

## Guillain-Barré Syndrome Fact Sheet

1. **What is Guillain-Barré syndrome (GBS)?** – GBS is a serious neurological disorder that results from the inflammation of peripheral nerves after certain events such as an infection.

2. **What are the symptoms of GBS?** – Illness is typically characterized by progressive, symmetrical weakness in the patient's legs and arms, with a loss of reflexes. Altered or lost sensation abnormalities, involvement of nerves in the head, and paralysis of breathing muscles can also occur. Most people reach the stage of greatest weakness within two weeks after symptoms appear. Most patients recover from even the most severe cases of GBS, although 20% of hospitalized patients have prolonged disability, and a small proportion die.

### 3. **What causes GBS?**

a. No one yet knows why GBS strikes some people and not others. While GBS is not contagious, the initial cause is unknown. What scientists do know is that the body's immune system begins to attack the body itself, causing what is known as an autoimmune disease. The immune system starts to destroy the myelin sheath or outer covering that surrounds the axons of peripheral nerves. Axons are the root-like extensions of the individual nerve cells. The myelin sheath, around each axon acts to speed up the nerve signals as they travel the relatively long distances between nerve cells. When the myelin sheaths are damaged or degraded, the nerves cannot transmit signals as efficiently. The muscles begin to lose their ability to respond to the brain's commands, and the brain receives fewer sensory signals from the rest of the body, resulting in an inability to feel textures, heat, pain, and other sensations. Because the signals to and from the hands and feet must travel the longest distances they are most vulnerable to signal disruption with GBS. Therefore in GBS, muscle weakness and tingling sensations first appear in the hands and feet and progress inwards.

b. When GBS is preceded by an infection, it is speculated that the infection may have changed the surface of nerve cells, so that the immune system wrongly treats them as foreign tissue. It is also possible that the infection makes the immune system generally less discriminating, thus causing it to attack nerve cells.

c. *Campylobacter jejuni*, a bacterium that causes intestinal infection is a known GBS precipitating factor.

d. In 1976, an excess of GBS cases was seen in persons who received the swine flu vaccine. Since then an association with influenza vaccine has not been observed again.

4. **Who is at greatest risk?** - GBS can affect anybody. It can strike at any age and both sexes are equally prone to the disorder. The syndrome is rare, however, with only about one case per 100,000 persons each year. Usually GBS occurs a few days or weeks after the patient has had symptoms of a respiratory or intestinal infection. Occasionally surgery or vaccinations will trigger the syndrome.

5. **How is GBS diagnosed?** - GBS can be difficult to diagnose in its earliest stages. Its signs and symptoms are similar to those of other neurological disorders and may vary from person to person. The first step in diagnosing GBS is for your doctor to take a careful medical history to fully understand the cluster of signs and symptoms you're experiencing. A spinal tap (lumbar puncture) and nerve function tests are used to help confirm a diagnosis of GBS.

6. **How is GBS treated?** - There is no known cure for GBS. Most persons with GBS require hospitalization and sometimes intensive care. However, plasma exchange and high-dose immunoglobulin are therapies that lessen the severity of the illness and accelerate the recovery in most patients.

7. **For more information about Guillain-Barré Syndrome:**

<http://www.cdc.gov/vaccinesafety/Vaccines/gbsfactsheet.html>

This fact sheet provides general information. Please contact your physician for specific clinical information.

March 8, 2013