

Guillain-Barré Syndrome

Guillain-Barré syndrome is a nervous system disease caused by an abnormal immune system response to infection. A week or two after a minor illness, your child develops muscle weakness or paralysis that gradually gets worse. In severe cases, the paralysis may lead to difficulty breathing. Guillain-Barré syndrome usually requires at least some time in the hospital for observation and supportive care. Most patients recover completely, but this may take weeks to months.

What is Guillain-Barré syndrome?

Guillain-Barré syndrome is a nervous system disease caused by our own immune system attacking certain nerves in the body. The exact cause of this reaction is unknown, but it usually follows a relatively minor illness caused by infection with a virus. Guillain-Barré syndrome can occur at any age. Most children recover without further problems.

What does it look like?

Most cases of Guillain-Barré syndrome start with sudden weakness of the lower leg muscles. Over the following days, the weakness spreads gradually upward. Abnormal sensations (tingling, numbness) may be present as well.

The symptoms most often occur a week or two after a relatively minor illness, for example, acute diarrhea (gastroenteritis) or a cold.

Over a period of days to weeks, the muscle weakness continues to spread upward, through the body to the arms. The weakness may worsen, to the point where your child cannot move the muscles at all (paralysis).

In more severe cases, weakness or paralysis continues to spread upward to the muscles of the throat, tongue, jaw, and face (“bulbar” muscles). This paralysis is particularly serious because it can interfere with your child’s ability to eat, drink, and prevent choking. The paralysis can also lead to problems with breathing and heart rate. Close monitoring and support in the hospital may be needed so that your child can survive this period.

Fortunately, Guillain-Barré syndrome usually resolves on its own. On average, the weakness and paralysis start to clear up after 2 to 3 weeks. Return of function starts at the top of the body and gradually spreads downward.

Most patients recover completely, although it may take months before full muscle strength returns. Some patients are left with some degree of muscle weakness or abnormal sensation. There is a small risk of another attack of Guillain-Barré syndrome in the future.

What are some possible complications of Guillain-Barré syndrome?

The most serious complication is difficulty breathing. This can become severe enough to require a respirator (ventilator) to help your child breathe. This type of paralysis occurs in about one half of patients with Guillain-Barré syndrome, and it can develop very quickly.

What increases your child’s risk of Guillain-Barré syndrome?

- Fortunately, Guillain-Barré syndrome is uncommon, affecting about 1 in 100,000 people.
- Besides a recent infection, there are few known risk factors. It is unknown why some people develop Guillain-Barré syndrome while others do not.
- About 7% of survivors of Guillain-Barré syndrome have future attacks. The repeat attacks are usually not as severe as the initial one.

Can Guillain-Barré syndrome be prevented?

There is no known way to prevent Guillain-Barré syndrome.

How is Guillain-Barré syndrome treated?

Guillain-Barré syndrome requires prompt recognition and hospital treatment. Because paralysis can develop quickly, all patients need hospital care and monitoring, at least at first. Your child’s care will likely involve a specialist in nervous system diseases (a neurologist).

- *Supportive care.* The main goal of treatment is to provide your child with supportive care until he or she recovers. Depending on the severity of the weakness/paralysis, this may include:
 - Intravenous (IV) fluids if he or she cannot drink normally.
 - Constant nursing care to prevent complications of muscle weakness/paralysis such as breathing or eating problems or bed sores.
 - Special machines used to monitor heart, lung, and other critical body functions. If your child has trouble

breathing on his or her own, mechanical ventilation may be needed. A ventilator is a machine that helps your child breathe. Mechanical ventilation will be continued until your child is strong enough to breathe on his or her own again.

- *Other treatments.* If your child's weakness and paralysis are spreading rapidly, certain treatments may be given with the intent of reducing the duration and severity of the attack:
 - Intravenous immune globulin (IVIG). The most common treatment, IVIG, is a solution of antibodies that affect the immune system. These antibodies seem to reduce inflammation and swelling of the affected nerves.
 - Plasmapheresis. Used less commonly, plasmapheresis is a way of filtering the blood to remove antibodies and other substances that may be causing Guillain-Barré syndrome.

- The length of time your child spends in the hospital depends on the severity of the attack. Usually, once muscle function has started to return, he or she will be sent home to continue recovering.

Having a child develop Guillain-Barré syndrome is a stressful event for your family. Counseling and other mental health services may be helpful.

When should I call your office?

Your child will receive close medical monitoring and follow-up. He or she will probably stay in the hospital until recovery is well under way.

During recovery and afterward, call our office if your child develops any possible sign of a repeat attack of Guillain-Barré syndrome, such as sudden muscle weakness or abnormal sensation, especially in the lower legs.