

Group A Streptococcus (GAS)

Group A Streptococcus (GAS) is a bacterium that can cause severe illness in people with chronic illnesses like cancer, diabetes, and those being treated with kidney dialysis. Those who use medications such as steroids also have a higher risk.

Most GAS infections are relatively mild illnesses such as “Strep Throat” or impetigo. On some rare occasions, these bacteria can cause other severe and even life-threatening diseases.

What is Group A Streptococcus (GAS)?

Group A Streptococcus is a bacterium often found in the throat and on the skin. People may carry Group A Streptococci in the throat or on the skin and have no symptoms of illness. Most GAS infections are relatively mild illnesses, such as “Strep Throat,” or impetigo (a skin infection). On rare occasions, these bacteria can cause other severe or even life-threatening diseases.

How are Group A Streptococci Spread?

These bacteria are spread through direct contact with mucus from the nose or throat of someone who is infected or through contact with infected wounds or sores on the skin. Ill people, such as those who have strep throat or skin infections, are most likely to spread the infection. People who carry the bacteria but have no symptoms are much less contagious. Treating an infected person with an antibiotic for 24 hours or longer generally eliminates their ability to spread the bacteria; however, it is important to complete the entire course of antibiotics as prescribed. It is not likely that these bacteria are spread by household items like plates, cups, or toys.

What Kind of Illnesses are Caused by Group A Streptococcal Infection?

Infection with GAS can result in a range of symptoms:

- No illness
- Mild illness (strep throat or a skin infection such as impetigo)
- Severe illness (Necrotizing Fasciitis or Streptococcal Toxic Shock Syndrome)

Severe, sometimes life-threatening, GAS disease may occur when bacteria get into parts of the body where bacteria usually are not found, such as the blood, muscle, or the lungs. These infections are termed "invasive GAS disease". Two of the most severe but least common forms of invasive GAS disease are Necrotizing Fasciitis and Streptococcal Toxic Shock Syndrome. Necrotizing Fasciitis (occasionally described by the media as "the flesh-eating bacteria") destroys muscles, fat, and skin tissue. Streptococcal Toxic Shock Syndrome (STSS) causes blood pressure to drop rapidly and organs (e.g., kidney, liver, and lungs) to fail. STSS is not the same as the "toxic shock syndrome" frequently associated with tampon usage. About 20% of patients with Necrotizing Fasciitis and more than half with STSS die. About 10-15% of patients with other forms of invasive Group A Streptococcal disease die.

How Common is Invasive Group A Streptococcal Disease?

About 10,000 cases of invasive GAS disease occurred in the United States in 1998. Of these, about 600 were STSS and 800 were Necrotizing Fasciitis. In contrast, there are several million cases of strep throat and impetigo each year.

Why Does Invasive Group A Streptococcal Disease Occur?

Invasive GAS infections occur when the bacteria get past the defenses of the person who is infected. This may occur either 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 virulent strains of GAS are more likely to cause severe disease than others.

Who is Most at Risk of getting Group A Streptococcal Disease?

Few people who come in contact with GAS will develop invasive GAS disease. Most people will have a throat or skin infection, and some may have no symptoms at all. Although healthy people can get invasive GAS disease, people with chronic illnesses like cancer, diabetes, and those being treated with kidney dialysis, and those who use medications such as steroids have a higher risk.

What are the Early Signs and Symptoms of Necrotizing Fasciitis and Streptococcal Toxic Shock Syndrome?

Early signs and symptoms of Necrotizing Fasciitis:

- Fever
- Severe pain and swelling
- Redness at the wound site

Early signs and symptoms of STSS:

- Fever
- Dizziness
- Confusion
- A flat red rash over large areas of the body

How is invasive group A streptococcal disease treated?

GAS infections can be treated with many different antibiotics. Early treatment may reduce the risk of death from invasive Group A Streptococcal disease. However, even the best medical care does not prevent death in every case. For those with very severe illness, supportive care in an intensive care unit may be needed. For persons with Necrotizing Fasciitis, surgery often is needed to remove damaged tissue.

What can be done to help prevent group A streptococcal infections?

The spread of all types of GAS infections can be reduced by good hand washing, especially after coughing and sneezing and before preparing foods or eating. A person with a sore throat should be seen by a doctor who can perform tests to find out whether the illness is strep throat. If the test result shows strep throat, the patient should stay home from work, school, or day care until 24 hours after taking an antibiotic. All wounds should be kept clean and watched for possible signs of infection, such as redness, swelling, drainage, and pain at the wound site. A person with signs of an infected wound, especially if fever occurs, should seek medical care. It is not necessary for all people exposed to someone with an invasive Group A Streptococcal infection (i.e. Necrotizing Fasciitis or Strep Toxic Shock Syndrome) to receive antibiotic therapy to prevent infection. However, in certain circumstances, antibiotic therapy may be appropriate. This decision should only be made after consulting with your doctor.