

# Group A Streptococcal Disease

## What is group A streptococcal disease?

**Group A streptococcal (GAS) disease describes a group of infections that are caused by the bacteria *Streptococcus pyogenes*, group A (also known as *Streptococcus A*). These bacteria are commonly found on the skin and in the throat of healthy individuals.**

The infections typically begin in the throat (strep throat) or skin (impetigo). However, severe and rare life-threatening GAS disease can sometimes occur when the bacteria get into parts of the body where bacteria usually are not found, such as blood, muscle, or the lungs. These infections are termed invasive GAS disease.

Two of the most severe, but least common, forms of invasive GAS are necrotizing fasciitis and streptococcal toxic shock syndrome. Necrotizing fasciitis, also known as “flesh-eating” disease, is a rapidly progressing disease which destroys muscles, fat and skin tissue. Without surgery and medical assistance, the infection can lead to death. Streptococcal toxic shock syndrome results in rapid drop in blood pressure and causes organs such as the kidneys, liver or lungs to fail.

## What are the signs and symptoms of GAS disease?

### **Non-invasive and non-severe GAS infection signs and symptoms (not reportable to public health):**

- Signs and symptoms of GAS infection of the throat include fever, sore throat, tender neck glands and swollen tonsils that may have pus on them. Ear infections may also develop.
- Signs and symptoms of GAS infection of the skin include blisters on the skin that can break and leak yellow-coloured fluid. Blisters then dry and crust over.

### **Invasive and/or Severe GAS disease signs and symptoms (reportable to public health):**

- Signs and symptoms such as fever and severe pain, swelling, and/or redness of tissue can be indications of necrotizing fasciitis (flesh eating disease).
- Signs and symptoms such as fever, dizziness, confusion, flu-like symptoms, sudden severe pain often in a limb or muscle, nausea, vomiting and/or a red rash over areas of the body can be indications of streptococcal toxic shock syndrome.
- Signs and symptoms such as fever, chills, headache, generally not feeling well, pale skin, lack of energy, rapid breathing and/or increased heart rate can be indications of septicemia (blood poisoning).
- Progression of illness can be very rapid for invasive GAS and it is important to seek medical attention immediately. Prompt diagnosis, aggressive management and early use of appropriate antibiotics are crucial.

## Who is at increased risk of developing invasive GAS following exposure to an individual with invasive GAS?

Although the risk is low, close contacts of people with invasive GAS may be at increased risk of infection. Close contacts include:

- People living in the same household as the infected person
- People sharing sleeping arrangements with the infected person
- People who have had direct contact with the infected person through mouth to mouth resuscitation, open mouth kissing, and open skin sores
- Injection drug users who shared needles with the infected person.

School classmates (six years of age and older), work colleagues, as well as social or sports contacts of the infected person are not usually considered to be close contacts.

## How does GAS bacteria spread?

GAS bacteria are spread through direct contact with secretions from the nose or throat of persons who are infected or through contact with infected wounds or sores on the skin. The risk of spreading the infection is higher when an infected person is ill or has an infected wound.

Immediate household contacts of an individual with invasive GAS are at a higher risk for infection. However, there is a risk to other individuals if there has been direct, prolonged contact (e.g., mouth-to-mouth resuscitation, open-mouthed kissing, sexual relations or sharing of needles) with the mucous membranes of the infected individual. This does not include kissing with closed mouths and sharing of utensils, water bottles or cigarettes.

People with weakened immune systems have a higher risk of invasive GAS. Persons who may have an increased risk of developing more serious disease may include the elderly and individuals with a history of alcohol abuse or injection drug use, post-partum pregnant women, individuals with open wounds and those with chickenpox.

## How is invasive GAS disease treated?

People with invasive GAS disease are usually hospitalized and treated with antibiotics. For persons with necrotizing fasciitis, early and aggressive surgery is often needed to remove damaged tissue and stop the spread of the disease.

## How can you help prevent the spread of GAS?

There is no vaccine to prevent GAS infections. However, you can help prevent the spread of GAS through the following measures:

- Practice good hygiene. Wash with soap and water, or use an alcohol-based hand cleaner
- Cover your mouth and nose with a tissue when you cough or sneeze
- Put your used tissue in the waste basket
- Clean your hands after coughing or sneezing
- If you don't have a tissue, cough or sneeze into your upper sleeve, not your hands
- Do not prepare or handle food for others if you are sick
- If you are sick, stay home until you have completed 24 hours of antibiotic treatment
- Disinfect items that have come in contact with an infected person
- Keep all cuts and wounds clean and watch for possible signs of infection, such as redness, swelling, drainage, and pain at the wound site. If there are signs of an infected wound, especially with fever, see a doctor as soon as possible.

In consultation with a health care provider, antibiotics are recommended for certain close contacts of severe cases of invasive GAS. York Region Public Health's role with invasive GAS is to investigate cases and conduct contact tracing activities within the community and assess the need for preventive antibiotics. Close contacts of invasive GAS cases are advised to self-monitor for signs and symptoms of GAS infection, including fever, for 30 days. If any signs and symptoms of GAS develop, follow up with a health care provider immediately.