

## Guillain-Barre syndrome

Guillain-Barré syndrome is an autoimmune condition in which the person's nerves are attacked by the body's own immune defence system. As a result of the attack, the nerve insulation (myelin) and sometimes even the inner covered part of the nerve (axon) is damaged and signals are delayed or otherwise changed. The resultant antibodies attack the myelin sheath, and sometimes the axon, causing paralysis and muscular weakness as well as strange sensations, as the sensory nerves of the skin may be affected.

The syndrome appears to be triggered by acute viral or bacterial illnesses, such as respiratory or gastrointestinal infections, occurring one to three weeks earlier. However, other events such as pregnancy, dengue fever, surgical procedures, insect bites and Bell's palsy have also been shown to cause GBS.

Usually, the symptoms start in the feet or legs and progress up the body over a few days or weeks. The disorder can be mild, moderate or severe, with life support needed in the worst cases. The exact cause is unknown and there is no known cure. Most people spontaneously recover, although some will be left with permanent disabilities.

This rare illness strikes between two and eight people in every 100,000, regardless of gender or age, although it is more common in the 30 to 50 years age group. Other names for Guillain-Barré syndrome include acute idiopathic polyneuritis, acute idiopathic polyradiculoneuritis and Landry's ascending paralysis.

### Symptoms of Guillain-Barré syndrome

The symptoms of Guillain-Barré syndrome include:

- muscle weakness and paralysis affecting both sides of the body
- jerky, uncoordinated movements
- numbness
- muscle aches, pains or cramps
- odd sensations such as vibrations, buzzing or 'crawling' under the skin
- blurred vision
- dizziness
- breathing problems.

The symptoms typically start in the feet or legs and progress up the body. Sometimes, the symptoms start in the arms and progress downwards. Symptoms may take a few days or weeks to progress. After the symptoms remain steady and peaked for a short time, the person starts to recover.

Recovery may take six months to two years or more.

### Effects of Guillain-Barré syndrome

The symptoms of Guillain-Barré syndrome vary from mild to life threatening, depending on which nerves are damaged and to what extent. The nerves of the autonomic nervous system can be affected, leading to changes in blood pressure, heart rate, vision, kidney function and body temperature. Potentially fatal complications of Guillain-Barré syndrome include pneumonia, deep vein thrombosis and respiratory failure.

### Causes of Guillain-Barré syndrome

The exact cause of Guillain-Barrè syndrome remains unclear. In most cases, a person with Guillain-Barrè syndrome experienced some form of viral or bacterial infection some days or weeks prior to the onset of symptoms. The most commonly identified trigger is gastrointestinal infection with *Campylobacter jejuni* – one of the most common causes of food poisoning.

Some of the viral infections associated with the syndrome include respiratory and gastrointestinal infections, herpes zoster, glandular fever and viral hepatitis. Other triggers may be surgery or insect bites. Whatever the trigger may be, the immune cells of the body are prompted to attack and destroy the insulation of the nerve cells (myelin sheath). Sometimes, the nerve cell bodies (the axon) are targeted too.

There is no evidence to suggest that Guillain-Barrè syndrome is contagious.

## Diagnosis of Guillain-Barrè syndrome

Guillain-Barrè syndrome can be difficult to diagnose, because the symptoms may seem vague and unrelated.

Diagnosis relies on a number of tests including:

- physical examination
- muscle strength tests
- muscle activity tests
- reflex tests, such as the knee-jerk reaction
- nerve conduction velocity tests
- spinal tap, to check for higher than expected levels of protein in the cerebrospinal fluid.

## Treatment for Guillain-Barrè syndrome

The progress of the disorder is very difficult to predict. Most people diagnosed with Guillain-Barrè syndrome are hospitalised so that any complications which affect their vital functions can be treated promptly.

There is no cure, but treatment options include:

- **Plasmapheresis** – blood is taken from the person. The immune cells are removed, and the remaining red blood cells are returned to the body.
- **Gammaglobulin (IVIG)** – trials have proven the effectiveness of this form of treatment. IVIG is given by infusion into a vein, usually every day for five days. Each infusion takes about two hours.

## Long-term outlook for Guillain-Barrè syndrome

Estimates vary, but around nine out of 10 people with Guillain-Barrè syndrome survive and approximately 75 to 90 per cent recover completely. Around 10 to 15 per cent will be troubled by some form of permanent disability.

Generally, the earlier the symptoms start to ease, the better the outlook. Even so, it can take anywhere from six months to two years or more to fully recover. Physical therapy is important as it prevents muscle contractures and associated deformities. Healthcare professionals involved in the person's rehabilitation may include neurologists, physiotherapists, occupational therapists, social workers and psychologists.

## Where to get help

- Your doctor
- Guillain-Barrè Syndrome Association Tel. (02) 9617 0883

## Things to remember

- Guillain-Barrè syndrome is a form of nerve inflammation.
- The cause is unknown, but most cases seem to be triggered by a bacterial or viral illness.

- Most people recover, but it may take six months to two years or more.
- There is no cure for Guillain-Barrè syndrome.

**This page has been produced in consultation with, and approved by:**

Guillain-Barre Syndrome Association

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