

## Pre-procedure staphylococcal load reduction - information for clinicians

### Background

Patients known to have persistent nasal carriage with *Staphylococcus aureus* (either methicillin-susceptible *S. aureus* (MSSA) or methicillin-resistant (MRSA)) are at a higher risk of developing a post-operative surgical site infections due to *S. aureus*. A majority of such infections are caused by the patient's own strain of *S. aureus* (i.e. so-called 'endogenous' infections).

Pre-procedure load reduction using topical nasal mupirocin and an antiseptic body application is effective at reducing staphylococcal skin load. It has also been shown to be highly effective for prevention of *S. aureus* infection related to hemodialysis access devices.

Staphylococcal load reduction (formerly called eradication or decolonisation) is also used for patients with recurrent staphylococcal skin infection – see [HNELHD Community Health Pathways](#) for further information or consult Infectious Diseases.

### Current procedure for HNELHD patients

Preoperative MSSA/MRSA screening is required for patients undergoing the following procedures:

- Open cardiac and valve procedures
- Shoulder, hip or knee joint total arthroplasties: primary or revision procedures
- Vascular surgery – aortic surgery (stent and open), all lower limb open surgery for vascular reconstructions (bypass, endarterectomy) and iliac stents

For screening, a [nasal swab](#) is used to sample both nostrils with same swab. The pathology request should specify '**Preop. staph screening**' and include details of the planned procedure.

Patients shown to be nasal carriers of MSSA or MRSA undergo load reduction optimally 5 days prior to the procedure. For emergency procedures, the process can commence as soon as practicable prior to surgery and continue post-operatively to make up the 5 days. There is a patient information sheet.

The process involves:

- Twice daily application of nasal 2% mupirocin (if resistance to mupirocin demonstrated, octenidine nasal gel needs to be prescribed)
- Daily application of non-rinse aqueous 2% chlorhexidine wipes. If these are not available, then use Microshield 2 (chlorhexidine 2%) skin cleanser.
- A range of personal and household hygiene measures to remove potential staphylococcal reservoirs

Carriers of MRSA require the addition of Teicoplanin for preoperative surgical prophylaxis ([HNELHD Surgical Antibiotic Prophylaxis Guidelines](#)).

Repeat nasal screening is NOT required to post load reduction or procedure.

If a patient who has undergone *S. aureus* load reduction is prepared for theatre and then cancelled, repeat load reduction is required prior to the re-scheduled procedure only if this is delayed for more than 1 month.

Repeat nasal screening is required for patients delayed for more than 1 month who were initially nasal screen negative for *S.aureus*.

Patients carrying MRSA are not considered 'cleared' by the load reduction. An active alert will remain on iPM and Contact precautions are still required.

If the purpose of screening is also to 'clear' a patient's MRSA carriage status (based on advice from Infection Prevention Service), then two separately collected sets of nose/throat/perianal swabs are required (request is for '**MRSA screening**').

### References

1. HNE Health Preoperative procedures for the prevention of surgical site and implanted device infections, 2019
2. [World Health Organisation Global guidelines on the prevention of surgical site infection](#), 2016, section 4.2
3. Bode et al. Preventing Surgical-Site Infections in Nasal Carriers of *Staphylococcus aureus*. N Engl J Med 2010;362: 9-17.