to initiation of pre-operative load reduction / Decolonisation**

- Remove all body piercings for several days prior to commencing and keep piercings out for the duration of treatment. Clean earrings and other piercing elements with soap and water and store dry

## SESLHD PROCEDURE

### Staphylococcus aureus (MSSA and MRSA) load reduction

**SESLHDPR/681**

- Replace old toothbrushes, razors, opened roll-on deodorant, skin adhesive tapes, skin creams and solutions, pumice stones, sponges, make up brushes, creams and implements
- Remove nail varnish and artificial nails
- Discard or hot wash all fluffy toys
- Discard magazines, newspapers and other clutter
- Remove and discard unused sterile stock/ gloves held within the patient room
- Wash hair brush and comb in hot soapy water
- If dentures are used, remove them every evening during the decolonisation program - clean them carefully and then place them to soak overnight in Sterident
- Disinfect other personal items daily with an alcohol-based cleanser during the decolonisation period
- **Prepare Household environment (if applicable):** Clean the house, including dusting and vacuuming, Disinfect the shower floor and/or bathtub daily. Use a bleach-containing product, wash clothes, linen and towels in hot water (60°C) with laundry detergent. Dry in the sun if possible. Do not share items of clothing or towels. Wash pets at least once with antibacterial body wash. Wash pets bedding as above.

#### 5.4 Pre-operative load reduction /Decolonisation regime

**Duration:** Five days prior to surgery and continue after surgery if required. Ideally the full regimen should be completed prior to surgery. If this is not possible, administer as many doses as possible pre-operatively then complete the regimen post-operatively as needed.

#### Pre-Operative load reduction for adults positive for MSSA/ MRSA:

- Hair and body: use antimicrobial body wash (2% aqueous chlorhexidine or Triclosan) when showering. Leave body wash in place for at least 3 minutes before rinsing well. After shower, dry with clean towel or use daily application of non-rinse aqueous 2% chlorhexidine wipes.
- Nostrils: treat with 2% mupirocin, two times daily (if resistance to mupirocin demonstrated, seek specialist ID advice). Apply inside nostril with cotton bud or swab (no further than 2cm deep) and then discard cotton bud. Repeat with new cotton bud or swab for other nostril. Press nose with thumb and forefinger, spread in the nostril using a circular motion.

Treatment for fomites and inanimate objects:

- Bed linen: linen should be changed daily
- Personal clothing: freshly cleaned clothing and clean footwear should be worn after showering
- Frequently touched surfaces: wipe surfaces such as bed rails and bedside equipment daily using a clean cloth and detergent. Discard the cloth after use.

Adapted from [CEC- Infection Prevention and Control Practice Handbook 2020](#)

## SESLHD PROCEDURE

### Staphylococcus aureus (MSSA and MRSA) load reduction

**SESLHDPR/681**

#### 5.5 Use of Mupirocin 2% nasal ointment

- Disinfect hands with alcohol gel/rub and allow to dry
- Open the nasal ointment. Place small amount (size of match head) of ointment onto a clean cotton bud and massage gently around the inside of the nostril on one side, making sure not to insert it too deeply (no more than 2 cm inside). Use a new cotton bud for the other nostril so that you do not contaminate the mupirocin tube
- After applying the ointment, press a finger against the nose next to the nostril opening and use a circular motion to spread the ointment within the nose.
- Apply the mupirocin ointment twice a day for five days
- Disinfect hands with alcohol rub/gel after applying the ointment
- Use a separate prescribed tube of mupirocin for each treated person.

#### 5.6 Use of Body washes: Use either 2% chlorhexidine or 1% triclosan (if allergic to chlorhexidine)

- Apply the antiseptic body wash in the shower daily
- Take care to wash under the arms and into the groin and into any folds of skin.
- Wash hair at least on day three and five
- Allow the antiseptic to remain on the skin for at least five minutes
- Rinse as normal
- For patients with eczema, or those who don't tolerate the above body washes, or are unable to shower, there is some evidence for the effectiveness of dilute bleach baths. To make up an appropriate bleach bath, put one cup of household bleach in one bathtub of water and soak for 15 min twice weekly (these baths should be used for up to three months if possible). Please make sure the bleach is appropriately diluted (as above) to avoid skin irritation. Do not contact undiluted bleach
- Document completion of treatment in eMR.

#### 5.7 Use of Oral antibiotics

- In relapsed cases or in the presence of active infection oral antibiotics may be prescribed, usually in conjunction with review by an infectious diseases specialist.

#### 6. NSW Pathology Ordering of MSSA/MRSA screening swabs

- Clinicians are to order "Nose swab for Staphylococcal culture" screening on EMR.

#### 7. Mupirocin Resistant strains

- If the isolate is resistant to the decolonisation regimen, Infectious Diseases input is required for advice.

#### 8. Notification of Results

- It is the treating teams responsibility to check results prior to surgery and action accordingly

# SESLHD PROCEDURE

## Staphylococcus aureus (MSSA and MRSA) load reduction

**SESLHDPR/681**

- Infection Prevention and Control CNCs will email results directly to Consultant or their delegates if screening undertaken in pre-admissions clinic. The treating team will be contacted if testing undertaken and the patient is a current inpatient.

### 9. Patient Education

- Provide patient with pre-operative load reduction factsheet. Appendix 1
- Document patient education in eMR.

### 10. DOCUMENTATION

- EMR

### 11. AUDIT

Proportion of patients screened preoperatively for MRSA/MSSA in cardiothoracic and orthopaedic surgeries.

Proportion of patients colonised with MRSA/MSSA who are decolonised prior to surgery.

### 12. REFERENCES

1	Clinical Excellence Commission. 2020 Infection Prevention and Control Handbook
2	SESLHDGL/066 - Reducing Cardiothoracic Surgical Site Infections through use of a cardiothoracic surgical site infection care bundle guideline
3	NSW Ministry of Health Policy Directive PD2017_013 - Infection Prevention and Control Policy

### 13. REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
September 2020	DRAFT	Procedure drafted. Approved by the Infection Prevention and Control Committee and Director Clinical Governance and Medical Services.
November 2020	DRAFT	Draft for Comment period.
January 2021	DRAFT	No feedback received. Processed by Executive Services for tabling at Clinical and Quality Council for approval to publish.
February 2021	DRAFT	Approved at Clinical and Quality Council.
March 2021	1	Published by Executive Services.

**Staphylococcus aureus (MSSA and MRSA) load reduction**

**SESLHDPR/681**

**Appendix 1: Patient Factsheet Reducing MSSA and MRSA on your skin**

**Cleaning your home during your treatment**

- Change your bedsheets, pillowcases and towels each day.
- Wear clean clothing after showering.
- Clean frequently touched surfaces each day using a clean cloth and detergent. Discard the cloth after use.
- Ensure all members of the household have their own towels.

To help you remember your treatment, please tick these boxes:

Date started: .....

- Day 1 Wash  Ointment 1  Ointment 2
- Day 2 Wash  Ointment 1  Ointment 2
- Day 3 Wash  Ointment 1  Ointment 2
- Day 4 Wash  Ointment 1  Ointment 2
- Day 5 Wash  Ointment 1  Ointment 2

Please bring this brochure with you when you come to hospital regardless of whether you have completed the 5 days of treatment.

**Where can I find more information?**

If you have any questions, please contact your surgeon.

**Disclaimer:** This factsheet provides basic general information only and is to be used as a quick guide, not as a complete resource on the subject.

**References**

Adapted from Clinical Excellence Commission. 2020. Infection Prevention and Control Practice Handbook.



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**Preparing your skin for surgery**

Reducing Staphylococcus aureus and MRSA on your skin



Produced by St George Hospital and Prince of Wales Hospital Infection Control Departments



**Why do I need to prepare my skin for surgery?**

Your recent test showed that you have a bacteria (germ) called Staphylococcus aureus on your skin. It is important to reduce this bacteria on your skin, to prevent infection after your surgery. Decolonisation is a treatment which reduces this bacteria.

**What is Staphylococcus aureus?**

Staphylococcus aureus (also called Golden Staph) may be part of your normal skin bacteria. Most of the time, it lives in your nose or on your skin without causing any problems. This is called colonisation.

In some cases, the bacteria may be hard to treat with common antibiotics and are called Methicillin Resistant Staphylococcus aureus (MRSA).

These bacteria are usually harmless but if you have open wounds (like after surgery), they can cause serious infection.

**Reducing Staphylococcus aureus on your skin**

This treatment will take five days. Your surgeon will tell you when to start.

**What you need**

- Nasal ointment mupirocin 2% (Bactroban)
- Body-wash (2% aqueous chlorhexidine solution OR, 1% triclosan)
- Cotton buds
- Small alcohol wipes
- Alcohol gel/rub (optional)

**Before starting your treatment**

- Remove nose, ear and other body piercing items and keep them out during treatment.
- Clean removed items with alcohol wipes and place into a container for storage.
- Replace old toothbrushes, razors, opened roll on deodorant, skin adhesive tapes, skin creams and solutions, pumice stones, sponges, make up brushes, creams, and anything else you use on your skin.
- Wash hair brushes and combs, nail files, plastic toys, and clippers in the dishwasher or discard.
- During treatment, remove dentures every evening and clean carefully using a denture brush and mild soap and water, or denture paste.
- Disinfect other personal items daily with alcohol wipes.

**Instructions for your five days of treatment**

Each day, for five days, you will need to wash yourself with the body wash and use the nasal ointment morning and night.

**Using the body wash**

1. Apply body wash all over your body, from head to toes. Be sure to apply to your hair, under your arms, into the groin and into any folds of skin.
2. Allow the wash to remain on your skin and hair for three minutes.
3. Get into the shower or bath and rinse well. Close your eyes and mouth when washing face or shampooing. If you get body wash in your eyes or mouth—rinse with water.

**Do not use other soap at the same time, as this may inactivate the antiseptic wash.**

**Using the Nasal Ointment**

1. Wash hands well with soap and water or disinfect hands with alcohol gel/rub.
2. Open the nasal ointment. Place a small amount (size of match head) of ointment onto a clean cotton bud and massage gently around the inside of your nostril (no more than 2-3 cm inside). Use a new cotton bud for the other nostril.
3. After applying the ointment, press a finger against the nose next to the nostril opening and use a circular motion to spread the ointment within the nose.
4. Wash hands well with soap and water or disinfect hands with alcohol gel/rub.