



Community Infection Prevention and Control Policy for General Practice

(also suitable for adoption by other healthcare providers,
e.g. Dental Practice, Podiatry)

PVL-SA

(Panton-Valentine Leukocidin *staphylococcus aureus*)

PVL-SA

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PVL-SA (PANTON-VALENTINE LEUKOCIDIN STAPHYLOCOCCUS AUREUS)

1. Introduction

Staphylococcus aureus (SA) is a common bacterium that approximately one in three people carry on their skin or in their nose without causing an infection.

Some types of SA produce a toxin called Panton-Valentine Leukocidin (PVL) and they are known as PVL-SA.

PVL-SA predominantly causes recurrent skin and soft tissue infections, but can also cause invasive infections, including necrotising haemorrhagic pneumonia in otherwise healthy young people in the community.

In the UK, the genes encoding for PVL are carried by approximately 2% of clinical isolates of SA submitted to the National Reference Laboratory, whether meticillin-sensitive (MSSA) or meticillin-resistant (MRSA). Most PVL-SA strains in the UK are MSSA, with MRSA being less common accounting for 0.8% of all isolates.

2. Clinical features of PVL-SA

PVL-SA can cause harm if it enters the body, for example through a cut or a graze.

Skin and soft tissue infections:

- Boils (furunculosis), carbuncles, folliculitis, cellulitis, purulent eyelid infections
- Cutaneous lesion $\geq 5\text{cm}$ in diameter
- Pain and erythema out of proportion to severity of cutaneous findings
- Necrosis

Invasive infections:

- Necrotising pneumonia - often after a flu-like illness
- Necrotising fasciitis
- Osteomyelitis, septic arthritis and pyomyositis
- Purpura fulminans

3. Colonisation and infection

Colonisation means that PVL-SA is present on or in the body without causing an infection.

Infection means that the PVL-SA is present on or in the body and is multiplying causing clinical signs of infection, such as in the case of septicaemia or pneumonia, or for example, in a wound causing redness, swelling, pain and or discharge.

4. Patients at risk of infection from PVL-SA

The epidemiology of PVL-SA differs from that of other SA. Cases tend to be younger and, in the UK, associated with community settings rather than hospital.

Risk factors for PVL related infection - the 5 'C's:

- Contaminated shared items, e.g. towels
- Close contact, including contact sports, e.g. wrestling, rugby, judo
- Crowding, e.g. closed communities, military training camps
- Cleanliness
- Cuts and other compromised skin integrity, chronic skin conditions, e.g. eczema, psoriasis

Risk groups are often young and healthy people. Outbreaks or clusters can occur in the community.

5. Routes of transmission

- Direct spread, i.e. skin-to-skin contact with someone who is already infected.
- Equipment that has not been appropriately decontaminated.
- Environmental contamination.

6. Microbiological sampling

Appropriate clinical samples are pus, swab of exudate from an abscess or lesion, sputum or skin swab moistened with sterile water or saline.

A specimen should be taken if there is specific reason to suspect PVL-positive *S. aureus*, such as recurrent abscesses, boils or skin infections.

On the specimen request form, state the risk factors, clinical history and request PVL testing if SA is grown.

7. Treatment for infection

Any treatment required will be on an individual patient basis, in accordance with the *Guidance on the diagnosis and management of PVL-associated Staphylococcus aureus (PVL-SA) infections in England*. This guidance is currently under review.

Minor skin and soft tissue infections do not need systemic antibiotic treatment unless the patient is immunocompromised, an infant or deteriorating clinically. Incision and drainage is the optimal management for abscesses.

Moderate infections including abscesses >5cm should be treated as per local antibiotic prescribing guidance in addition to drainage.

8. Action following a PVL-SA diagnosis

Your local Community Infection Prevention and Control (IPC) or UK Health Security Agency (UKHSA) Team will liaise with the patient's GP to discuss the diagnosis and where appropriate, the local Community IPC or UKHSA Team will undertake a home visit.

The local Community IPC or UKHSA Team will:

- Provide the patient with information on:
 - PVL-SA including the transmission of infection and infection control precautions to prevent spread. An information sheet 'PVL *staphylococcus aureus*: Information for services users' is available to download at www.infectionpreventioncontrol.co.uk
 - Use and application of suppression treatment
- Identify 'at risk' household/close contacts and those requiring suppression/screening
- Provide information on the use and application of suppression treatment
- Identify individuals who may need to be excluded from work or education
- Liaise with the Practice Nurse regarding any screening swabs required
- Consult with the GP for prescriptions for suppression treatment
- Liaise with other agencies as required

9. Suppression treatment

Suppression treatment should be offered to all patients with PVL-SA. As suppression treatment is ineffective if skin lesions are still leaking, treatment should commence after the lesion has healed, i.e. there is no leakage.

Topical suppression treatment aims to reduce colonisation and help prevent further infections. Recolonisation can occur relatively quickly from the environment so environmental cleaning should be undertaken at the same time as treatment.

PVL-SA suppression treatment consists of two separate treatments

Body and hair treatment:

- An antibacterial solution for body and hair treatment, e.g. Chlorhexidine 4%, Octenisan, or Prontoderm Foam, daily for 5 days, following the manufacturer's instructions. Information sheets on 'PVL-SA Octenisan suppression treatment instructions for service users' and 'PVL-SA Prontoderm suppression treatment instructions for service users' are available to download at www.infectionpreventioncontrol.co.uk
- For dermatology patients, the use of Chlorhexidine 4% is not advised, therefore, use Octenisan or Prontoderm Foam, daily for 5 days

Nasal treatment:

- Nasal Mupirocin 2% ointment, e.g. Bactroban nasal, three times a day for 5 days
- For patients who have a resistance to Mupirocin, Naseptin nasal ointment should be used 4 times a day for 10 days, following the manufacturer's instructions

Note:

Naseptin (neomycin sulphate, chlorhexidine dihydrochloride) has undergone a formulation change, the Arachis oil (peanut oil) has been removed.

- Both the original formulation containing Arachis oil and the revised formulation without Arachis oil will be in circulation in the supply chain until November 2025.
- The labelling on the original formulation packaging contains a peanut oil boxed warning, the new formulation packaging does not.
- Extra care regarding patient allergy to either peanut or soya must be taken when prescribing and dispensing Naseptin during this transition period.

Compliance with the above programme is important and once commenced should be completed in order to prevent resistance to Mupirocin. Both skin/hair and nasal treatment should be started on the same day.

Further advice on suppression and products available can be obtained from your local Community IPC or UKHSA Team.

10. Screening swabs

After completion of the treatment, further screening or treatment is not required unless the patient is particularly vulnerable to infection, poses a special risk to others, e.g. healthcare worker, or spread is continuing in close contacts. If screening is required, swabs should be taken from the nose, throat, axilla, perineum and any damaged skin/lesion.

11. Precautions for PVL-SA

'Standard infection control precautions' (SICPs) and, where required, 'Transmission based precautions' (TBPs) should be followed by all staff at all times, to reduce the risk of transmission of infection. Refer to 'SICPs and TBPs Policy for General Practice'.

- Patients attending for a procedure, e.g. wound dressing, where possible, should be scheduled at the end of the session.
- No specific precautions are required for patients attending for a routine GP consultation.
- Prior to any examination or treatment, a risk assessment to determine the personal protective equipment (PPE) required should be undertaken. A fluid resistant surgical mask is recommended if the patient has confirmed or suspected PVL-SA pneumonia.
- Hand hygiene is essential before and after direct contact with a patient using liquid soap and warm running water or alcohol handrub.
- PPE should be disposed of after each procedure and hands cleaned after disposing of each item of PPE.
- Waste should be disposed of as infectious waste, refer to the 'Safe disposal of waste, including sharps Policy for General Practice'.

12. Environmental and care equipment cleaning

If a patient has attended for an examination or procedure, reusable medical devices, care equipment, the treatment couch and immediate area should be cleaned and disinfected, refer to the 'Safe management of care equipment Policy for General Practice' and 'Safe management of the care environment Policy for General Practice'.

13. Referral or transfer to another health or social care provider

- If it is necessary to refer or transfer a patient to another health or social care provider, e.g. ambulance service, hospital, they should be informed of the patient's PVL-SA status prior to the transfer. This will enable a risk assessment to be undertaken to determine the appropriate IPC measures to be taken, e.g. transported without other patients, isolated on admission.
- Staff preparing to transfer a patient to another health or social care provider should complete a patient passport or the Inter-health and social care infection control transfer Form (see Appendix 1, available to download at www.infectionpreventioncontrol.co.uk). This should accompany the patient. Refer to the 'Patient placement and assessment for infection risk Policy for General Practice'.
- SICPs and TBPs should be followed whenever transferring a patient, whether they have a confirmed infection or not.
- The completed transfer documentation should be supplied to the receiving health or social care provider and a copy filed in the patient's notes.
- Ensure that care equipment used to transfer the patient, e.g. wheelchair, is decontaminated in accordance with the 'Safe management of care equipment Policy for General Practice'.

14. Infection Prevention and Control resources, education and training

The Community IPC Team have produced a wide range of innovative educational and IPC resources designed to assist your General Practice in achieving compliance with the *Health and Social Care Act 2008: code of practice on the prevention and control of infection and related guidance* and CQC registration requirements.

These resources are either free to download from the website or available at a minimal cost covering administration and printing:

- 27 IPC Policy documents for General Practice
- Preventing Infection Workbook: Guidance for General Practice
- IPC CQC inspection preparation Pack for General Practice
- IPC audit tools, posters, leaflets and factsheets
- IPC Bulletin for General Practice Staff

In addition, we hold educational study events in North Yorkshire.

Further information on these high quality evidence-based resources is available at www.infectionpreventioncontrol.co.uk.

15. References

Department of Health and Social Care (Updated December 2022) *Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance*

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

www.gov.uk/government/publications/pvl-staphylococcus-aureus-infections-diagnosis-and-management

NHS England (2022, updated 2023) *National infection prevention and control manual (NIPCM) for England*

16. Appendices

Appendix 1: Inter-health and social care infection control transfer Form



Inter-health and social care infection control transfer Form

The *Health and Social Care Act 2008: code of practice on the prevention and control of infection and related guidance* (Department of Health and Social Care, updated December 2022), states that "The provision of suitable accurate information on infections to service users, their visitors and any person concerned with providing further social care support or nursing/medical care in a timely fashion". This form has been developed to help you share information with other health and social care providers. The form should accompany the service user and, where possible, a copy filed in their notes.

Service user name:..... Address: NHS number: Date of birth: Service user's current location:.....	GP name and contact details:		
Receiving facility, e.g. hospital ward, hospice:			
If transferred by ambulance, the service has been notified: Yes <input type="checkbox"/> N/A <input type="checkbox"/>			
Is the service user an infection risk: <i>Please tick most appropriate box and give details of the confirmed or suspected organism</i>			
<input type="checkbox"/> Confirmed risk Organisms:			
<input type="checkbox"/> Suspected risk Organisms:			
<input type="checkbox"/> No known risk			
Service user exposed to others with infection, e.g. diarrhoea and/or vomiting, influenza: Yes <input type="checkbox"/> No <input type="checkbox"/> Unaware <input type="checkbox"/>			
If yes, please state:			
If the service user has a diarrhoeal illness, please indicate bowel history for last week, if known, (based on Bristol stool form scale):			
Is diarrhoea thought to be of an infectious nature? Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/>			
Relevant specimen results if available			
Specimen:			
Date:			
Result:			
Treatment information:			
Is the service user aware of their diagnosis/risk of infection?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Does the service user require isolation?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
If the service user requires isolation, phone the receiving facility in advance:		Actioned <input type="checkbox"/> N/A <input type="checkbox"/>	
Additional information:			
Name of staff member completing form:			
Print name:			
Contact No:		Date	