

Panton Valentine Leukocidin Staphylococcus Aureus Infection (PVL-SA)

Patient Information

Infection Prevention and Control Department

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What is Panton Valentine Leukocidin Staphylococcus Aureus Infection (PVL-SA)?

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.

Panton Valentine Leukocidin (PVL) is a toxin produced by certain types of Staphylococcus aureus. The toxin can kill white blood cells.

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 e.g. rugby
- Contact with an item or surface that has PVL-SA on it from someone else, for example shared gym equipment, shared razors, shared towels
- Crowding – living in crowded conditions increases the chance of passing on the infection, e.g. military accommodation, prisons and boarding schools.
- Cleanliness – an unclean environment will encourage the bacteria to spread.
- Cuts and grazes – having a cut or graze will allow the bacteria to enter the body.

What are the symptoms of PVL-SA?

If PVL-SA enters the body through a graze or wound it can attack the skin and may rarely enter the blood stream, causing more serious problems. The symptoms include recurrent and painful boils/red areas on the skin, often in more than one place, which don't get better despite antibiotic treatment. The affected area is often more painful than the size of the lesion would suggest. PVL-SA can also cause infection of the bones, blood or internal organs such as the lungs.

How will it be diagnosed?

A microbiology swab is taken from the infected site (i.e. pus or exudate (oozing fluid) from an abscess or other lesions on the body, the nose, the groin and any other relevant sites. Occasionally a sputum or urine sample is sent if clinically required by the doctor. These swabs/ sputum/ urine samples are then sent to the Public Health laboratory at Colindale, and tested for the presence of PVL-SA. A doctor may also ask for testing if they suspect

PVL-SA if a skin infection is recurrent or severe, or if it occurs in several members of a household.

How can PVL-SA be treated?

Minor skin infections

- Abscesses and boils need to be incised and drained – this involves making a small cut in the skin with a sterile instrument and allowing the pus to drain from the abscess or boils.
- Antibiotic treatment is not normally required for minor infections.

Moderate skin and soft tissue infections

- Incision and drainage of abscesses.
- Oral antibiotic treatment – antibiotics will be given by mouth depending on the susceptibility of the bacteria.

Severe skin and soft tissue infections

- Intravenous antibiotics would be administered (into a vein) for 10-14 days. This treatment would involve staying in the hospital.

Treatment options for PVL-SA infections of the lungs, blood, joints and bones, are based on the severity of the symptoms and would include intravenous antibiotics. This treatment would involve staying in the hospital.

Once the initial infection has resolved you will be offered further preventative treatment to reduce the risk of further spread. A doctor will prescribe a topical treatment, e.g. Octensen body wash to wash yourself with and Octensen antibacterial nasal ointment, both to be used for 5 days. Full instructions will be given to you on how to administer this treatment.

What precautions will be put in place whilst I am in hospital?

To reduce the spread of PVL-SA, you will be asked to move into a side room with en-suite facilities.

All hospital staff will wear apron and gloves when caring for you, or when cleaning your room. If PVL-SA is found in your sputum, they will also wear surgical masks and eye protection when undertaking any respiratory cares i.e. suction. Staff will also wash or use alcohol hand gel to clean their hands on entering and before leaving your room.

Your family or friends do not need to wear apron and gloves unless undertaking direct personal care i.e. assisting in washing you. If your family or friends have any open cuts or sores, they must protect these with a waterproof dressing. We advise that your family and friends wash their hands on entering and before leaving your room.

What can I do?

It is important to take the medicines prescribed by the doctor and once all of your infection sites have healed, use the preventative treatment wash and nasal ointment as instructed. If the infections return or a new infection appears on yourself or a family member you must visit your doctor straight away.

To help stop the PVL-SA spreading you should also:

- Not touch, poke or squeeze infected skin. This contaminates your hands and can push the PVL-SAs deeper into the skin.
- Change towels every day and do not share them.
- Change bed sheets daily.
- Keep the house very clean especially the sink and bath.
- Not visit a gym or swimming pool until the infections have healed.
- Cover infected areas with dressings.
- Wash your hands frequently with liquid soap.

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. 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, GP or manager.
- 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 i.e. rugby or use communal gym equipment until their skin is healed. The school should be informed of this infection as they will advise on a date for returning to school.

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.

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 PVL-SA infection. This will ensure that you receive appropriate treatment.

References

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Ask 3 Questions

Become more involved in decisions about your healthcare. You may be asked to make choices about your treatment. To begin with, try to make sure you get the answers to three key questions:

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?



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