

Screening and Suppression

Quick Reference Guide for Primary Care

For consultation and local adaptation

- MRSA control is important to minimise prevalence and clinical impact, and prevent occurrence in MRSA-free areas.¹
- MRSA prevalence in UK: <1% of patients living at home,⁴ 22% of care home residents³ and 40% of positive *S. aureus* blood cultures.² 82% of those with MRSA infection are ≥ 60 years.⁶
- Some MRSA-colonised patients develop infection,¹ which is associated with increased mortality.⁵
- MRSA-colonised patients are at risk of developing surgical site infections caused by their colonising strains.
- The management of symptomatic MRSA infections in the community will be covered in BSAC guidance being developed.

WHEN IS PRIMARY CARE INVOLVED?

GPs may be asked to screen and decolonise patients if, for example, a patient elects to have surgery outside their PCT. Hospitals may have local protocols that should be followed. If not, this guidance offers an evidence-based approach. Many hospitals have pre-admission clinics to select and screen patients for MRSA.

MRSA SCREENING

Which patients should I screen for MRSA?

- B GPs or pre-admission clinics should screen patients awaiting elective admission who meet local screening criteria that are likely to include patients at:
- A 1. **high risk of suffering serious MRSA infections** (includes surgical procedures such as prosthetic implant) **or on units with a high proportion of MRSA infections among colonised patients** (includes intensive care, burns, transplantation, cardiothoracic, orthopaedic, trauma, vascular surgery, renal & referral centres).^{1,7}
- A 2. **high risk of MRSA carriage** - previous MRSA infection or colonisation, frequent readmission to healthcare facilities, recent inpatient/resident at hospital or care facility with known or likely high MRSA prevalence¹

How do I screen a patient for MRSA?

- D In most cases, patients should be swabbed as close to elective admission as possible.^[a]
- A **Swab anterior nares (nose) and skin lesions or wounds.**^{[b]1}
Wipe a swab around inside rim of patient's nose for 5 seconds. Label the bacteriology form "MRSA screen".

INTERPRETING THE LABORATORY REPORT

Only MRSA will be looked for when swabs are labelled "MRSA screen".
Positive cultures are reported as "MRSA isolated". Negative cultures are reported as "MRSA not isolated".⁸
After the first swab, laboratories do not usually report antibiotic susceptibilities.

SUPPRESSION OF MRSA^[c]

- D Regimens aim to reduce MRSA below detection level at time of risk, to decrease chance of infection and spread. Suppression should take place in the 5 days prior to operation,¹⁰ as it may not be successful in the long term.¹¹ Nasal and skin treatments may only suppress MRSA,⁹ therefore always advise admitting ward of patient's MRSA status, to allow appropriate pre-operative preparation and prophylaxis. Systemic treatment should only be prescribed in line with local policy.

How do I suppress MRSA?

- B To reduce persistent MRSA carriage, treat underlying skin conditions (e.g. eczema, dermatitis), remove and/or replace invasive devices and treat skin breaks.^{1,14} Choice of skin regimen for patients with underlying skin conditions should consider the potential for skin irritation.^{[d]15} Where necessary, seek advice from Dermatologist.

- B **Use both nasal and skin regimens**

| Area | Regimen | Instructions |
|-------|--|---|
| Nasal | A 2% mupirocin in paraffin base 3 times a day for 5 days | A Apply pea-sized amount to inner surface of each nostril. A Patients should be able to taste mupirocin at back of throat. |
| | A 4% chlorhexidine gluconate body-wash/shampoo Alternatives: 7.5% povidone iodine or 2% triclosan. ¹ Daily for 5 days | A Moisten skin and apply undiluted antiseptic then rinse. A Particularly apply to known carriage sites (axilla, groin & perineum). Wash hair using antiseptic body-wash/shampoo. B After washing, use clean towels, sheets & clothing. ¹² D Launder items separately from other family members, using as high a temperature as fabric allows. ¹³ |

POST-SUPPRESSION SCREENING

How do I know if a patient's MRSA has been suppressed?

- D Refer to appropriate hospital policy regarding requirement for clearance screens prior to admission. Where necessary, perform 3 screens (as above), one week apart. Begin at least 48 hrs after end of antiseptic & antibiotic therapy. If decolonisation fails, seek advice from the Infection Control Team.

What do I do if a patient is discharged from hospital MRSA positive?

- D Generally, MRSA-positive patients do not require special treatment after discharge.¹
- A Where practical, standard infection control procedures should be followed. MRSA-positive patients undergoing medical or nursing procedures in primary care (e.g. wound dressings, minor surgery) should be seen at the end of the list.¹²
A patient information leaflet is available from¹⁶: http://www.prodigy.nhs.uk/patient_information/pils/mrsa.htm

KEY A B C D indicates grade of recommendation

This guidance was produced by the South West GP Microbiology Laboratory Use Group in collaboration with GPs, Association of Medical Microbiologists and experts in the field, and is in line with other UK GP guidance including CKS.

This guidance should be adapted locally to comply with local Trusts' MRSA screening & admission/operation policies.

- [a]: An alternative strategy would be to screen patients in sufficient time to allow possible decolonisation regimen and three post-decolonisation screening swabs prior to elective admission. Patients who are MRSA-negative who live in their own home are at minimal risk of colonisation prior to admission however, residents of care facilities are at risk of recolonisation and may require re-screening on admission.¹
- [b]: In addition to the nares and wounds, it may increase screening sensitivity to swab the perineum/groin.¹⁷ There is no good quality evidence in the literature regarding which patients and which body sites should be screened and current practice is varied.¹ Recommendations of the Joint Working Party for BSAC, HIS and ICNA are that the following sites should be sampled: anterior nares, skin lesions or wounds, sites of catheters, catheter urine, groin/perineum, tracheostomy and other skin breaks and sputum from patients with a productive cough.¹ However, carriage is most common in the nares and most patients who are positive at other sites are also positive in the nares.⁷ Swabbing both nostrils only gives a minor increase in yield,¹⁸ however, most current guidelines recommend swabbing both nares (with the same swab).^{10,12,17} There is no evidence that moistened swabs have increased recovery compared to dry swabs, however, many guidelines recommend moistening the swab with sterile water or saline prior to swabbing.¹⁷
- [c]: The term ‘suppression’ has been used in this guideline where others have used ‘decolonisation’, ‘decontamination’ and ‘reducing the burden’. We consider ‘suppression’ to accurately describe the decrease in isolation of MRSA that can be achieved following antimicrobial regimens.
- [d]: Chlorhexidine gluconate 4% may not be suitable for patients with underlying skin disease.¹⁵ Kampf and Kramer¹⁵ state that irritant contact dermatitis is highest for preparations containing 4% chlorhexidine gluconate used for hand hygiene and less frequent for preparations with lower concentrations of chlorhexidine gluconate and lowest with well-formulated alcohol-based hand rubs. They found insufficient evidence to investigate irritation caused by triclosan and do not comment on povidone iodine.

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