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| **Screening** | |
| **Previous recommendations** | **Changes to recommendations** |
| Active screening of patients for MRSA carriage should be performed and the results should be linked to a targeted approach to the use of isolation and cohorting facilities | *Rephrased recommendation:*  1.1 Targeted or universal patient MRSA screening must be performed and must be linked to a specific point of action such as decolonization or isolation (or both). |
| Certain high-risk patients should be screened routinely, and certain high-risk units should be screened at least intermittently in all hospitals. The fine detail regarding which patients are screened should be determined locally by the infection control team and must be discussed with the appropriate clinical teams and endorsed by the relevant hospital management structure. They will be influenced by the local prevalence of MRSA in the hospital and unit concerned, the reason for admission of the patient, the risk status of the unit to which they are admitted, and the likelihood that the patient is carrying MRSA. Patients at high risk of carriage of MRSA include those who are:  (*description follows*) | *Rephrased recommendation:*  1.2 Use at least a targeted approach but consider using universal screening as appropriate depending on local facilities. |
| *Rephrased recommendation:*  1.3 If a targeted approach is used, define risk factors for MRSA carriage as appropriate for your area. |
| In addition, screening all patients (regardless of their risk-group status) should be considered on admission to high-risk units | *Removed recommendation*  Refer to recommendations 1.1, 1.2 and 1.3 |
| The following sites should be sampled for patients (Category 1b): anterior nares, skin lesions and wounds and sites of catheters, catheter urine, groin/perineum, tracheostomy, and other skin breaks in all patients, and sputum from patients with a productive cough. The umbilicus should be sampled in all neonates. One should also consider sampling the throat. | *Rephrased Good Practice Point:*  GPP 1.1 Establish local protocols for how swabs should be taken. The swabs should include a minimum of two sites and should include the following: nose, perineum, device entry sites, wounds, urine, and sputum, as appropriate depending on clinical presentation. |
| Regular (e.g., weekly, or monthly, according to local prevalence) screening of all patients on high-risk units should be performed routinely | *Rephrased recommendation:*  2.1 Do not perform repeat MRSA screening for patients who screen positive at admission unless the patient undergoes decolonization therapy. |
| *Rephrased recommendation:*  2.2 If the patient undergoes decolonization therapy, consider repeat MRSA screening 2-3 days following the therapy, to determine whether decolonization was successful or not. |
| No recommendation is made about performance of ‘discharge screening’. | *Rephrased recommendation:*  2.3 Do not perform repeat MRSA screening for patients who screen negative at admission unless there is a significant MRSA exposure risk or where there is a locally assessed risk of late acquisition. |
| 2.4 If there is a significant MRSA exposure risk (e.g., contact of a confirmed MRSA case), consider re-screening the patient to determine whether MRSA was acquired. |
| In general, detection of patients colonized or infected with MRSA on a ward should be an indication for increased screening | *Removed recommendation* |
| There is always a delay between MRSA acquisition by a patient and its presence being detectable by screening samples, so it is recommended that at least three screens at weekly intervals should be performed before a patient can be considered to be at low risk of having acquired MRSA if they have been nursed in proximity to unknown and un-isolated MRSA-positive patients or by the same staff | *Removed recommendation* |
| *No previous recommendation* | *New recommendation:*  3.1 Use either PCR or traditional culture methods for MRSA screening as you consider appropriate depending on the local facilities. |
| *No previous recommendation* | *New Good Practice Point:*  GPP 3.1 If using PCR methods, maintain access to culture methodology for specific circumstances such as outbreak investigation or sensitivity testing, and to support molecular technologies. |
| Performance of active screening for MRSA in each unit within a hospital must be the subject of regular audit, with the results reviewed and minuted by the hospital’s infection control committee and made available to the appropriate hospital management structure | *Removed recommendation* |
| Units with highly prevalent, endemic MRSA should consider focusing screening, control measures and other resources on high-risk units at first, with the intention of rolling them out to lower-risk areas after the position has improved | *Removed recommendation* |
| Geographically adjacent healthcare facilities, and those exchanging large numbers of patients because of clinical links, should liaise to agree common and efficient screening measures that should be linked to common and efficient control measures | *Removed recommendation* |
| Results of screening cultures should be made available promptly to the clinical and infection control teams of other healthcare facilities to whom a patient is to be, or has recently been, transferred | *Removed recommendation* |
| **Staff screening and management** | |
| Screening of staff is not recommended routinely, but if new MRSA carriers are found among the patients on a ward, staff should be asked about skin lesions. Staff with such lesions should be referred for screening and for consideration of dermatological treatment by the relevant occupational health department | *Rephrased recommendation:*  4.1 Do not routinely screen staff for MRSA. |
| Staff screening is indicated if transmission continues on a unit despite active control measures, if epidemiological aspects of an outbreak are unusual, or if they suggest persistent MRSA carriage by staff | *Rephrased recommendation:*  4.2 Consider screening staff for MRSA if there is an epidemiological reason for suspecting a staff member as a source of MRSA, e.g., if transmission continues on a unit despite active control measures, if epidemiological aspects of an outbreak are unusual, or if they suggest persistent MRSA carriage by staff. |
| Appropriate sampling sites for staff screening include anterior nares, throat and any areas of abnormal or broken skin | *New Good Practice Point:*  GPP 4.1 Screen staff at the beginning of the shift to avoid mistaking the transient carriage for persistent carriage. Appropriate sampling sites for staff screening include anterior nares and any areas of abnormal or broken skin. |
| *New Good Practice Point:*  GPP 4.2 For staff who test positive, consider additionally screening throat, hairline, and groin/perineum as these if positive, increase the risk of shedding into the environment and transmission. |
| Staff with persistent carriage at sites other than the nose should be considered for referral for appropriate specialist management (e.g. ear, nose and throat; dermatology) who should arrange follow-up screening according to local protocols | *Rephrased recommendation:*  5.1 5.1 Consider excluding staff from work, reducing their interaction with patients, or offering decolonization therapy as deemed appropriate. |
| *Rephrased recommendation:*  5.2 Consider investigating the risk factors for staff MRSA carriage. Investigate staff members with persistent carriage in a multi-disciplinary setting to determine any associated factors. |
| Care is needed to distinguish between transient carriage (i.e. nasal carriage which is lost within a day or so of removal from contact with MRSA-positive patients and carries little risk of onward transmission) and prolonged carriage (especially associated with skin lesions) | *Removed recommendation* |
| Nurses, doctors, physiotherapists, other allied health professionals and non-clinical support staff (e.g., porters) should be considered for screening, and the implications for onward spread by staff working on other wards should also be considered | *Removed recommendation* |
| The special difficulties and risks posed by agency and locum staff should be considered | *Removed recommendation* |
| It is recommended that a minimum of three screens at weekly intervals, while not receiving antimicrobial therapy, should be performed before a previously positive staff member can be considered to be clear of MRSA | *New Good Practice Point:*  GPP 5.1 Develop local policies to guide the decision when staff should be excluded from work and when they should return, taking into consideration the individual’s risk of transmission to patients (e.g., a staff member colonized with MRSA who is working in an ICU or neonatal unit represents a greater potential risk to patients than a staff member with MRSA working in an outpatients’ department). |
| Local policies should be developed to guide post-clearance sampling of staff |
| *New Good Practice Point:*  GPP 5.2 For staff members with nasal carriage: offer decolonisation therapy, exclusion is not required. For staff with infected hand lesion/skin rash: offer decolonisation therapy AND re-deploy to low risk areas or exclude from work. |
| **Decolonisation/suppression** | |
| **Previous recommendations** | **Changes to recommendations** |
| Patients receiving prophylaxis for an operative procedure and in an outbreak situation under the advice of the infection control team should undergo nasal decolonization. This should be achieved by applying mupirocin 2% in a paraffin base to the inner surface of each nostril (anterior nares) three times daily for five days. The patient should be able to taste mupirocin at the back of the throat after application | *Rephrased recommendation:*  6.1 Continue to use mupirocin for nasal decolonisation, either selectively or universally, in high-risk patients |
| Skin decolonization using 4% chlorhexidine bodywash/shampoo, 7.5% povidone iodine or 2% triclosan is useful in eradicating or suppressing skin colonization for short times, particularly preoperatively to reduce the risk of surgical site infections | *Rephrased recommendation:*  6.2 Continue to use chlorhexidine, either selectively or universally, for body decolonisation to reduce MRSA carriage. |
| For patients with eczema, dermatitis or other skin conditions, attempts should be made to treat the underlying skin condition. Advice on suitable eradication protocols for these individuals should be sought from a consultant dermatologist. Oilatum bath additive or Oilatum plus (with added benzalkonium chloride 6% and triclosan 2%) may be used with these patients; these should only be prescribed on the advice of a dermatologist (Category 2). | *Rephrased recommendation:*  6.3 Consider alternatives where mupirocin and chlorhexidine are not feasible. |
| Mupirocin should not be used for prolonged periods or used repeatedly (i.e. for more than two courses for five days) as resistance may be encouraged | *Rephrased recommendation:*  6.4 Monitor the emergence of resistance, especially to mupirocin and chlorhexidine, if used extensively |
| Nasal decolonization using topical nasal mupirocin should be used with other forms of intervention such as skin decolonization with 4% chlorhexidine gluconate aqueous solution | *Removed recommendation* |
| Systemic treatment should only be prescribed on the advice of the consultant microbiologist in the hospital, with appropriate monitoring [e.g. regular liver function tests (LFTs) to monitor effects of the drugs on the liver]. If treatment is required, this should be restricted to one course of treatment, the course should not be repeated and the possible side-effects should be explained to the patient | *Removed recommendation* |
| Systemic treatment should be given in conjunction with nasal mupirocin and skin decolonization | *Removed recommendation* |
| Local treatment for throat carriage such as antiseptic gargles or sprays may be used to reduce the organism load (no recommendation | *Removed recommendation* |
| Patients should bathe daily for five days with the chosen antiseptic detergent. The skin should be moistened and the antiseptic detergent should be applied thoroughly to all areas before rinsing in the bath or shower. Special attention should be paid to known carriage sites such as the axilla, groin and perineal area. The antiseptic should also be used for all other washing procedures and for bed bathing. Hair should be washed with an antiseptic detergent | *New Good Practice Point:*  GPP 6.1 Follow manufacturers’ guidance when using suppression/decolonisation products. |
| *New Good Practice Point:*  GPP 6.2 For skin decolonisation, if 4% CHG wash is used, moisten the skin, apply the wash, and leave for 1-3min before rinsing off; if 2% CHG wipes are used, do not rinse off. |
| *New Good Practice Point:*  GPP 6.3 For skin decolonisation, pay special attention to known carriage sites such as the axilla, groin, and perineal area. |
| After satisfactory completion of a course of treatment, i.e. each bath and hairwash, clean clothing, bedding and towels should be provided | *New Good Practice Point:*  GPP 6.4 After each bath and wash, provide clean clothing, bedding, and towels. |
|  | *New Good Practice Point:*  GPP 6.5 Consider using chlorhexidine in neonates only if there is no alternative and there is no broken skin present. |
| **Hospital cleanness** | |
| **Previous recommendations** | **Changes to recommendations** |
| Cleaning regimens and their performance should be audited regularly. | *New recommendation:*  7.1 Do not screen/sample the environment routinely |
| *New recommendation:*  7.2 Consider using environmental screening/sampling as part of targeted investigation of an outbreak. |
| Cleaning regimens for isolation facilities should focus on the minimization of dust and the removal of fomites from contact areas. This should be a two-fold approach; firstly, the management of the occupied facility, and then the terminal clean of the facility after discharge of the patient. | *Removed recommendation* |
| Cleaning regimens and products should be in accordance with local policy, but should include the removal of organic material with a general purpose detergent | *Rephrased recommendation:*  8.1 Continue using currently utilised products. |
| *No previous recommendation* | *New recommendation:*  8.2 Consider HPV or UV-C as an adjunct to terminal cleaning as a part of a wider IPC strategy. |
| *No previous recommendation* | *New recommendation:*  8.3 Consider antimicrobial surfaces and touch free devices as a part of a wider IPC strategy. |
| **Surveillance** | |
| **Previous recommendations** | **Changes to recommendations** |
| Surveillance must be undertaken routinely as part of the hospital’s infection control programme and must be a recognized element of the clinical governance process. As such, there should be clear arrangements identifying those responsible for acting on the results in individual hospital directorates | *Rephrased recommendation:*  9.1 Surveillance must be undertaken routinely as part of the hospital’s infection control strategy. Be aware that:  •There may be a potential lag period before the benefits are evident.  •Surveillance is only effective if followed by feedback to staff and when feedback drives the implementation of specific interventions to help reduce MRSA burden. |
| MRSA surveillance should include:  - any mandatory requirements  - results of microbiological investigations for clinical purposes and  - results of microbiological investigations undertaken for screening purposes | *Removed recommendation* |
| For benchmarking purposes, surveillance data should be collected and reported in a consistent way, to agreed case definitions and using agreed specialty activity denominators, with stratification according to case mix | *Removed recommendation* |
| *No previous recommendation* | *New recommendation:*  9.2 In settings where MRSA prevalence is low, consider surveillance of non-bacteraemic cases of MRSA to monitor the MRSA epidemiology. |
| Surveillance data should be fed back to hospital staff routinely, readily intelligible to most hospital staff, considered regularly at hospital senior management committees, and used in local infection control training. | *Rephrased recommendation:*  10.1 No recommendation (for the use of surveillance to drive system improvements). Good practice point set instead  *New Good Practice Point:*  GPP 10.1 Consider using local surveillance of MRSA acquisition as a component of local strategies to prevent and control MRSA and drive improvement where needed. |
| **Standard vs contact precautions and the use of isolation/cohorting** | |
| **Previous recommendations** | **Changes to recommendations** |
| The general principles of infection control should be adopted for the management of patients with MRSA. Good infection control practice should be placed at the centre of clinical practice, and requires the explicit support of the organizational executive to ensure that it is seen as having an appropriate position within the organization and can be enforced as a matter of clinical governance | *Rephrased recommendation:*  11.1 Use standard infection control precautions in the care of all patients to minimise the risk of MRSA transmission. |
| *New recommendation:*  11.2 For patients known to be colonised/infected with MRSA, use contact precautions (gloves and plastic aprons) for direct contact with the patient or their bed space. |
| *New recommendation:*  11.3 Gloves and aprons must be changed between care procedures and hand hygiene must be performed. |
| A standard approach to isolation precautions should be adopted in accordance with the general principles of infection control, rather than introducing specific guidance for the management of MRSA that may lead to differing standards | *Rephrased recommendation:*  11.4 Consider placing patients colonised or infected with MRSA in a single room. The decision to use a single room should be based on a risk assessment that considers the risk of transmission associated with the patient’s condition and the extent of colonisation or infection (e.g., sputum, exfoliating skin condition, large open wounds) and the risk of transmission to other patients in the specific care setting e.g., in burns units. |
| Patients should be managed in accordance with the type of facility in which they receive care, the resources available, and the level of risk that is posed to them and to others. Patients (and the facilities that may house them) classified as being at high risk of contracting MRSA or for whom the consequence of infection may have a high impact will require a rigorous approach to screening, placement and treatment. |
| Patients identified with MRSA infection or colonization should be informed of their condition, and local arrangements should be made to ensure ease of identification if re-admission to the facility occurs | *Rephrased recommendation:*  11.6 Patients must be provided with clear information  about the need for the use of protective equipment to reduce feelings of stigma. |
| *New recommendation:*  11.5 Where isolation is deemed necessary, isolate patients for the shortest possible time to minimise feelings of stigma, loneliness, and low mood. |
| The procedures for isolation should be clearly stated, and where necessary explained, to staff, patients, and visitors. Hospital staff entering isolation facilities should be required to adopt the prescribed isolation precautions rigorously and these should be audited regularly. Non-staff visitors should be requested to adopt the necessary level of precautions to minimize the risk of spread of MRSA to other areas of the facility. | *Rephrased recommendation:*  11.7 Staff must be consistent in their use of protective equipment to ensure that patients have confidence in the decision to place them in isolation. |
| *No previous recommendation* | *New Good Practice Point:*  GPP 11.1 Advise the visitors about the need and available facilities for hand hygiene. |
| *No previous recommendation* | *New Good Practice Point:*  GPP 11.2 Where applicable, advise the visitors about the use gloves and aprons. |
| Patient isolation for those infected or colonized with MRSA will be dependent on the facilities available and the associated level of risk. Where new buildings or refurbishment are planned, published guidelines should be adopted to provide the most appropriate facilities for patient care. Isolation should be in a designated closed area that should be clearly defined; in most facilities, this will be either single-room accommodation or cohort areas/bays with clinical handwashing facilities. Consideration should be given to the provision of isolation wards to contain MRSA spread. | *New Good Practice Point:*  GPP 11.3 When considering the need to isolate a patient with MRSA in a single room, other demands on single room use may take priority and alternative strategies such as nurse cohorting may be appropriate. |
| **Patient transfer and transport** | |
| **Previous recommendations** | **Changes to recommendations** |
| *No previous recommendation* | *New recommendation:*  12.1 Do not transfer patients between wards, units, hospitals, or other clinical settings unless it is clinically necessary. |
| Arrangements for transfer to other healthcare facilities, e.g. hospitals, residential care homes, etc., should include notification of the individual’s MRSA status, as appropriate | *New recommendation:*  12.2 Inform the receiving ward/unit/care home and the ambulance/transport service that patient is colonised/infected with MRSA. |
| *New Good Practice Point:*  GPP 12. 1 MRSA colonisation should not be a barrier to discharging patients to another health care setting, their home or residential care. |
| It may be considered desirable to place the individual at the end of a procedure list. However, in mechanically filtered environments such as operating theatre suites, the number of air exchanges should render this unnecessary. Good infection control practices, which should be in place between all patients, should reduce the risk of cross-infection | *Removed recommendation* |
| The risk of cross-infection from an MRSA-colonized or -infected patient to other patients in an ambulance is minimal. Good infection control practices and routine cleaning should suffice to prevent cross-infection | *Removed recommendation* |
| **Shared equipment** | |
| **Previous recommendations** | **Changes to recommendations** |
| Patient equipment, e.g. wheelchairs, hoists, slings, sphygmomanometer cuffs, etc., should either be capable of being decontaminated and be decontaminated before use with other patients, or should be single-patient use and discarded as clinical waste at the end of a period of usage | *Rephrased recommendation:*  13.1 Clean and decontaminate shared pieces of equipment used in the delivery of patient care after each use, with products recommended by the manufacturer. |
| *Rephrased recommendation:*  13.2 When using the equipment that is shared between patients:  •Use products recommended by the manufacturer.  •Decontaminate the equipment between patients using a generally available method. |
| *No previous recommendation* | *New recommendation:*  13.3 Educate all healthcare workers about the importance of maintaining a clean and safe care environment for patients. Every healthcare worker needs to know their specific responsibilities for cleaning and decontaminating the clinical environment and the equipment used in patient care. |
| *No previous recommendation* | *New recommendation:*  13.4 Introduce policies for staff, patients, and visitors to clean their hands before and after the use of shared equipment. |
| **Patient information** | |
| **Previous recommendations** | **Changes to recommendations** |
| *No previous recommendation* | *New recommendation:*  14.1 Make patients aware of the reasons for MRSA screening and decolonisation. |
| Trusts should develop local protocols for informing patients, carers, relatives and staff members of their MRSA status with due regard for confidentiality | *Rephrased recommendation:*  14.2 Inform patients of their screening result as soon as it is available. |
| Patients and their appropriate contacts should be fully briefed and given relevant information on MRSA, its implications and significance prior to discharge in order to reduce unnecessary anxiety and concern when returning to the home environment | *Rephrased recommendation:*  14. 3 For patients who are identified as MRSA positive, provide consistent and appropriate information about  • The difference between colonisation and infection  • The microorganism  • How MRSA is acquired and transmitted  • How MRSA is treated  • The reasons for contact precautions or isolation. |
| *Rephrased recommendation:*  14.4 On discharge provide consistent and appropriate information about  • The risks to household members, friends, and family.  • The implications for future health and health care.  • Persons who need to be notified about their MRSA colonisation status.  • Decolonisation regimen instructions if applicable. |
| *No previous recommendation* | *New recommendation:*  14.5 Provide information in a format and language that the patient and their family is able to understand. |
| *No previous recommendation* | *New Good Practice Point:*  GPP 14. 1 Use patient leaflets provided in the supplementary materials of this guideline. |
| **Handling of the deceased** | |
| **Previous recommendations** | **Changes to recommendations** |
| *No previous recommendation* | *New recommendation:*  15.1 Follow national guidance for managing infection risks when handling the deceased. |
| **Antibiotic stewardship** | |
| This section has been covered in a separate publication with focus on MRSA antimicrobial stewardship and treatment.2 | |
| **Staffing** | |
| This topic was not included in the updated guidelines | |
| **Control of VISA/VRSA/GISA** | |
| This topic was not included in the updated guidelines | |