MRSA Guidance for Sheffield CCG and Primary Care

This guidance relates to Regulation 12: Safe care and treatment, Health and Social Care Act 2008 (Regulated Activities) Regulations 2014

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1.0 What is MRSA?

MRSA stands for Meticillin-resistant Staphylococcus Aureus.

Staphylococcus Aureus is a bacterium, which colonises the skin, particularly the nasal passages and warm moist areas of skin and the umbilicus in babies. The bacterium can live in these areas without detection and without causing symptoms; this is known as 'colonisation'. Approximately a third of the population may be colonised with Staphylococcus Aureus.

If the bacteria invade the tissues or other systems and multiply, a patient may go on to become 'infected'. An infection may be recognized when the presence of the bacteria results in a host reaction and the patient becomes symptomatic resulting in, for example, wound, respiratory, skin, or urinary tract infections.

Meticillin is an antibiotic no longer used in clinical settings. Resistance of Staphylococcus Aureus to Meticillin is used to indicate resistance to all beta-lactam antibiotics (Penicillin's, Cephalosporin's and Carbapenems). Staphylococcus Aureus strains that are resistant to Meticillin are referred to as MRSA. Some of these strains are easily spread and are called epidemic MRSA (EMRSA).

Infection generally occurs when an individual is more susceptible. This includes those who have had surgery, are immuno-compromised, those receiving antibiotic therapy, those who are undernourished, have chronic wounds and ulcers and people whose natural defences have been breached or compromised in some way. The risk to healthy individuals, such as staff and visitors is very low. However, it must be remembered that staff can be a source or vector for the transmission of MRSA.

The primary objectives of infection prevention & control (IPC) are preventing the acquisition and spread of infection by patients and staff. The priorities for targeted control procedures are those patients who are particularly susceptible to infection. Infection prevention & control is the responsibility of all staff associated with patient care. A high standard of IPC is required and is an important part of the concept of total patient care.

2.0 Standard Infection Control Precautions

These precautions apply at all times, for all staff and patients.

- Correctly performed hand hygiene
- Wearing of gloves and disposable aprons for contact with body fluids, lesions and contaminated materials
- The strict application of the principles of asepsis
- High standards of cleaning of equipment and the patient's environment
- Segregation of all waste and its transport in a sealed bag of appropriate strength and colour

3.0 MRSA screening technique

A full MRSA screen should include swabs from the sites listed below:

a. Nose
b. Groin OR perineum
c. Umbilicus of newborn babies
d. All broken/ compromised skin

i. pressure sores
ii. ulcers
iii. surgical wounds (at next dressing change or if appears infected)
iv. eczema, psoriasis, dermatitis
v. cuts and abrasions
vi. tracheostomy sites
vii. IV cannula site/long line site at next dressing change OR if an old site and still leaking or appears infected
viii. Central line/tunnelled line site at next dressing change OR if an old site and still leaking or appears infected
ix. Urinary catheter exit site – if producing exudates
x. CSU – if catheterised
xi. Sputum – if patient has a productive cough

Please ensure the patient is asked if they are happy for the staff member to take the swabs if they are of the opposite sex to the patient.

NB Axilla and throat swabs are NOT required for routine screening

The method to be used when screening a patient for MRSA is as follows:

- Rub a swab (moistened with sterile saline/water if a dry site) firmly over the whole area several times.
- When sampling nose or groin, use one swab only for both sides.
- Mark the request form "MRSA screen".
- Several swabs can be placed in one bag with one form.
- Clearly specify the site swabbed on each sample label e.g. "Left foot ulcer" as opposed to "Wound swab"; using "Wound swab" is not specific enough.
- Separate swabs are required for MC&S requests i.e. when culture of organisms other than MRSA is required.
- **CSU – remember to request for MRSA testing**

4.0 Decolonisation Therapy - Topical Treatment

The treatment of patients with MRSA will be guided by the IPCT and will usually follow the 1st line measures described below:

Check for any known allergies before using any topical treatment

4.1 Treatment of Patients who are Nasal Carriers

- Apply a small amount of 2% Mupirocin (Bactroban®) (alternatively if not available then use Prontoderm nasal gel) thoroughly to the inner surface of each nostril, using a cotton wool bud, three times a day for five days. **It is important that the treatment of nasal carriage is not prolonged beyond 5 days because of the increased risk of resistance**.
- If Mupirocin resistant; Naseptin can be prescribed (please check for soya allergy and peanut allergy as contains arachis oil) four times a day for 10 days
- Allow 48 hours after completing the course of treatment before re-screening
- All patients who are nasal positive for MRSA initially will also require body decolonisation.
- Patients who are receiving oxygen therapy via a nasal cannula or oxygen mask should have

these changed daily.

4.2 Treatment of Patients who are Skin Carriers

- Patients carrying MRSA in any site should bathe/wash/shower daily for five days, using an antiseptic wash such as Octenisan® or chlorhexidine gluconate 4%. If using Hibiscrub please check for peanut/soya allergies.
- **The antiseptic wash must be applied directly to the skin on a disposable cloth and not diluted in water in a bowl, shower or bath.**
- Check for any known allergies before applying the antiseptic wash.
- The skin should be moistened, and the antiseptic wash applied thoroughly to all areas and left in contact for the correct length of time before rinsing. Special attention must be paid to axilla, groin, perineum, buttocks, and feet.
- The hair must be washed twice weekly with the antiseptic wash selected. Ordinary shampoo can be used afterwards if desired.
- If skin irritation is reported with any of the antiseptic washes, discontinue their use and inform the Infection Prevention & Control Team. Antiseptic washes must be used with care in patients with eczema or dermatitis.
- Single use disposable razors are recommended. Ideally wash face with decolonisation treatment first then shave.
- Tracheostomy tapes will require changing at least daily for the duration of the antiseptic wash.
- Allow 48 hours after completing the course of treatment before re-screening.
- Patients should be advised that nose/body piercings may reduce the effectiveness of decolonisation. Removal of rings, studs, foreign bodies etc. should be considered if possible, during decolonisation. Alternatively, the piercing can be removed and cleaned in alcohol daily.
- The correct use of topical treatments should also be discussed with the patient and an information leaflet given (see appendix 2).
  NB Ciprofloxacin should NOT be used in any patients who are, or previously have been, MRSA colonised or infected, (as it promotes the growth of MRSA). If there is no alternative, this should be discussed with the microbiologist and the patient must be on
  topical decolonisation treatment while they are taking Ciprofloxacin and for 48hrs after the cessation of Ciprofloxacin.

5.0 Low Risk Patients

<u>Management of patients who are at low risk for further infection</u>

Patients who are discharged from STHFT before a first positive result/isolate is known are unlikely to be aware of their MRSA status (please refer to Appendix 1). It is good practice to inform the patient and their GP, therefore STHFT will send a letter to both the GP and patient.

The letter for the GP is undertaken to make them aware of the result, so that they can take this into account when prescribing antibiotics and to ask them to inform hospital staff, should the patient need to attend hospital in the future. The GP is also asked to arrange a consultation with the patient to discuss their recent result and prescribe decolonisation treatment where appropriate (to ensure an appropriate assessment and treatment plan). The patient may require practical reassurance as well as decolonisation treatment.

The STHFT IPC Team will contact GPs by telephone with positive results for previous positive

patients that have been discharged before the result was known and do not fall into the 'High Risk Patient' criteria but only if the sample is from sites other than nose & groin and may require treatment.

GP samples

The clinician who has taken the swab is responsible for following that result up, as they would with any other diagnostic investigation they initiated. GPs should obtain results via ICE or contact the Microbiology Department.

If this is the first positive isolate/result a letter will be sent to both patient and GP from STHFT IPC Team. Master copies of the letters are available from the CCG IPC Team if required for information.

Please ensure that an alert for MRSA is placed on the patient's records.

Care Homes

The relevant IPC Team (normally STHFT) will contact the care home for patients who have been discharged before a positive result is known and will advise the Care Home Manager to discuss topical treatments with the GP. For patients that fit the 'High Risk Patient/Service User' criteria an Intra-Healthcare infection control MRSA form will be sent to the GP and the CCG IPC Team for their information and action.

Intermediate Care Units

The relevant acute IPC Team will contact the Community IPC Team for patients who have been discharged before a positive result is known. They will liaise with the Care Home Manager to discuss appropriate precautions and topical treatments. For patients that fit the 'High Risk Patient' criteria an Intra-Healthcare infection control MRSA form will be sent to the GP and the Community IPC Team for their information and action.

6.0 High Risk Patients

Management of patients that have a higher risk of infection, including blood stream infection.

STHFT IPC Team should make referrals to Community Healthcare Workers using the Intra-Healthcare infection control MRSA form for patients who are MRSA positive and fit one or more of the criteria below:

a) MRSA isolated in urine or the catheter site of a patient with an indwelling urinary or supra pubic catheter
b) Diabetes with MRSA in ulcer/wound
c) Wounds that require further clinical assessment because of the presence of MRSA
d) Central venous line in-situ includes tunnelled lines for example a peripherally inserted central catheter (PICC) or Hickman Line (HML).
e) IV Drug user if known
f) Gastrostomy (PEG/PEJ) or Tracheostomy in situ

The above criteria will apply to patients who are discharged from STHFT hospitals or have been discharged into the community but are within two weeks of discharge from STHFT hospitals. **Please note: if you have a patient who meets these criteria but does not have a SPA referral i.e., not recently discharged from hospital please contact the CCG IPC**

Team on 0114 3051156/3054192 for further advice.

a) MRSA isolated in urine or the catheter site of a patient with an indwelling urinary or supra pubic catheter

The presence of the urinary catheter (suprapubic or urethral) and MRSA in the urine and/or catheter site means the patient is at high risk of serious infection including bacteraemia. Therefore, the following management plan has been agreed with Rob Townsend, Consultant Microbiologist:
Please ensure a full MRSA screen (nose, groin, catheter urine, catheter site if discharging and any open wounds) is undertaken 2 weeks prior to the re-catheterisation. Please mark the lab form "for MRSA screen" otherwise it will not get undertaken. Please ensure the patient is asked if they are happy for the staff member to take the swabs if they are of the opposite sex to the patient.

Results:

If the patient is MRSA positive at the catheter site or in the catheter urine, they will require 5 days of Octenisan decolonisation immediately prior to the re-catheterisation (Day 5 being the day of catheter change) and 5 days immediately after it.

No antibiotic prophylaxis for routine urethral/suprapubic catheter change/removal unless one of the following risk factors*:

- History of symptomatic urinary infection (UTI) associated with a catheter changes OR
- Trauma during the catheterisation OR
- Catheter or meatal/SPC site colonisation with S. aureus (includes MRSA)
- Previous MRSA bacteraemia

Can also consider prophylaxis in patient groups at high risk of UTI or consequences of complications of UTI are high e.g., immunosuppressed patients. If antibiotic prophylaxis is required this is given according to antibiotic sensitivities, normally either:

- Trimethoprim 200mgs 1 hour prior to re-catheterisation and a second dose of 200mgs 12 hours after the initial dose
- OR Doxycycline 100mgs 1 hour prior to re-catheterisation (if trimethoprim resistant/trimethoprim not appropriate). Please discuss with microbiology on 0114 2714527 for any questions related to antibiotic prescribing

Please ensure that this procedure is undertaken for every planned re-catheterisation where MRSA is identified in the urine or catheter site.

If the patient requires a non-routine re-catheterisation (i.e. due to blocking or bypassing) please ensure that the patient only has prophylaxis (and decolonisation) if they are clinically symptomatic of urinary infection.

If the patient shows clinical signs and symptoms of infection (whether they have required a non-routine change of catheter or not) please ensure a full MRSA screen is undertaken and contact microbiology on the number above for further advice.

A review of the patient results will be undertaken annually by the CCG IPC Team and Microbiology to determine if ongoing screening is still required.

If the patient shows clinical signs and symptoms of infection (whether they have required a non-routine change of catheter or not) please ensure a full MRSA screen is undertaken and contact microbiology on the number above for further advice.

If admitting the patient to hospital, please inform the hospital IPC Team to ensure appropriate precautions are implemented. For Sheffield Teaching Hospitals this is NGH 2714569 or RHH 2713120**.**

b) Diabetes with MRSA in ulcer/wound c) wounds that require further clinical assessment because of the presence of MRSA.

Due to the presence of an ulcer/wound the likelihood of successful decolonisation is minimal however please consider one course of decolonisation initially as this may reduce MRSA load if the colonisation is less established.

If the patient shows clinical signs and symptoms of infection, please ensure:

- A full MRSA screen is undertaken
- Antibiotics are prescribed appropriately in line with local guidance
- Microbiology is contacted if queries arise

Note if the wound/ulcer heals please consider a course of decolonisation to try to eradicate any MRSA on the skin.

d) Central venous line in-situ includes tunnelled lines for example a peripherally inserted central catheter (PICC) or Hickman Line (HML).

The patient requires ongoing decolonisation and monthly screening whilst ever Central Venous Line/PICC/Hickman Line is in-situ with the aim of eradicating/reducing the bioburden of MRSA.

e) IV Drug users (if known)

The patient requires ongoing decolonisation therapy (as dictated on an individual basis by microbiology and IPC Team) whilst actively injecting. If the patient stops injecting, the decolonisation can stop, but microbiology to be contacted for any antibiotic advice.

f) Gastrostomy (PEG/PEJ) or Tracheostomy in situ

Due to the presence of the invasive device the likelihood of successful decolonisation is minimal however please consider one course of decolonisation initially as this may reduce MRSA load if the colonisation is less established.

If the patient shows clinical signs and symptoms of infection, please ensure:

- A full MRSA screen is undertaken
- Antibiotics are prescribed appropriately in line with local guidance
- Microbiology is contacted if queries arise

Note if the invasive device is removed please consider a course of decolonisation to try to eradicate any MRSA on the skin.

7.0 Patients with MRSA Attending GP Practice

- Patients who normally attend a clinic or health centre should continue to do so, even with a MRSA diagnosis.
- Please ensure that an alert for MRSA is flagged permanently (for lifespan of patient) on the patient's records. We recommend permanent flagging because low level carriage (which may not be easily detectable) can persist even after decolonisation treatment. Flagging of records helps ensure that: Infection control precautions are adhered to, appropriate antibiotic choices are made for this patient in future, all relevant clinicians are aware of the patient's MRSA status prior to any healthcare intervention, including hospital admission/outpatient appointment
- If your patient is visiting another clinic/out-patients, please inform the clinic that the patient has MRSA so infection prevention and control precautions can be maintained.
- If able, remove any unnecessary equipment from the room.
- Gloves and aprons must be worn if exposure to blood/body fluid anticipated, for example in wound management.
- If possible, treat the patient who has MRSA last, so that cleaning with a detergent and chlorine-based product (or wipe as indicated in 7.1 below) can be undertaken after the patient has left the clinic.
- If patient has MRSA infection (or is suspected of having infection), for example in wound or urine please dispose of this waste in the infectious (orange bag) waste stream.

7.1 Decontamination of the Environment/Equipment:

- Equipment must be thoroughly decontaminated between patients.
- Neutral detergent and hot water should be used to clean the equipment followed by a chlorine-based product at 1000 parts per million of available chlorine or an alcohol wipe. Alternatively, uses a multi-purpose wipe (detergent and disinfectant in one), for example Clinell (Gama Healthcare) Universal Sanitising wipes or Tuffie 5 (Vernacare) Universal Wipes. Please check manufacturers guidance for cleaning equipment as some equipment cannot tolerate chlorine or alcohol.
- Any loaned equipment for use within the home should be designated 'single patient use' until no longer required. Prior to reuse by another patient, all loaned equipment must be thoroughly decontaminated as per manufacturers' instructions. Please refer to Sheffield CCG Standard Infection Prevention and Control Precautions Guidance for further information.
- The environment of any clinical setting must be kept clean and uncluttered to minimise dust accumulation and to facilitate effective environmental cleaning.
- Horizontal surfaces must be cleaned after the clinical care has been undertaken and the patient has left the room, using the products identified for equipment as above.

7.2 Visiting Patients with MRSA in their Own Home

- If possible, visit last on the list. If this is not possible risk assess the list of patients that need visiting and see the high-risk susceptible patients (for example those that are immunocompromised, have wounds or invasive devices) before visiting the patient with MRSA.
- Avoid taking non-essential equipment into the home.
- Essential equipment taken into the home by the member of staff must be cleaned with a multi-purpose wipe as above before leaving the home.

8.0 Staff screening

On rare occasions the CCG IPC Team will decide that staff screening is necessary for infection control purposes (for example as part of an outbreak investigation). The IPC Team will only initiate staff screening if there is reasonable evidence to do so, and staffs have a duty to comply with such requests in a timely manner.

9.0 Care home residents

MRSA management of high-risk patients/service users also applies to care home residents. Please see section 6.0.

Please ensure the care home has a copy of the CCG Meticillin Resistant Staphylococcus Aureus (MRSA) Best Practice Guidance for Care Homes September 2018 (appendix 5).

Please note isolation is not normally necessary provided any wounds are kept covered and any discharge is contained within the dressing. If this is not achievable or the resident has MRSA in the sputum and is sharing a room, please contact the CCG IPC Team.

10.0 Panton Valentine Leukocidin (PVL) Staphylococcus Aureus

PVL is a toxin produced by less than 2% of Staphylococcus aureus, including MRSA (although there may be a higher prevalence in community associated MRSA strains). PVL can cause recurrent skin and soft tissue infections, but can also cause invasive infections, including necrotising haemorrhagic pneumonia and MRSA bacteraemia in otherwise healthy young people in the community. Groups at higher risk include closed communities with close contact and close contact sports. Risk factors also include poor hygiene and cuts and other compromised skin integrity.

To note although these strains are rare the CCG had 5 MRSA Bacteraemia in 2015 all of which were PVL. Therefore the CCG IPC team would like to raise awareness and draw your attention to the following Guidance on the diagnosis and management of PVL associated Staphylococcus aureus infections (PVL-SA).

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/322857/Guidance_on_the_diagnosis_and_management_of_PVL_associated_SA_infections_in_England_2_Ed.pdf

For further management information please contact Public Health England 0113 3860300 or Microbiology at STHFT on 0114 2714527.

For the management of suspected cases of Panton Valentine Leukocidin (PVL) Staphylococcus aureus, please see appendix 4 GP Letter template: For Suspected PVL-positive Staphylococcus aureus in soft tissue/skin infections.

11.0 Patient Information

Other relevant information (including PVL) is included in the appendices. They can be photocopied by the Practice staff and given to the patient.

12.0 MRSA Bacteraemia Post Infection Review

In the NHS there remains a zero-tolerance approach to all MRSA Bacteraemia. Trusts (including CCGs) must undertake a Post Infection Review (PIR) within 14 working days of notification by the Public Health England HCAI database. The PIR involves an MDT with relevant Health Care Workers. It provides an opportunity for new learning about the cause and for this learning to be shared if appropriate across the healthcare community.

If a case occurs in a care home or is a community patient with GP involvement, then the CCG IPC Team will lead the PIR with Professor Rob Townsend Consultant Microbiologist.

13.0 Bibliography

Department of Health (2006) Essential Steps to Safe, Clean Care: Reducing healthcare associated infections. London: DH 2006

Department of Health (2008) Health and Social Care Act. Code of Practice for the Prevention of Health Care Associated Infections. (2015) London DH

Health Protection Agency (2008) Guidance on the diagnosis and management of PVL-associated Staphylococcus aureus infections (PVL-SA) in England

Loveday H.P, Pellowe C.M, Jones S.R.L.J & Pratt R.J (2006): A systematic review of evidence for interventions for the prevention and control of Meticillin-resistant Staphylococcus aureus (1996-2004): report to the joint MRSA Working Party (Subgroup A). The Journal of Hospital Infection Vol 63 Supplement 1 May 2006

NHS England (2014): Guidance on the reporting and monitoring arrangements and post infection review process for MRSA bloodstream infections from April 2014 (version 2)

The NHS Commissioning Board (2013): Guidance on the reporting and monitoring arrangements and post infection review process for MRSA bloodstream infections from April 2013 http://www.england.nhs.uk/wp-content/uploads/2013/03/pir-guidance.pdf

MRSA in Primary Care – last revised October 2018
https://cks.nice.org.uk/topics/mrsa-in-primary-care/

Appendix 1

MRSA positive patient who is low risk/unaware of result

Community Decolonisation & Screening Protocol

STHFT send letter to GP and post letter (including information leaflet)
Informing them of MRSA +ve result

↓

GP to document MRSA status on medical records permanently
GP to ensure community follow-up patient either by:-
Themselves, Practice Nurse, Community Matron, Case Manager or Community Nursing Team (CNT) as appropriate

↓

Community Clinician to contact patient to arrange surgery / home consultation appointment as appropriate

↓

Clinician discusses result, treatment options, offers practical reassurance
Patients consent to treatment?

↓ Yes

No → Document response & close case

↓

Undertake assessment to ensure patient does not fit criteria in box 1.
If does fit criteria in box 1 see section 6.3 and 8.1

↓

Undertake skin assessment & prescribe topical treatment / nasal ointments according to treatment regimens & sensitivities – see section 4.1 & 4.2. Ensure patient understands when to and for how long to apply treatments
One course of skin & nasal treatment to be prescribed to reduce bacterial load

↓

Patient completes topical treatment

↓

No further action unless risk factors
If patient presents in future with clinical signs of infection, consider risk factors in box 1 and take full MRSA screen

↓

If aware of any admissions to hospital, please inform admitting ward of MRSA history.

Box 1. Risk factors to consider in the patient and household are:

- MRSA isolated in urine or the catheter site of a patient with an indwelling urinary or supra pubic catheter
- Diabetes with MRSA in ulcer/wound
- Wounds that require further clinical assessment because of the presence of MRSA
- Central venous line insitu includes tunnelled lines for example a peripherally inserted central catheter (PICC) or Hickman Line (HML).
- IV Drug user if known
- Gastrostomy (PEG/PEJ) or Tracheostomy in situ

Document all stages.

Appendix 2

MRSA decolonisation guide for patients and family/carers

What is MRSA?

The full name of MRSA is Meticillin Resistant Staphylococcus Aureus. MRSA is a type of bacteria that's resistant to several widely used antibiotics. This means infections with MRSA can be harder to treat than other bacterial infections.

MRSA lives harmlessly on the skin of around 1 in 30 people, usually in the nose, armpits, groin or buttocks. This is known as "colonisation" or "carrying" MRSA.

The information in this leaflet is about MRSA colonisation. For information about MRSA infection please visit this website www.nhs.uk/conditions/mrsa/.

Getting MRSA on your skin will not make you ill, and it may go away in a few hours, days, weeks or months without you noticing. But it could cause an infection if it gets deeper into your body. Healthy people, including children and pregnant women, are not usually at risk of MRSA infections.

Your GP or a healthcare professional has recommended you have a course of decolonisation to reduce the amount of MRSA present on your skin/ in nose.

This usually involves:

- applying antibacterial cream inside your nose 3 times a day for 5 days
- washing with an antibacterial wash every day for 5 days
- changing your towel, clothes and bedding every day during treatment – the laundry should be washed separately from other people's and at the highest temperature the fabric is able to be washed at

Treatment of patients who have MRSA in their nose, also referred to as nasal carriers

- 2% Mupirocin (Bactroban®) is a topical antibiotic ointment. Apply a small amount thoroughly to the inner surface of each nostril, using a cotton wool bud or your little finger, three times a day for 5 days. Do not use this treatment for more than 5 days as it can increase the risk of you becoming resistant to the antibiotic. Wash your hands before and after procedure.

- If you are resistant to Mupirocin you may be prescribed Naseptin instead. Naseptin is a nasal cream that should be used 4 times a day, for 10 days. Please inform you GP or healthcare professional if you have a peanut allergy as Naseptin contains Arachis oil so will be unsuitable.
- All patients who have MRSA in their nose will also require body decolonisation.

- If you are receiving oxygen therapy via a nasal cannula or oxygen mask, you should have these changed daily whilst undergoing treatment.

If you require screening (swabbing) for MRSA again, your GP or healthcare professional will inform you, this will be undertaken at least 48 hours after completing the course of treatment.

Treatment of patients who have MRSA on their skin, also referred to as skin carriers

- If you have MRSA on any part of your body, you should bathe/wash/shower daily for five days, using an antiseptic wash such as Octenisan® or Chlorhexidine Gluconate 4%.

- **The antiseptic wash must be applied directly to you skin on a disposable cloth and not diluted in water in a bowl, shower or bath.**

- Check for any known allergies before applying the antiseptic wash. Do not use Chlorhexidine Gluconate 4%/Hibiscrub if allergic to peanuts or soya.
- Your skin should be moistened, and the antiseptic wash applied thoroughly to all areas and left in contact for 3 minutes before rinsing. Special attention must be paid to arm pits, groin, perineum (which is the area between the anus (or bowel movement opening) and the genitals) and buttocks. Please do not apply to broken skin.

- Your hair must be washed twice weekly with the antiseptic wash selected. Ordinary shampoo can be used afterwards if desired.

- If your skin becomes irritated when using any of the antiseptic washes, discontinue their use and inform your GP or healthcare professional. Antiseptic washes must be used with care if you have eczema or dermatitis.

- If you are shaving during treatment, single use disposable razors are recommended. Ideally wash with decolonisation treatment first, then shave.

- Tracheostomy tapes (if applicable) will require changing at least daily for the duration of the antiseptic wash.

- If you have been asked to re-screen (swab) for MRSA, please allow 48 hours after completing the course of treatment before this is undertaken. Your GP or healthcare professional will inform you of the result, normally after 2-3 days of the sample being taken.

- Nose/body piercings may reduce the effectiveness of treatment. Removal of rings, studs, foreign bodies etc. should be considered if possible, during decolonisation. Alternatively, the piercing can be removed and cleaned in alcohol daily.

Please ensure bedding, towels, clothing and night wear are washed at the highest temperature the fabric is able to be washed at and changed daily during MRSA decolonisation treatment.

Please do not share towels with others.

For further information, please contact your GP or healthcare professional.

Appendix 3

Patient information and decolonisation guidance on Suspected Panton-Valentine Leukocidin (PVL) Staphylococcus Aureus 2018

Your GP suspects you are carrying/infected with a PVL Staphylococcus Aureus on your skin/in your wound/boil/eczema. Please see the following information which has been obtained from the Health Protection Agency (now Public Health England).

PVL- Staphylococcus aureus Information for Patients

What is PVL Staphylococcus aureus?

Staphylococcus aureus ('SA') is a bacterium (germ) that commonly lives on healthy skin. About one third of healthy people carry it quite harmlessly, usually on moist surfaces such as the nostrils, armpits and groin. This is known as colonization. Some types of Staphylococcus aureus produce a toxin called Panton-Valentine Leukocidin (PVL) and they are known as PVL-SAs. (Panton and Valentine were two doctors who first found this chemical which can kill white blood cells called leukocytes – hence 'leukocidin').

What type of illness does it cause?

All SAs, including PVL-SAs, can cause harm if they get an opportunity to enter the body, for example through a cut or a graze. They can cause boils or skin abscesses and are occasionally associated with more serious infections of the lungs, blood, joints and bones. Some SAs such as PVL-SA are more likely to cause infections than others.

How do you catch PVL-SA?

Anyone can get a PVL-SA infection. Infection can occur in fit, healthy people.

PVL-SA can be picked up by having:

- Skin-to-skin contact with someone who is already infected, for example close family or during contact sports, or
- Contact with an item or surface that has PVL-SA on it from someone else, for example shared gym equipment, shared razors, shared towels.

How is PVL-SA treated?

Boils and abscesses should be drained by incision by a doctor or nurse. Some infections may be treated with a course of antibiotics. In addition, the PVL-SAs carried on your skin may be eliminated with a five day skin treatment (washes, creams and shampoos). This is

done to reduce the chances of you getting repeated infections and reduce the chances of you spreading PVL-SAs to others.

In some patients this skin treatment may not be entirely successful, but the more carefully you follow the instructions, the more likely you are to clear the PVL-SAs from your skin. Your GP may recommend checking members of your household and close contacts, e.g., partners/children, in case they are also carrying PVLSAs, and offering them skin treatments where necessary.

How do I prevent passing PVL-SAs to other people?

You need to keep infected areas of your body covered with clean, dry dressings or plasters. Change these regularly and as soon as discharge seeps to the surface. It is important that fluid or pus from infected skin is contained, because it has large numbers of PVL-SAs that can spread to others.

Do not touch, poke or squeeze infected skin. This contaminates your hands and can push the PVL-SAs deeper into the skin. Contact your GP surgery if you have a boil or abscess that needs draining.

Cover your nose and mouth with a tissue when you cough or sneeze, particularly if you have a cold, because PVL-SAs can live in your nose. Throw the tissue in the bin at once and then wash your hands.

Wash your hands frequently with liquid soap and water, and especially after changing your plasters, dressings, and bandages or touching infected skin.

Encourage others at home to wash their hands regularly with liquid soap.

Use a separate towel and keep it separately, so others don't use it by mistake. Have it washed frequently in a hot wash.

Regularly vacuum and dust (wiping with a damp cloth) your bedroom, bathroom, kitchen and other rooms, as well as personal items and shared items, such as keyboards. Household detergent is adequate for cleaning.

Clean your sink, taps and bath after use with a disposable cloth and household detergent, then rinse clean and throw away the cloth.

Can I go to work or school when I have a PVL- SA infection?

You should not work as a carer in a nursery, hospital, residential or care home or similar place until your skin has healed and you have permission to return to work from your local occupational health department, GP or manager.

You should not work in the food industry, e.g. waitress, chef, food production, until your skin has healed and you have permission to return to work from your local occupational health department or GP.

You may carry on with other types of work, provided you keep infected skin areas covered with clean, dry dressings. If you are not sure about working, contact your local occupational health department or your GP.

Children can only go to school if they are old enough to understand the importance of good hand hygiene, and if their infected skin is covered with a clean dry dressing which will stay dry and in place until the end of the school day. Children should not take part in contact sports, or use communal gym equipment until their skin is healed. The GP's advice is essential, and school management should be informed.

People who have eczema or a more generalised skin condition should remain off work or school until treatment has been completed for both the eczema or skin condition and the PVL-SA infection. You need to continue treating your skin to keep it in good condition. In the long term this helps to reduce the risk of spread of PVL-SA to others.

Can I go to swimming pools, gyms or sports facilities when I have a PVLSA infection?

You should not use communal facilities for example gym equipment, saunas, swimming pools, or have a massage, manicure or similar until your skin has healed.

How do I prevent becoming infected again?

You should take good care of your skin. If you suffer from eczema, discuss the best treatment for this with your GP.

Keep all cuts and grazes clean with liquid soap and water, apply disinfectant cream, and cover with dry dressings until scabbed over or healed.

Shower or bathe daily.

Put on clean clothes daily and wash bedclothes and towels on a regular basis using normal washing detergent but at the highest temperature the materials will allow.

Do not share personal items such as towels, razors, toothbrushes, water bottles, and facecloths.

In shared facilities, such as gyms, use fresh towels. Only go when skin lesions have healed and put a towel between your skin and the equipment.

Importantly, shower afterwards and use a separate (second) clean towel to dry yourself. Wash any towels which you have taken to shared facilities after each visit.

Seek medical help at the first sign of infection in a cut, such as redness, swelling, pain, or pus

If you are found to carry PVL-SA persistently on your skin or nose, or if you suffer from repeated infections, you may be prescribed a further course of skin treatment. If this fails to eliminate it and you suffer repeated infections, then you may be prescribed antibiotics and skin treatment together.

Sometimes the skin treatment will be extended to your household or close contacts. In these circumstances it is important that all affected people in a household or social group are treated at the same time.

If you have a further infection of any type, if you are admitted to hospital unexpectedly, or if you are going to be admitted to hospital for an operation, always tell the doctor or nurse

looking after you that you have had a suspected PVL-SA infection. This will ensure that you receive appropriate treatment.

Decolonization procedure for PVL-Staphylococcus aureus: how to use the decolonization preparations

The purpose of decolonization is to try to rid the body of the bacteria that have caused boils or other infections. Preparations must be used as detailed below:

General notes on skin treatment

As with all treatments to be applied to the skin, avoid contact with the eyes. Those who are pregnant, have eczema, or are under a year old should be screened first to see if they are carrying the bacteria (the doctor or nurse who is arranging your treatment will explain how this is done). The doctor will then decide whether treatment is appropriate. This treatment should not be used if there are any boils or skin lesions that are still leaking. Wait until boils or lesions are dry.

Chlorhexidine 4% body wash/shampoo use once a day for 5 days.

Do not use Hibiscrub if allergic to peanut or soya.

Or alternatively for sensitive skin/allergies to soy or peanut please use Octenisan body wash/shampoo once a day for 5 days:

- Use daily as liquid soap in the bath, shower or bowl and as a shampoo on days 1, 3 and 5
- Do NOT dilute it beforehand in water as this will reduce its efficacy — apply directly to wet skin on a disposable wipe or on hand
- Do not use regular soap in addition during baths/showers
- Do NOT apply to dry skin
- Pay particular attention to armpits, groins, under breasts, hands and buttocks

It should remain in contact with the skin for about a minute

Rinse off well before drying skin thoroughly. This is particularly important in people with skin conditions (e.g. eczema).

- Towels should be for individual person use and, if possible, changed daily

Mupirocin (Bactroban Nasal) (use three times a day for 5 days) - There has been national supply problems of this product so if unavailable; please use either:

Naseptin Nasal Cream (use four times a day for 10 days). Please note Naseptin contains arachis (peanut) oil and should not be applied by patients known to be allergic to peanut. As there is a possible link between allergy to peanut and allergy to Soya, patients with Soya allergy should also avoid Naseptin.

Prontoderm apply three times a day for 5 days

Apply a matchstick head-sized amount (less for a small child) on the end of a cotton bud to the inner surface of each nostril. Press the sides of the nose together and massage gently to spread the ointment inside the nostrils.

Sometimes you might also be asked to gargle with an antiseptic solution.

Whilst the skin/nasal treatments are being used the following will help reduce spread of the bacteria within the care home or household:

- Sheets/towels should be changed daily
- Regular vacuuming and dusting, particularly the bedrooms
- If possible, avoid bar soap and use pump action liquid soap
- Use individual personal towels and facecloths. Wash them frequently in a hot wash.
- Clean sink and bath with a disposable cloth and detergent after use, and then rinse clean

For individual concerns or further advice please contact your GP.

Please note this information has been taken from:

Guidance on the diagnosis and management of PVL-associated Staphylococcus aureus infections (PVL-SA) in England (Health Protection Agency- now Public Health England 2008 Appendix 1 PVL Staph aureus information for patients

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/322857/Guidance_on_the_diagnosis_and_management_of_PVL_associated_SA_infections_in_England_2_Ed.pdf

Appendix 4

GP Letter template: For Suspected PVL-positive *Staphylococcus aureus* in soft tissue/skin infections. This letter will be sent by the CCG IPC Team.

Testing of *Staphylococcus aureus* (in both MRSA and MSSA) for the PVL toxin gene isn't available locally at STHFT and is performed at the Staphylococcal Reference Laboratory. Isolates are only referred for further testing if requested by PHE in the event of an outbreak situation. Hence individual sporadic cases will now be referred to as Likely or Suspected PVL-positive MRSA/MSSA.

Dear Dr XXXXX

Re: Patient details:

Patient results and date:

Your patient has **suspected** Panton Valentine Leukocidin (PVL)-positive MRSA/MSSA colonisation/infection on their skin/wound/abscess. Although we have not tested for the presence of the PVL gene it is suspected because the patient has had recent recurrent wounds/abscesses.

PVL-producing *Staphylococcus aureus*

PVL is a gene produced by less than 4% of *Staphylococcus aureus*; including MRSA (although there may be a higher prevalence in community associated MRSA strains). The presence of the PVL gene is associated with recurrent skin and soft tissue infections, but can also cause invasive infections, including necrotising haemorrhagic pneumonia in otherwise healthy young people in the community. Groups at higher risk include closed communities with close contact and those participating in physical contact sports. Other risk factors include: poor hygiene, cuts and other compromised skin integrity.

For further information on PVL please see HPA (now PHE) guidance https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/322857/Guidance_on_the_diagnosis_and_management_of_PVL_associated_SA_infections_in_England_2_Ed.pdf

This information relates to wound, skin and soft tissue infections/colonisations suspected to be caused by Panton-Valentine Leukocidin (PVL)-positive *Staphylococcus aureus* (PVL-SA).

For the management of other suspected PVL Staphylococcus aureus, for example bone, joint, severe sepsis, necrotising fasciitis and pneumonia etc. please refer to A&E.

Decolonization and screening of patients and their close contacts

Topical decolonization is often used to try and interrupt transmission. Little data exist on its effectiveness for eradicating a particular strain of *S. aureus* and thereby preventing further

infections, especially in non-healthcare settings and with prolonged follow-up. It can be achieved temporarily, but re-colonization can occur relatively quickly. So, whilst awaiting definitive trials, an empirical approach to screening and topical decolonization should be adopted. It should only be attempted after reinforcing standard prevention measures.

Factors that may reduce long-term success of topical decolonization include:

- Non-compliance with the topical decolonization regimen
- Attempts to decolonise whilst still shedding *S. aureus* from an infected lesion, e.g. healing abscess or break in the skin (chronic ulcer)
- Re-colonization from a close contact
- Re-colonization from the patient's own flora, e.g. gut, throat, vagina
- Re-colonization from the environment.

For these reasons, the merits of undertaking a topical decolonization regimen should be critically assessed:

a) in a setting where non-compliance with the regimen is likely to be an issue

b) where there are breaks in the skin, e.g. varicose ulcers, from which *S. aureus* may continue to be shed

Antiseptic solutions, such as chlorhexidine, may damage the fragile skin of premature neonates. In these circumstances; washing with plain water, even if just “topping and tailing”, may be helpful. When it is felt appropriate to use an antiseptic, this must always be an aqueous preparation and never alcohol-based (risk of burn injuries in infants). Where nasal decolonization is required for infants, nasal mupirocin may be used.

Decolonization of infected patients

Topical decolonization without prior screening should be offered to primary cases.

Patients should be given the patient information leaflet describing how to minimise cross-infection and when and how to use the topical agents. The topical decolonization regimen should be limited to five days:
Chlorhexidine 4% body wash/shampoo use once a day for 5 days. Do not use Hibiscrub if allergic to peanut or soya or the patient has sensitive skin, please use Octenisan body wash/shampoo once a day for 5 days.

Mupirocin (Bactroban Nasal) (use three times a day for 5 days) - There has been national supply problems of this product so if unavailable; please use either:

Naseptin Nasal Cream (use four times a day for 10 days). Please note Naseptin contains arachis (peanut) oil and should not be applied by patients known to be allergic to peanut. As there is a possible link between allergy to peanut and allergy to Soya, patients with Soya allergy should also avoid Naseptin. Please use Prontoderm as an alternative, apply three times a day for 5 days.

Topical decolonization should be started after the acute infection has resolved, please see above link page 19-20 and contact Medical Microbiology if antibiotic prescribing advice is required. In patients with dermatological conditions it is important to seek a dermatological opinion. Chlorhexidine is inappropriate for premature infants as it may damage their fragile

skin and there may be systemic absorption as the skin's barrier function is less effective.

Patients in whom recurrent infections or persistent colonization occur, despite reasonable efforts to decolonise or because of their underlying conditions, should maintain sensible precautions to prevent transmission in households and community settings as identified in the patient information leaflet.

Repeated screening is not recommended unless the patient is particularly vulnerable to infection, poses a special risk to others (e.g. a healthcare worker) or spread of infection is continuing in close contacts.

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NHS Sheffield Clinical Commissioning Group

Appendix 5

Care of a Resident Colonised with Meticillin Resistant Staphylococcus Aureus (MRSA)

Staphylococcus Aureus (SA) can be part of the normal flora on the skin especially in the groin, axilla, nose, and perineum. MRSA is SA that is resistant to penicillin. If your resident is colonised with MRSA (or has previously been colonised) and has any wounds or breaks to their skin, a catheter, PEG or another invasive devise, it provides the MRSA with an entry point to the body, and they are at increased risk of an infection including bacteraemia (or blood stream infection). **Always monitor the resident for signs of infection and wounds that are failing to heal.**

Isolation is not necessary provided any wounds are kept covered and any discharge is contained within the dressing. If this is not achievable or the resident has MRSA in the sputum and is sharing a room, please contact the CCG Infection Prevention and Control Team. However with regard to Covid-19**, please ensure that the resident when admitted to the home is isolated in line with the latest PHE Covid Guidance** Admission and care of residents in a care home during COVID-19 - GOV.UK (www.gov.uk)

MRSA exits the body in skin and skin scales and from wherever the resident has been found to be colonised e.g., wound exudate, urine. MRSA can be transmitted by direct and indirect contact with the resident. It can be transmitted on the hands of residents, staff and visitors to other residents and to the environment and on equipment that hasn't been decontaminated after use.

ADHERE TO STANDARD INFECTION PREVENTION AND CONTROL PRECAUTIONS

Hand hygiene
Adhere to the WHO 5 moments of hand hygiene and perform hand hygiene using liquid soap and water or alcohol hand rub provided the hands are visibly clean and have not been in contact with blood or body fluids or caring for a resident with diarrhoea.

Personal Protective Equipment (PPE)
Wear gloves and disposable aprons for contact with body fluids, lesions, and contaminated materials. Please ensure that any additional PPE is worn is in line with the latest PHE Covid guidance https://www.gov.uk/government/publications/covid-19-how-to-work-safely-in-care-homes.

Management of Linen
Treat all linen as infectious and place in a red alginate bag at the point of care Do not share personal towels and wear fresh clothes, nightwear and change bedding daily during treatment.

Waste disposal
Please dispose of the resident's waste in the orange infectious waste stream.

Decontamination
All surfaces must be disinfected daily either with detergent followed by disinfectant or by using a 2-1 product that cleans and disinfects as a 1 step process. Ensure that dilution and contact times are adhered to ensure the product is effective.

If admitting the patient to hospital/attending out-patients or transferring to another care home, please ensure that staff are made aware of the patient MRSA status.

Daily Care Record

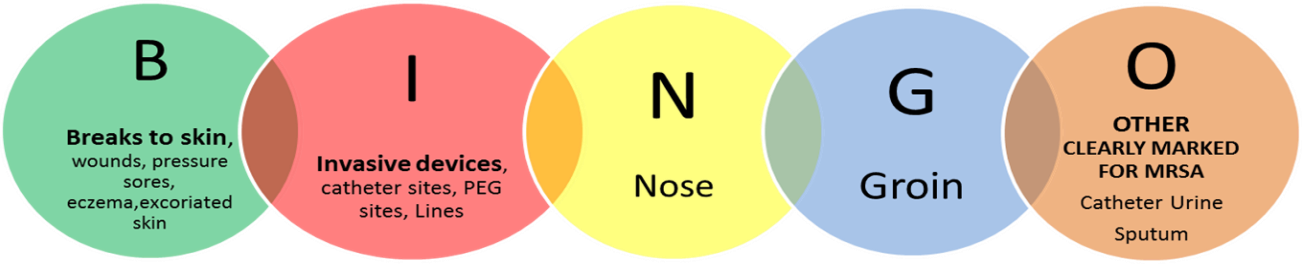
Include a daily update regarding MRSA status, documenting any signs of or absence of clinical infection. Include a description on any wound, e.g., size, location, any exudate, redness, dressings used and frequency of dressings, information about any decolonisation and any MRSA screening being undertaken**. Please ensure that MRSA is marked in the residents' care plan for the life of the resident.**

If infection is suspected

Undertake a full MRSA screen and contact the GP as soon as possible. Please ensure the resident is asked if they are happy for the staff member to take the swabs if they are of the opposite sex to the resident.
Please ensure the GP is aware of the residents previous/current MRSA history.
GP may contact Microbiology for advice if required at Sheffield Teaching Hospitals on 2714527
If a resident needs recatheterising and they have been previously positive to the catheter site or urine **ALWAYS** check with GP if any antibiotic prophylaxis and topical washes are required prior to recatheterising.

Screening

MRSA screening should be undertaken **48 hours after** completing the Octenisan washes and 48 hours after completion of any antibiotics. Failure to do this may result in a false negative.



Please ensure that all samples are clearly marked for MRSA especial the Catheter Urine as it goes to a different part of the medical laboratory and it will only be screened for MS&S

Treatment of Residents who are Skin Carriers

In order to try to reduce the MRSA you may be advised that the resident is washed in Octenisan® for five days. Hair is washed on days 2 and 4. The antiseptic wash must be applied directly to the skin on a disposable cloth and not diluted in water in a bowl, shower or bath and must be in contact with the skin for 3 minutes. If your resident cannot tolerate Octenisan there are other options, for example Chlorhexidine Gluconate 4% (Hibiscrub) or Prontoderm foam (which does not require washing off). If using Hibiscrub please check for peanut/soya allergies.

Treatment of Residents who are Nasal Carriers

Apply a small amount of 2% Mupirocin (Bactroban®) thoroughly to the inner surface of each nostril, using a cotton wool bud, three times a day for five days. It is important that the treatment of nasal carriage is not prolonged beyond 5 days because of the increased risk of resistance. Do not insert the tube directly into the resident's nostril.

Alternatively, Naseptin is used is 4 times a day for 10 days, in this case the Octenisan washes will also be used for 10 days. Be aware that Naseptin® contains arachis oil (peanut oil) and should not be used by a person known to be allergic to peanuts or soya.
CHLORHEXIDINE WITH NEOMYCIN | Medicinal forms | BNF content published by NICE