

## Myasthenia Gravis (M.G.)

### What is Myasthenia Gravis?

It is a chronic autoimmune neuromuscular disease characterized by varying degrees of weakness of the skeletal (voluntary) muscles of the body.

### What causes it?

It is caused by a defect in the transmission of nerve impulses to muscles.

### What are The Symptoms?

The disease most commonly affects muscles that control eye and eyelid movement, so the first symptoms you notice may be eyelid drooping and/or blurred or double vision. The majority will go on to develop weakness in other muscle groups within one or two years. It can also cause weakness and fatigability of limb muscles. Common muscle groups that are affected may make it difficult for you to chew, swallow, smile, shrug, lift your arm up, grip, rise to a stand, or walk up stairs. When the muscles necessary for breathing are affected, a patient is said to be in myasthenic crisis. This is a life-threatening situation and requires immediate medical attention.

### Who is at risk of developing Myasthenia Gravis?

Though anyone can develop myasthenia gravis, those most likely to do so are women between age 20 and 40 or men between age 50 and 70. People with other autoimmune disorders have an increased risk of developing M.G. It is neither inherited nor contagious.

### How is Myasthenia Gravis Diagnosed?

Your doctor must be familiar with the disease to be able to consider the diagnosis based on your symptoms. A detailed review of your medical history along with physical and neurological exam is critical. A special blood test to detect the presence of the antibodies is positive in around 85% of individuals with M.G. The tensilon test consists of injecting an edrophonium to transiently relieve the muscle weakness. This can help support the diagnosis along with some special neuromuscular tests, nerve conduction test and electrical studies of the muscles (EMG) which are often needed. About 15% of all myasthenia gravis patients are found to have a thymoma, a tumor of the thymus, so, a computer tomography (CT) of the chest is needed. In fact, thymectomy (removal of the thymus gland) seems to improve symptoms of myasthenia gravis in some patients, even if no tumor is present.

### How is Myasthenia Gravis treated?

There are several medications proven helpful to treat Myasthenia Gravis. These medications don't cure the underlying condition, but they may improve muscle contraction and muscle strength. Medications such as Pyridostigmine (**Mestinon**) enhance communication between nerves and muscles. Possible side effects may include gastrointestinal upset, nausea, and excessive salivation and sweating. **Corticosteroids** such as prednisone inhibit the immune system, limiting antibody production. Prolonged use of corticosteroids, however, can lead to serious side effects, such as bone thinning, weight gain, diabetes and increased risk of some infections. **Immunosuppressants** are medications that alter your immune system, such as azathioprine (Imuran), mycophenolate mofetil (CellCept), cyclosporine or Tacrolimus (Prograf). Immunosuppressants side effects can be serious and may include nausea, vomiting, gastrointestinal upset, increased risk of infection, liver damage and kidney damage. Other options for more severe disease include the blood filtering **plasmapheresis** and injections of immunoglobulins such as **IVGG**.

### Others

Exercise is important but should be spaced out. Other situations can affect your Myasthenia, these include stress, thyroid abnormalities, surgery and other illnesses and medications including but not limited to amino glycoside antibiotics, some arrhythmia medicines, muscle relaxants anesthesia and narcotics.