



Wound infections

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There have been increasing numbers of bacterial infections in people who inject drugs across England. Of particular concern is the rise in infections caused by Group A Strep (GAS; *Streptococcus pyogenes*) and *Staph aureus* (*Staphylococcus aureus*) leading to hospitalisations and serious consequences including limb amputations and deaths.

The increase has been seen in people who inject drugs, in homeless people and people in prison.

This resource gives information on signs and symptoms of these infections, and ways to prevent infection.

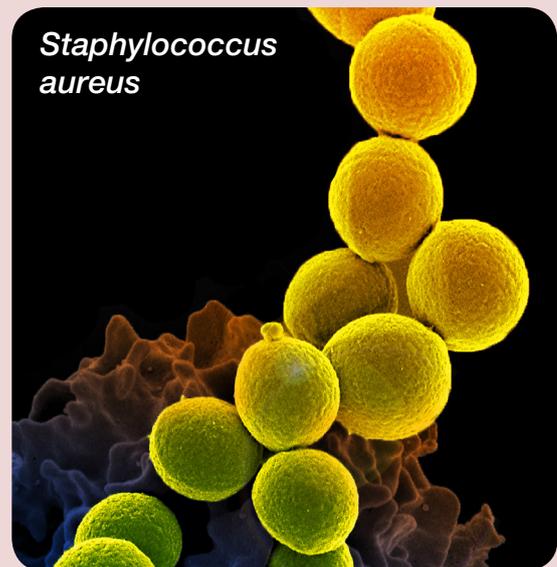


Image: National Institute of Allergy and Infectious Diseases (NIAID)

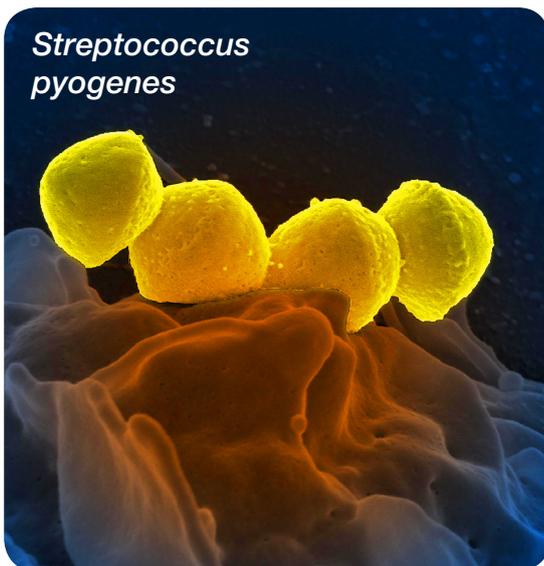


Image: National Institute of Allergy and Infectious Diseases (NIAID)

Staphylococcus aureus (*S. aureus* or “*Staph aureus*”) and *Streptococcus pyogenes* (commonly referred to as Group A *Streptococcus* or GAS) are bacteria found in the nose, throat, skin, groin or anal area. People may carry these bacteria and have no symptoms of illness. However, infection can occur when these bacteria enter the body via a wound (including a drug injecting site), sore or a break in the skin. The infection can be caused by a person's own bacteria or bacteria acquired from someone else or from the environment including through contact with contaminated surfaces and objects like soft furnishings, bedding or towels.

These bacteria can be passed from person-to-person through direct contact or through breathing in respiratory droplets from someone carrying the

bacteria, as well as through sharing drug paraphernalia (such as injecting equipment, spoons, filters, pipes to smoke drugs etc). Drugs or their wraps can also be contaminated with bacteria.

Signs and symptoms

S. aureus and GAS can cause a range of infections from mild skin and throat infections to life-threatening invasive infection. These infections can take hold in many areas of the body including skin and soft tissue, respiratory tract, bone/joint and bloodstream infection. The symptoms of *S. aureus* and GAS infection vary depending on the type of infection but they might include:

- high fever, chills
- heat, swelling, redness, aches and pain around wound, joint or muscles
- pus and/or unpleasant smell from site of wound
- wound that will not heal
- skin abscess – painful collection of pus in a lump under the skin
- cellulitis – red, painful, hot, swollen, tender, blistered skin
- fast heartbeat
- dizziness, confusion, disorientation
- shortness of breath, fast breathing, difficulty breathing
- coughing up mucus
- pain in chest
- headache
- unexplained ‘bruising’ or rash
- sore throat, difficulty swallowing
- sore ear(s)
- vomiting, nausea and diarrhoea
- severe abdominal pain
- severe fatigue/tiredness
- severe muscle pain

Not all of these symptoms need to be present

Staff, and people who use street drugs, should be aware of these symptoms.

If someone has symptoms

Left untreated, these infections often become progressively worse and can lead to death. Early identification and treatment is vital and will also reduce the likelihood of the infection being passed to someone else.

If someone who uses drugs has a combination of the symptoms mentioned above they should seek medical attention from their GP, by calling NHS 111 or – **if symptoms are severe** – going straight to hospital. In an emergency call 999.

Risk reduction advice for people who use drugs

- wash hands and maintain good personal hygiene (including washing clothes, bedding and towels)
- consider oral use of substances such as wrapping in cigarette paper and swallowing (called bombing) or smoking as an alternative to injecting and snorting
- if injecting:
 - wash hands
 - Clean the skin before injecting with water and soap or an alcohol swab
 - use new injecting equipment for every injection
 - only use a small amount of citric if it is needed to dissolve the drug (don't use an acidifier if injecting stimulants, which are usually acidic anyway)
 - filter the drug before injecting
 - don't re-use filters and don't lick needles before using them (used filters and saliva are full of bacteria)
 - ensure the drug is injected directly into a vein – try to avoid missed hits -intramuscular and sub-cutaneous injections can cause tissue damage, which helps bacterial infection to develop
 - avoid groin injection
 - avoid always using the same injection site
- if possible, stop drug use altogether (support person to look at their treatment options) or encourage to take breaks from injecting (smoking, bombing etc) to reduce vein damage
- **if someone feels unwell, or has any of the symptoms of *S. aureus* or GAS infection (see above), seek medical advice quickly**

What are *Staphylococcus* bacteria?

Staphylococcus aureus is part of the body's natural bacterial microflora. It can be found in the nose or on people's skin, groin or anal area. Most of the time *S. aureus* does not cause problems to the person carrying it but can be passed on from person to person.

S. aureus infections are caused when bacteria get into a break, damage or cut in the skin (such as a break caused by injecting drug use, touching broken skin with unclean hands etc.) and *S. aureus* infections can be broadly classified into two groups: skin and soft tissue infections and invasive infection.

People with *S. aureus* infection can develop serious conditions such as blood stream infection, endocarditis or abscesses covering the body (not just at injecting sites).

What are *Streptococcus* bacteria?

Streptococcal infections can vary in severity from mild throat infections to life threatening conditions.

The streptococcal bacterium most often associated with people who use drugs is Group A Streptococcus (GAS), also known as *Streptococcus pyogenes*. People can carry this bacterium in the nose, throat, skin, anal and genital areas and may have no symptoms of illness. GAS can be passed on from person to person.

People with GAS infection can develop serious, life-threatening conditions such as cellulitis, pneumonia, blood stream infection (including septicaemia) and necrotising fasciitis, meningitis or bone/joint infection.

How someone who uses drugs becomes Infected with *S. aureus* and/or GAS

Person to person:

The most common way for an individual to become infected by either *S. aureus* or GAS is person to person spread. Bacteria can spread through respiratory droplets in the coughs or sneezes of someone with an infection or through contact with infected wounds or sores on the skin of someone carrying the organism.

Injecting drug use:

Injecting frequently, missed hits and injecting into the groin are all factors increasing the risk of people's own bacteria (*S. aureus* and GAS) entering the body via wounds associated with injecting.

Contaminated substance:

Although less common, in some cases the substance being used or its packaging/wrap could be contaminated with *S. aureus* and / or GAS. If this is the case an individual would be susceptible to infection through using the substance especially by injecting drug use (intravenous, intra muscular, subcutaneous), snorting and rectal drug use. Smoking and oral use of any drug carry less of a risk of invasive infection compared to other methods of drug use.

It is important to mention *S. aureus* and/ or GAS is not visible to the eye therefore a person would not be able to tell if their drug is contaminated.

Sharing drug paraphernalia:

It is also possible to become infected with GAS and *S. aureus* by sharing injecting equipment*, spoons, filters, snorters (for inhaling drugs up the nose) and pipes (for smoking drugs) due to unwashed hands contaminating these objects.

* Sharing of injecting equipment also increases the risk of contracting a blood borne virus for example, hepatitis C and HIV.

Treatment of infection

S. aureus and GAS infections can be treated with antibiotics. However, the more severe the infection the more intensive the treatment becomes. Most people who have invasive infections are admitted to hospital due to the severity of the condition.

It is important to take the full course of antibiotics if prescribed, even if feeling better before they are finished, otherwise the infection may not be fully treated and a partly treated infection can return.

Drug treatment and recovery

If a person wants to stop using drugs and finds they cannot, treatment should be considered. Encourage people to contact their drug service or GP, call NHS 111 or look at www.talktofrank.com

Risk to staff

Due to both bacteria being easily spread from person-to-person it is essential that staff practice good hygiene. Staff working with a person who has an infection caused by *S. aureus* or GAS can reduce their chances of infection by:

- washing hands regularly
- keeping any cuts clean and covered
- practising good personal hygiene
- following local infection control advice

Should a staff member come into contact with someone who signs of infection - for example, by touching an infected site or being exposed to the pus that it produces, they should wash their hands thoroughly using warm water and soap, or alcohol hand gel if soap and water are not available.

Follow your local protocol on infection control advice and who to contact if appropriate

Spread of infection from person-to-person is reduced after a person with the infection has been receiving antibiotics for 24 hours or longer.

For information on drugs and where to get help:

call NHS 111

visit www.talktofrank.com

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