

INTRAVENOUS IMMUNOGLOBULIN THERAPY IN MYASTHENIA GRAVIS

Myasthenia gravis (MG) is a chronic autoimmune disorder that weakens nerve-to-muscle messaging and causes muscle weakness. Treatments cannot cure MG, but they can significantly control symptoms to improve your strength and help you lead a full life with a normal life expectancy.

MG symptoms can generally be controlled and there are several therapies available to improve muscle weakness. Treatments include medicines to reduce the immune system response, removal of the thymus gland (thymectomy), and intravenous immunoglobulin therapy (IVIg) or plasma exchange (PLEX). Other medicines enhance nerve-to-muscle messaging to reduce muscle weakness. This fact sheet explains how IVIg can be used to treat MG, to help you make informed decisions about the right care for you.

What is immunoglobulin replacement therapy?

Immunoglobulins, also known as antibodies, are proteins produced by plasma cells in lymphoid organs that help the immune system fight infections and diseases. When this product is given through the intravenous route it is known as IVIg.

Immunoglobulin products are made by pooling thousands of human blood plasma donations (plasma is the clear fluid without blood cells). These products are then carefully tested, screened, filtered and treated to make sure they are safe for use. Immunoglobulin acts as an immune-modulating therapy (IMT) that alters the way the immune system works, reducing the immune system's ability to attack the nerves, and reducing the symptoms and signs of MG.

Will immunoglobulin cure my condition?

IVIg is a short-term therapy for people who experience a severe, sudden worsening of MG symptoms known as a 'myasthenic crisis'. IVIg will help treat the symptoms of MG, temporarily boosting strength and improving quality of life – but it doesn't deal with the underlying disease and so won't 'cure' MG. Your doctor can choose between IVIg or PLEX to treat your worsening symptoms. These two treatments are equally effective.

People who require this treatment usually have severe breathing difficulties, shortness of breath, and decreased use of throat muscles. If you have surgery to remove the thymus gland, your doctor can prescribe IVIg therapy as a once-off treatment before surgery.

It is important to note that IVIg can be used as a temporary treatment while your doctor tries new, more effective medicines and can be used short term if you cannot tolerate the side effects of your current medicines.

How is IVIg given?

IVIg is administered by infusion into a vein while your condition is monitored, usually at a hospital outpatient clinic.

- ▶ Initial (first) treatment is usually given over a few days in hospital or in a hospital day centre.
- ▶ Maintenance (follow-up courses) treatment is usually given every 3–4 weeks in a hospital day centre.

Your doctor will choose the appropriate immunoglobulin dose for you according to your weight and treatment frequency. The dose may be adjusted depending on your response to treatment, to ensure you receive the ideal dose needed to treat your condition.

What are the side effects of Ig products?

Side effects differ according to how IVIg is given and your condition.

- ▶ Most people tolerate IVIg well, but side effects can include headache, fever, chills, nausea, fatigue, or flu-like illness ('systemic' effects). These are usually mild and short lived.
- ▶ Side effects often happen during or just after your infusion. A slower infusion rate and taking paracetamol or antihistamines beforehand can reduce the chance of side effects. Serious adverse events are rare, but include severe allergic reactions (anaphylaxis), aseptic meningitis, reduced kidney function and blood clots.
- ▶ The risk of developing a blood-borne infection from a plasma-derived blood product is close to zero due to various testing, screening and safety measures.

As with any treatment, you should discuss individual risks and benefits with your healthcare team.

How long will I need treatment for?

Most people who respond to immunoglobulin products show some improvement in symptoms within the first 6 weeks, often after the initial induction treatment. If no improvement is seen within the first 4 months, your doctor will stop your immunoglobulin treatment and discuss other treatment options.

Depending on your response to IVIg therapy, your healthcare team may discuss changing dosage or treatment intervals to make sure your treatment is tailored to you. The goal is to find the lowest effective dose needed to keep your condition stable.

Your doctor may suggest trying a short break from treatment if you have been stable and are well.

MG can go into remission, which means the disease is inactive and does not require treatment. Your doctor may assess whether you are in remission by stopping or decreasing your immunoglobulin treatment if you are well and your symptoms have been stable.

Monitoring and follow-up

As immunoglobulin is derived from blood (plasma) and reserved for people with confirmed abnormalities in antibody production, access to immunoglobulin products is highly regulated. Your doctor must register you and comply with specific criteria and policies to ensure that the products are provided equitably and go to those that need them the most. Regular contact with your healthcare team is an important part of care for anyone receiving treatment with immunoglobulins. Regardless of your specific condition or the type of immunoglobulin you are receiving, your healthcare team will need to see you to monitor:

- ▶ your response to therapy: this is measured by specific tests of muscle strength and how much MG affects your daily activities
- ▶ side effects from treatment
- ▶ other health concerns.

Recording your symptoms and side effects in a treatment management plan (such as [Immunoglobulin treatment and wellbeing management plan](#)) can help you and your healthcare team monitor how you feel after each dose.

Important points to remember

- ▶ MG is a treatable condition. Most people respond to one or more of the main therapies that are given repeatedly.
- ▶ Not all patients with MG will get better with immunoglobulin therapy. If there is no improvement on specific measures, immunoglobulin treatment will be stopped and another treatment started.
- ▶ Immunoglobulin products are carefully tested and purified so the risk of getting an infection or virus from them is close to zero.
- ▶ Most people who respond to IVIg therapy show some improvement in symptoms within the first 6 weeks.
- ▶ Some people with MG go into remission. Trials of immunoglobulin withdrawal will be done at least every 12 months to determine if you still need ongoing treatment.
- ▶ Keep a record of any symptoms and signs, good or bad, that you experience. A treatment management plan can be used to record your treatment history and help your specialist develop a more effective treatment plan.

Want to know more?

- ▶ [Myasthenia Alliance Australia](#) supports the needs of people with MG from all states, particularly on issues and items of national importance. [The Australian Myasthenic Association in NSW](#) was set up to support people with MG and their carers.
- ▶ For more information on immunoglobulin and information on access and consent, visit the NPS MedicineWise webpage www.nps.org.au/immunoglobulins
- ▶ Keep track of medicines and access important health information using the NPS MedicineWise app <https://www.nps.org.au/medicinewiseapp>
- ▶ Criteria for the clinical use of immunoglobulin in Australia outlines the conditions for access to government-funded immunoglobulin products: www.criteria.blood.gov.au/
- ▶ Find out more about access to IVIg: <https://www.blood.gov.au/Intravenous-Ig>

VALUE IN PRESCRIBING PROGRAM – IMMUNOGLOBULIN PRODUCTS

Increasing the awareness and understanding amongst health professionals of access to immunoglobulin products in Australia, and improving health outcomes for patients through access to better health information to manage their health conditions. Funded by the Australian Government Department of Health through the Value in Prescribing Program: Immunoglobulins Products Grant.

