



Staphylococcus aureus Decolonisation Procedure

1. Purpose

Healthcare associated *Staphylococcus aureus* (*S. aureus*) blood stream infections (HA-SABSI) and healthcare associated *S. aureus* surgical site infections (SSIs) are deemed largely preventable. This risk can be significantly reduced by identifying patients who are colonised with *S. aureus* and facilitating decolonisation treatment prior to the invasive procedure, whilst promoting appropriate antimicrobial stewardship.

The scope of this procedure applies to the following:

- patients undergoing elective and non-elective orthopaedic procedures involving the insertion of prosthetic material
- vascular access surgery for renal patients including arteriovenous graft implantation and formation of arteriovenous fistula for haemodialysis (HD), peritoneal dialysis (PD) catheter insertion for PD and long term central venous access devices (CVADs) for HD
- elective insertion of CVADs (CVADs include tunnelled, non-tunnelled, Peripherally Inserted Central Venous Catheter (PICC) or an implanted venous port).

2. Procedure

Decolonisation is the process of reducing or eradicating asymptomatic carriage of *S. aureus* using topical and systemic antimicrobial agents. The nostrils are the primary site of colonisation, although other sites of colonisation include the nasopharynx, skin (especially skin folds), perineum, axillae and the gastrointestinal tract.

Clinicians should initiate decolonisation for patients colonised with methicillin sensitive *S. aureus* (MSSA) or methicillin resistant *S. aureus* (MRSA) who are undergoing orthopaedic procedures involving the insertion of prosthetic material e.g., prosthetic joint replacements, renal dialysis vascular access procedures and insertion of CVADs. Allergies to components of topical and/or systemic antimicrobial agents should be assessed prior to commencing treatment.

This procedure should be read in conjunction with MP 0177/23 [Screening and Management of Multi-resistant Organisms in Healthcare Facilities Policy](#).

2.1 Preoperative screening for patients undergoing elective orthopaedic procedures involving the insertion of prosthetic material.

Preoperative screening for *S. aureus* colonisation should be undertaken for patients undergoing elective orthopaedic procedures involving the insertion of prosthetic material.

Screening requires one set of nasal and pharyngeal swabs pre-moistened with sterile water. Additional samples are required from the following sites if present:

- any wounds, ulcers, skin lesions or wound drain fluid
- any invasive device sites e.g. Percutaneous endoscopic gastrostomy (PEG) tracheostomy, intravascular device
- urine specimen from indwelling or suprapubic urinary catheters
- endotracheal aspirate

- ideally screening should be undertaken 10-14 days before the patient's planned admission. This timing can facilitate commencement of decolonisation therapy where required, at least five days prior to surgery to optimise efficacy
- where applicable an Aboriginal Health Practitioner, Aboriginal Health Worker, Aboriginal Liaison Officer or Interpreter may need to be included in an Aboriginal consumer's care
- in addition, the Patient Assisted Travel Scheme, AMS providers and Aboriginal communities may need to be involved for consumers living in a regional or remote area
- the treating procedural team have primary responsibility for review of the screening results, informing patients of results as relevant and initiating decolonisation in the case of positive results. The Infection Prevention and Control (IPC) team members will add an electronic alert for MRSA positive patients (e.g., micro-alert) to the clinical record.

2.2 *Staphylococcus aureus* decolonisation for planned elective procedures

When the following planned elective procedures are performed, it is recommended that patients undergo decolonisation as outlined, to reduce the microbial bioburden of *S. aureus*, thereby reducing the risk of a *S. aureus* related post procedure infection.

Elective Vascular surgery for renal patients

Prior to elective vascular surgery for renal patients, where possible, the patient is to perform a pre-procedure antimicrobial wash with 4% chlorhexidine solution.

For HD or PD catheter insertion, patients are to be commenced on intranasal mupirocin twice a day for five days from time of catheter insertion and continue weekly while the access device is in situ.

The ongoing use of mupirocin should be guided by each patient's primary Nephrologist e.g., can also be applied to catheter exit site daily. Refer to the [Peritoneal Dialysis Catheter Exit Site Care and Management Guideline](#).

Elective CVAD insertion

Prior to an elective CVAD insertion, it is recommended where possible, that a pre-procedure antimicrobial wash with 4% chlorhexidine solution is undertaken. Consider administration of prophylactic intravenous antibiotics as per the [Therapeutic Guidelines: Antibiotics](#) as relevant.

Elective Orthopaedic procedures involving insertion of prosthetic material

Pre-operative screening should be performed as outlined in section 2.1. Where *S. aureus* (MSSA/MRSA) is isolated from pre-procedure screening, the procedural team should prescribe a decolonisation regime prior to admission, as follows:

- nasal ointment applied to the inside of each nostril twice a day for five days – mupirocin 2% (Bactroban®) available on prescription
- antiseptic body wash – used once a day for five days – Triclosan 1% or Chlorhexidine 4%, available over the counter from pharmacies
- dentures are to be soaked overnight in a denture cleaning product.

For known throat carriage, the patient should gargle twice daily with a 0.2% chlorhexidine-based mouthwash, available over the counter from pharmacies.

A review of any known allergies to components of the antiseptics or antibiotics to be utilised, should be undertaken prior to commencement of treatment.

Local procedures to support appropriate screening and to facilitate decolonisation as required, need to be established including processes to assist where there are concerns with cost, and resource implications identified, for:

- Aboriginal people, particularly those in regional and remote areas who may not have ready access to pharmacies. Consideration should be given for liaison with Aboriginal Medical Services (AMS)/clinics or other relevant services
- low-income patients.

Information should be provided to each patient undergoing decolonisation treatment to assist in facilitating other appropriate strategies to support load reduction at home, prior to admission, as outlined in the WA Health information sheets linked below. Communication methods such as telehealth and/or an interpreters should be utilised as necessary to support patient understanding of processes to be implemented. Information (including indicative costings for treatment) can be found at the following links:

- [Decolonisation treatment for MRSA](#)
- [MRSA decolonisation treatment – information for consumers](#)
- [MRSA decolonisation treatment – information for healthcare providers](#)
- [Procedure Specific Information Sheets \(PSIS\)](#) – refer to these information sheets for large text, plain text and picture versions of relevant information.

Emergency orthopaedic procedures involving insertion of prosthetic material

In the case of emergency orthopaedic procedures involving insertion of prosthetic material where the *S. aureus* status is unknown, an assessment for risk factors for development of an SSI should be undertaken. Risk factors to be evaluated include age, smoking status, frequent hospitalisations, pre-existing medical conditions such as diabetes mellitus, cancer or a weakened immune system, body mass index (BMI) and the American Society of Anesthesiologists physical status classification (ASA score).

For further information, refer to Appendix 2: Risk index score calculation for SSI in the [Healthcare Infection Surveillance of Western Australia \(HISWA\) Surveillance Manual](#).

Patients with unknown *S. aureus* status, who are assessed as high-risk for development of an SSI or those who have been previously identified as colonised with MSSA/MRSA, are recommended to commence decolonisation therapy as soon as practical after admission, as guided by the treating procedural team.

Administration of prophylactic pre and/or intra-operative intravenous antibiotics should be as per the [Therapeutic Guidelines: Antibiotics](#).

2.3 MRSA clearance guidance

Post-decolonisation screening to determine if clearance has been achieved is not routinely recommended, however, it can be conducted when the outcome of screening is considered useful for the management of MRSA such as:

- individuals at increased risk for infection due to other existing medical conditions
- where there are ongoing infections occurring in households or a well-defined, closely associated cohort, such as a dormitory, sports club or day-care centre
- individuals request to know their outcome

- decolonisation and clearance is requested by the Department of Health for MRSA strains of concern.

Clearance screening can only be undertaken if:

- at least three months has passed since the last known positive result
- the person has not used any topical antiseptics for the past week
- the person is not on antibiotics at time of screening.

Two sets of nasal, two sets of pharyngeal swabs pre-moistened with sterile water and two sets from any wounds or skin lesions are required. Sets can be taken consecutively on the same day.

When the above clearance screening criteria are met and two sets of negative clearance screening results are received, the MRSA micro-alert can be removed from the clinical record by an IPC team member.

Refer to MP 0177/23 [Guidelines for the Screening and Management of Multi-resistant Organisms in Healthcare Facilities](#) for further information.

3. Roles and Responsibilities

WACHS Executive and Regional Executive teams are responsible for ensuring the processes outlined in the relevant National Safety and Quality Health Service Standards are in place.

WACHS Managers and Supervisors are responsible for monitoring compliance of relevant staff to this procedure.

The **preadmission nurse** is responsible for facilitating a preoperative screening process as outlined in the document, to allow time for results to be returned and appropriate action taken in relation to decolonisation, where required.

The **treating procedural team** is responsible for reviewing and assessing risks associated with the procedure and current patient presentation and prescribe decolonisation therapy for *S. aureus* as appropriate.

All staff are required to comply with the directions in WACHS policies and procedures as per their roles and responsibilities. If staff are unsure which policies procedures and guidelines apply to their role or scope of practice, and/or are unsure of the application of directions they should consult their manager in the first instance.

4. Monitoring and Evaluation

Regular monitoring and evaluation of screening and decolonisation practices is to be undertaken and risk management strategies shall include but are not limited to those outlined below.

Monitoring of compliance to this procedure is to be undertaken by review of:

- outcome indicators for SABSIs reported to the Infection Prevention and Policy Surveillance Unit (IPPSU)
- outcome indicators for healthcare associated *S. aureus* SSIs reported to the IPPSU

- HA-SABSI related to CVADs, and haemodialysis and healthcare associated *S. aureus* SSIs related to orthopaedic implant surgery notified via the WACHS clinical incident management System (CIMS)
- outcomes of auditing and process and clinical indicator data is to be escalated as applicable with actions implemented, documented and monitored via regional Infection Prevention and Control Committees and other relevant committees.

The WACHS Infection Control Advisory Forum (ICAF) is to review this procedure every five years, or earlier if required.

5. References

World Health Organization. Global Guidelines for the Prevention of Surgical Site Infection, 2018. <https://www.who.int/publications/i/item/9789241550475> [Accessed: 1 April 2025]

Communicable Disease Control Directorate (CDCD). Healthcare infection surveillance of Western Australian (HISWA) Surveillance manual Version 9, September 2024. [Healthcare Infection Surveillance of Western Australia](#) [Accessed: 1 April 2025]

National Health and Medical Research Council. Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019) <https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-prevention-and-control-infection-healthcare-2019> [Accessed: 1 April 2025]

MP 0177/23 - Screening and Management of Multi-resistant Organisms in Healthcare Facilities Policy, 2023. <https://www.health.wa.gov.au/About-us/Policy-frameworks/Public-Health/Mandatory-requirements/Communicable-Disease-Control/Infection-Prevention-and-Control/Screening-and-Management-of-Multi-resistant-Organisms-in-Healthcare-Facilities-Policy>. [Accessed: 1 April 2025]

Portais A, Gallouche M, Pavese P, Caspar Y, Bosson JL, Pascal Astagneau, et al. *Staphylococcus aureus* screening and preoperative decolonisation with Mupirocin and Chlorhexidine to reduce the risk of surgical site infections in orthopaedic surgery: a pre-post study. Antimicrobial resistance and infection control. 2024 Jul 11;13(1). <https://doi.org/10.1186/s13756-024-01432-2> [Accessed: 1 April 2025]

Smith M, Herwaldt L. Nasal decolonization: What antimicrobials and antiseptics are most effective before surgery and in the ICU. American Journal of Infection Control [Internet]. 2023 Nov 1;51(11, Supplement):A64–71. <https://www.sciencedirect.com/science/article/pii/S0196655323000731> [Accessed: 1 April 2025]

Therapeutic Guidelines. Melbourne: Therapeutic Guidelines – Antibiotic <https://www.tg.org.au> [Accessed: 1 April 2025]

6. Definitions

Term	Definition
Colonisation	Colonisation is the presence of microorganisms without clinical signs of infection.
Decolonisation	Decolonisation is the process of eradicating or reducing asymptomatic carriage of <i>S. aureus</i> using topical and/or systemic antimicrobial agents.
Micro-alert	Micro-alert is a generic term used to refer to the flag applied to the patient medical record in the patient management system to indicate a carrier of a multi-resistant organism (MRO) or a previously unscreened contact of a person with an MRO.
Multi-resistant organism	Multi-resistant organisms include bacteria, fungi and viruses that have developed resistance to one or more classes of antimicrobial and/or antiviral agents.

7. Document Summary

Coverage	WACHS wide
Audience	Nursing and Medical staff working in Pre-operative care settings, Peri-operative care settings and Infection Prevention and Control.
Records Management	Non-Clinical: Corporate Recordkeeping Compliance Policy Clinical: Health Record Management Policy
Related Legislation	Health Services Act 2016 (WA) Public Health Act 2016 (WA) Therapeutic Goods Act 1989 (Cwlth) Work Health and Safety Act 2020 (WA) Work Health and Safety Regulations 2022 (WA)
Related Mandatory Policies/Frameworks	<ul style="list-style-type: none"> • MP 0177/23 Screening and Management of Multi-resistant Organisms in Healthcare Facilities Policy • MP 0134/20 National Safety and Quality Health Service Standards Accreditation Policy • Clinical governance, Safety and Quality Framework • Public Health Policy Framework
Related WACHS Policy Documents	<ul style="list-style-type: none"> • Antimicrobial Stewardship Policy • Engaging Consumer and Carer Representatives Policy • Environmental Cleaning Policy • Hand Hygiene Policy • Infection Prevention and Control - Patient management and healthcare worker exclusion periods Policy • Infection Prevention and Control Inpatient Placement and Cohorting Guideline • Infection Prevention and Control Policy • Peritoneal Dialysis Catheter Exit Site Care and Management Guideline • Waste Management Policy • Work Health and Safety Policy
Other Related Documents	<ul style="list-style-type: none"> • DoH Guidelines for the Screening and Management of Multi-resistant Organisms in Healthcare Facilities • Infection Prevention and Control Policies, Procedures and Resources List
Related Forms	Nil
Related Training	Available from MyLearning : <ul style="list-style-type: none"> • Hand Hygiene Declaration (CICHH EL2) • Basics of Infection Prevention and Control Orientation Module (CICB EL2) • Correct Use of Personal Protective Equipment (PPE EL1)
Aboriginal Health Impact Statement Declaration (ISD)	ISD Record ID: 4090

<u>National Safety and Quality Health Service (NSQHS) Standards</u>	1.09, 1.10, 1.15, 3.01, 3.02, 3.04, 3.05, 3.08, 3.09 3.12, 3.17, 5.07
<u>Aged Care Quality Standards</u>	1(1)(2a)(2b)(2c); 3(1)(2); 4(1)(2); 5(1)(2); 7(1)(2); 8(1)(2).
<u>Chief Psychiatrist's Standards for Clinical Care</u>	Nil
<u>Other Standards</u>	Nil

8. Document Control

Version	Published date	Current from	Summary of changes
2.00	1 May 2025	1 May 2025	<ul style="list-style-type: none"> rework of Midwest Preoperative Staphylococcus Aureus Screening for High-Risk Surgery Procedure V1.0. including change of title updated guidance, roles and responsibilities and reference to Department of Health MRO Policy.

9. Approval

Policy Owner	Executive Director Clinical Excellence
Co-approver	Executive Director Nursing and Midwifery Services
Contact	Clinical Nurse Consultant Infection Prevention and Control
Business Unit	Nursing and Midwifery
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