



Invasive Group A Streptococcal Infections Factsheet for close contacts of cases

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Group A streptococcal (GAS) infections are caused by *Streptococcus pyogenes*, a bacterium that is commonly found on the skin or in the upper respiratory tract (nose and throat). The term group A refers to the presence of an antigen found on the surface of the bacterium, which helps in its identification.

What kinds of illness are caused by GAS?

- The most common infections caused by GAS are a mild sore throat ('strep throat') and skin infections such as impetigo and cellulitis.
- Scarlet fever, also caused by GAS, was once a serious childhood disease but is now less common and less severe than it used to be.
- Rare complications of GAS infection include acute rheumatic fever and post-streptococcal glomerulonephritis (heart and kidney diseases caused by an immune reaction to the bacteria).

What is invasive group A streptococcal (iGAS) disease?

- Sometimes severe GAS disease may occur when bacteria get into parts of the body where bacteria are not usually found, such as the blood, muscle, or the lungs. These infections are termed invasive group A Streptococcal disease (iGAS).
- Two of the most severe, but rare, forms of iGAS disease are necrotising fasciitis (a severe infection where areas of soft tissue below the skin start to die) and Streptococcal Toxic Shock Syndrome (rapidly progressive symptoms with low blood pressure and failure of multiple organs within the body).

How is GAS spread?

- Streptococci survive in throats and on hands for long enough to allow easy spread between people through sneezing, kissing and skin contact.
- People may carry group A streptococci in the throat or on the skin and have no symptoms of illness. This is sometimes known as being colonized.

Why does iGAS disease occur?

- Invasive GAS infections occur when the bacteria get past the defences of the person who is infected. This may occur when a person has sores or other breaks in the skin that allow the bacteria to get into the tissue, or when the person's ability to fight off the infection is decreased because of chronic illness or an illness that affects the immune system.
- Also, some strains of GAS are thought to be more likely to cause severe disease than others.

What are the symptoms of iGAS infection?

The early signs and symptoms of invasive disease are shown below.

- High fever
- Severe muscle aches
- Localised muscle tenderness

Non-invasive GAS infection may cause

- Sore throat
- Skin or wound infections

Most people who come into contact with GAS remain well and symptom-free, or develop mild throat or skin infections. Contracting invasive GAS disease from a close contact is very rare.

What should I do if I develop any of the symptoms?

- **If you develop any of these symptoms contact your GP or seek medical advice immediately.**
- Tell your GP that you have been in contact with someone recently diagnosed with invasive group A streptococcal disease and that you have developed some symptoms that you are worried about. It is very likely that your GP will want to see you to make a diagnosis.
- If your GP suspects that you have a GAS infection, you will be started on antibiotics. You should stay away from school/work, etc until you are well and have been on antibiotics for at least 24 hours.

What treatments are available for GAS?

- All GAS infections may be treated with antibiotics, such as penicillin, or erythromycin if the patient is allergic to penicillin. Early treatment improves the outcome of invasive disease.
- In cases of necrotising fasciitis, surgical removal of affected tissue is essential in addition to rapid treatment with intravenous antibiotics to prevent further spread.