Screening for Meticillin-resistant *Staphylococcus aureus*

**Aim**

To ensure that all relevant patients are screened for the presence of Meticillin-resistant *Staphylococcus aureus* (MRSA) in their nose (and their skin in some circumstances) prior to or on admission, and are given suppressive (decolonisation) treatment where necessary. The aim is to reduce the risk of a patient developing an MRSA infection, or passing MRSA on to others. This guidance is not intended to alter existing good practice, but rather to clarify what constitutes effective screening.

**Context**

The normal habitat of *Staphylococcus aureus*, including MRSA, is human skin, particularly in the anterior nares (nose), axilla (armpit) and perineum (groin). Clinical infection with MRSA (including MRSA bacteraemia) occurs either from the patient’s own resident MRSA (if he or she is an asymptomatic carrier) or by cross-infection from another person, who could be an asymptomatic carrier or have a clinical infection. Patients with a clinical infection caused by MRSA should, where feasible, be cared for in single-room isolation to minimise the risk of transmission.

Screening of relevant elective admissions was in place across the NHS by 1 April 2009, and relevant emergency admissions will be screened across the NHS by 31 December 2010. NHS organisations have an MRSA screening policy and a statement of compliance for elective screening. Those organisations that admit relevant emergency patients were asked to refresh and republish their MRSA screening policy and statement of compliance with the requirement to screen relevant emergency admissions by 31 December 2010.

Previous advice and guidance was issued mainly in the form of a best practice summary document and frequently asked questions, and these have been drawn together in this document.

**Relevant patients**

It is expected that the bulk of admissions are screened including most day cases. However, there are some groups of patients where the risk of MRSA infection is small, and for whom there could be significant cost but little or no benefit in screening. It is obviously impossible for best practice guidance such as this to cover all circumstances, and individual organisations have been encouraged to develop their own protocols for screening in the light of local clinical experience. In particular, individual organisations are expected to base their plans on local clinical experience and to agree those plans between the provider and PCT commissioner as appropriate.

As mentioned above, the exact categories of relevant patients will ultimately be decided in the light of local clinical experience. Generally however, routine screening of the following groups is not considered necessary, unless there are clinical reasons to the contrary.
- Day case ophthalmology
- Day case dental
- Day case endoscopy
- Minor dermatology procedures, eg, warts or other liquid nitrogen applications
- Children/paediatrics unless already in a high risk group
- Maternity/obstetrics except for elective caesareans and any high risk cases, i.e. high risk of complications in the mother and/or potential complications in the baby, (e.g. likely to need SCBU, NICU because of size or known complications or risk factors.)
- Minor procedures such as arthroscopies, lumbar puncture, joint injections or minor hand surgery such as carpal tunnel decompression
- Patients who are not receiving any medical or surgical treatment – e.g. those in respite care, or day cases attending for pain management therapy, and attendances for clinical immunology
- Terminations of pregnancies
- Radiological patients
- Mental health patients. It should be noted however that mental health service users may have other clinical conditions that may put them at risk of MRSA infection and they should be screened for that reason, e.g.
  - those who are admitted to mental health units following surgical procedures,
  - those that are admitted following admission to an acute Trust,
  - intravenous drug users,
  - those who self harm, or
  - people with chronic wounds e.g. leg ulcers, or with indwelling devices such as catheters

Routine suppressive (decolonisation) treatment for patients in certain specialties, e.g. orthopaedic surgery, is implemented by some surgeons and may form part of local policies. However, routine decolonisation of all patients is not considered a suitable long-term option, and is not an acceptable alternative to screening.

This guidance refers to NHS patients. If NHS patients are in private facilities (say under Choice) then they should be screened; whether private patients are screened is a matter for their care providers.

Renal patients

All patients on dialysis should be screened for MRSA on admission to the programme and then at regular intervals, determined by local practice in the light of national guidance. All patients should be screened for MRSA prior to creation of vascular or peritoneal access.

Other regular attenders

There is a case for some other regular attenders, e.g. for chemotherapy, to be screened at the beginning, but not at every attendance. The frequency of screening should be determined by local practice. Those with underlying/chronic conditions who frequently attend as emergencies should be screened in accordance with a planned regular screening programme appropriate to their condition.
People admitted for observation

Consideration should be given to screening people admitted for observation given the potential for their contact with other patients who may go on to be admitted.

Timing of screening

The majority of elective admissions requiring suppressive (decolonisation) treatment will be identified and will have started, and in many cases completed, the course of suppressive treatment before they are admitted. The treatment should be done as close to the time of admission and the clinical interventions as is reasonably possible. Some trusts start suppressive (decolonisation) treatment 3 days before admission and complete the 5 days after admission, which is consistent with this approach. It must be for clinicians to advise their patients on the most appropriate timing of the process according to individual circumstances.

All relevant emergency admissions should also be screened. This does not include attendances at A&E Departments, neither is there any expectation that patients should be screened in ambulances. In this context, admissions include those being admitted to hospitals on an emergency basis regardless of the route of attendance, e.g. through A&E, Minor Injuries Unit, GP, or other routes such as an outpatient clinic or rapid access unit.

Screening of emergency admissions should be done as soon as practicable in the admission process, but should not delay admission or urgent clinical treatment. Similarly, screening should not affect the 4-hour wait and will not be seen as an acceptable reason for breaches. It is important that all appropriate patients are offered suppressive therapy and that compliance is monitored in line with local protocols. This includes both patients found to be positive on screening and those considered to be of sufficient high risk to be given suppressive treatment immediately, irrespective of waiting for the result.

High-risk patients –those in high risk areas or specialties or admitted from high risk environments such as emergency orthopaedic or trauma admissions, should be treated as if positive until a negative result is received. That is considered for suppressive therapy and isolated/cohorted accordingly. Precise selection of high-risk patients should be based on local knowledge and evidence. If a patient is to receive emergency surgery, prophylactic antibiotics should be considered in line with local microbiological guidance and including MRSA cover.

Patients admitted on emergency transfer from other hospitals (NHS or private) may have been screened on admission to that hospital. Screening on arrival at the receiving hospital should be considered where patients have not been screened, or have not been screened in line with local protocols, or if for other reasons is considered to be at risk of acquisition of MRSA.

Those screened but discharged before the result is known should be contacted and offered suppressive (decolonisation) therapy where appropriate either by their GP or through the hospital in accordance with local protocols. Such local protocols should be clear and known to all relevant staff across the local health and social care economy.
Consent

Patients cannot be forced to comply with a request for a screening test for MRSA. In the unlikely event that a patient refused to be screened, the consequences of this should be explained to them, in particular possible delays while appropriate measures are put in place to treat that patient.

Patient information about screening

Patients will need clear information on screening in a language and format that they understand. They will need to know; when they will be screened, by whom, for what, what being positive or negative actually means, and how to use the suppressive (decolonisation) treatments themselves. Leaflet templates can be adapted for local use and are available on the Department of Health website.

Sites for swabbing

Exactly which sites to take samples from patients has been left to the decision of the local microbiologist and Infection Prevention and Control teams. It would be reasonable to expect all screening to include the nose (the commonest site for MRSA) as a minimum, and other sites such as the armpit and groin may also be swabbed. Other sites should be tested as appropriate. For example breaks in the skin, including exfoliating skin conditions, urine if a catheter is present and sputum if the patient has a productive cough.

Test methods

This can be conventional culture-based microbiology or rapid molecular-based testing. The method for particular patient groups should be decided by the trust in the light of its own organisation, activities and local need.

The 18-week clock

Patients tested as positive for MRSA will have to be given suppressive treatment and treated for their underlying condition within the 18 weeks pathway.

Trusts will need to predict and then manage the demand and capacity for single rooms and other facilities. They will need to appropriately re-design systems and processes to care for patients following suppressive treatment, which will need to be integrated into the patient pathway.

Note that a patient's 18-week clock cannot be paused for clinical reasons. Clinically complex pathways such as these will be handled within the operational tolerance.

If the consultant makes a clinical decision that it is in the interest of the patient to refer them back to primary care, then the patient's 18-week clock may be stopped on the date that this decision is made and communicated to the patient. It is not expected that patients will be referred back to primary care purely because they are MRSA positive. Exceptional reasons
will be needed to support such clinical decisions. Local systems should be used to provide assurance that all referrals back to primary care are supported by exceptional reasons.

A new 18-week clock should start when/if a patient is referred back into consultant-led care.

**Screening staff**

Routine screening of staff for MRSA carriage is not recommended practice although the Infection Prevention and Control team may advise screening when there are particular epidemiological features to indicate that a staff member or members may be the source of linked cases of MRSA infection. Guidance on screening staff was published in the Journal of Hospital Infection in 2006.\(^1\)

Where staff have been tested positive for MRSA carriage, the guidance published in the Journal of Hospital Infection should be followed. Generally, staff with known active infection with *Staphylococcus aureus* (MRSA or MSSA) should not be engaged in direct clinical work until their lesions are healed. It is important that staff who contract an MRSA infection are properly dealt with, both for their own and for their patients’ benefit. Advice should be sought from the Infection Control Team and the Occupational Health Department. Of course, staff who contract an infection would be treated for the infection like any patient. In addition, there is an obligation on trusts and on individual clinical staff members to take all necessary and appropriate measures to protect their patients from potential harm, in this case infection with MRSA.

**GPs and primary care**

It is important that tackling HCAIs, and specifically in this instance screening, is addressed as a whole health economy issue. MRSA screening should therefore be conducted in a coherent and coordinated way, with each part of the system playing its relevant role.

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