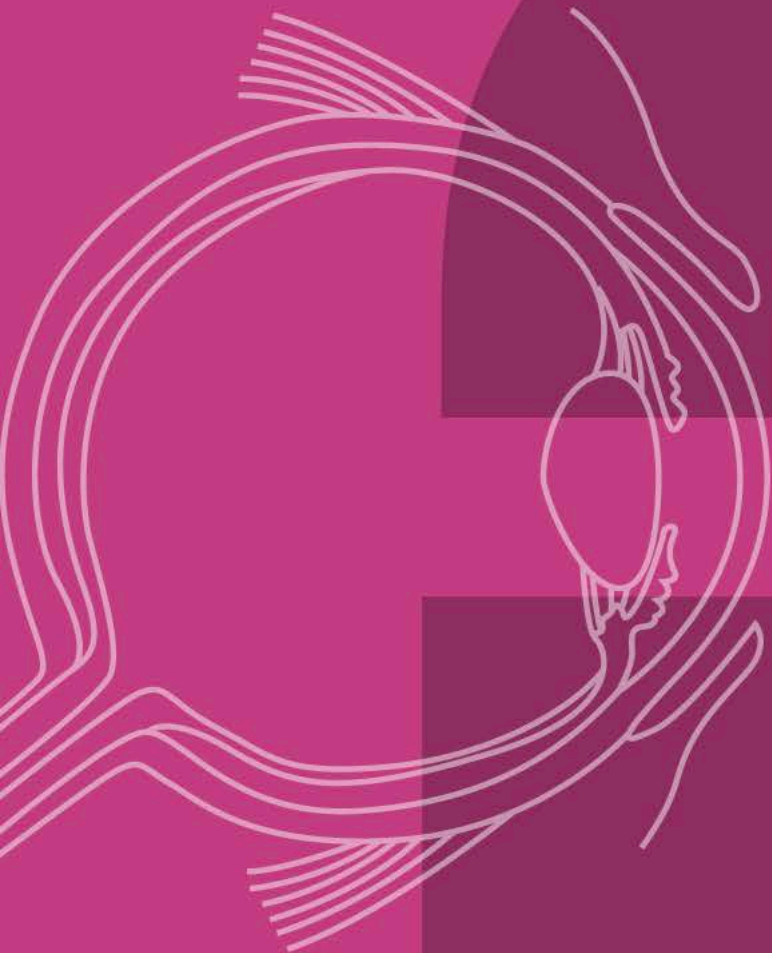


**OCULAR
MYASTHENIA
GRAVIS**

**UNDERSTAND MORE ABOUT
OCULAR
MYASTHENIA
GRAVIS**



Tomorrow's Eye Care, Today[®]



**Singapore National
Eye Centre**

SingHealth

What is Ocular Myasthenia Gravis (Ocular MG)?

Myasthenia gravis (MG) is an autoimmune condition that causes weakness of muscles in the body. An autoimmune condition occurs when your body produces antibodies (called **autoantibodies**) which attack tissues in your body.

When you want to move a muscle, your brain sends out a signal via the nerves that go to the muscle. When this signal reaches the end of the nerve, it causes the release of a chemical called **acetylcholine** which binds to receptors on the muscle, telling the muscle to move.

In patients with MG, the autoantibodies produced block the acetylcholine from binding to their receptors on the muscles. This causes the affected muscles to be weak and fatigued with prolonged use. This weakness fluctuates and may be worse at the end of the day.

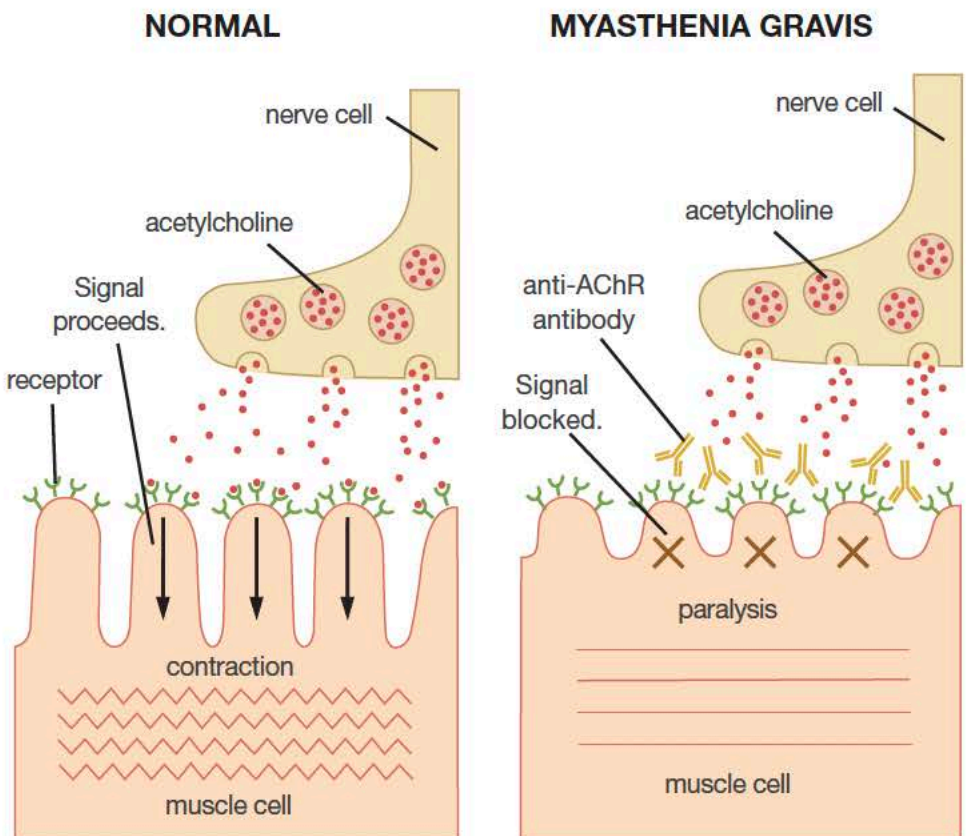
Ocular MG occurs when the muscles of the eyelids and/or muscles that move the eyeball are affected. You may experience:

- **Ptosis**

Drooping of one or both upper eyelids that worsens later in the day.

- **Double vision (diplopia)**

May be horizontal or vertical, and disappears when one eye is closed.



MG may also involve other muscle groups such as limb muscles, neck muscles and muscles responsible for swallowing, speaking or breathing. This is known as generalised myasthenia gravis (GMG).

What are the symptoms of Generalised Myasthenia Gravis (GMG)?

- **Weakness of muscles of limbs and neck**
You may experience difficulty in lifting your arms over your head, rising from a sitting/squatting position, walking long distances, climbing stairs, carrying heavy objects or holding up your head.
- **Weakness of muscles responsible for swallowing or speaking**
 - **Impaired speech**
Your speech may sound soft or nasal.
 - **Difficulty chewing**
Your chewing muscles may feel worn out halfway through a meal, particularly if you are eating something difficult to chew, such as steak.
 - **Difficulty swallowing**
You may choke easily or feel that your food gets stuck going down.
- **Weakness of muscles that assists in breathing**
You may experience difficulty in breathing or shortness of breath.

Myasthenic crisis is a life-threatening condition that occurs when the muscles that control **swallowing, speaking** and **breathing** become too weak to function. If you experience any symptoms suggestive of myasthenic crisis, do seek immediate medical attention at the nearest emergency department.

How is Ocular MG diagnosed?

MG can be difficult to diagnose and you may need one or more of the following tests.

- **Ice pack test**

If you have a droopy eyelid, your doctor may place an ice pack on your closed eyelids. After two minutes, the ice pack is removed and your doctor will analyse your upper eyelids for improvement.

- **Intramuscular neostigmine test**

Injection of this chemical into your arm may result in a temporary improvement in your droopy eyelid and double vision.

Ocular Myasthenia Gravis (Ocular

- **Blood test for autoantibodies**

A blood test may reveal the presence of abnormal antibodies. However, a negative blood test does not exclude the diagnosis of MG.

- **Nerve conduction study and electromyography**

In these electrophysiology tests, fine wire electrodes are attached to your skin. Small pulses of electricity are sent to measure the nerve's ability to send a signal to your muscle.

- **CT scan of chest**

This test is done to check if there is a tumour of your thymus – a gland located behind your breast bone (sternum).

This tumour called thymoma is associated with MG.

How is Ocular MG treated?

Various treatments, alone or in combination, can relieve the symptoms of ocular MG. Your treatment will depend on the severity of your condition and your general health.

- **Cholinesterase inhibitors**

Mestinon (pyridostigmine) enhances

communication between nerves and muscles. This medication is not a cure, but improves symptoms.

Possible side effects include gastrointestinal upset and diarrhoea. Your doctor will usually prescribe medication to curb these side effects. Stop the medication and inform your doctor if Mestinon causes you to have severe, unrelenting diarrhoea.

- **Corticosteroids**

Prednisolone inhibits the immune system, limiting antibody production. This is often given in short courses for episodic flares of your condition.

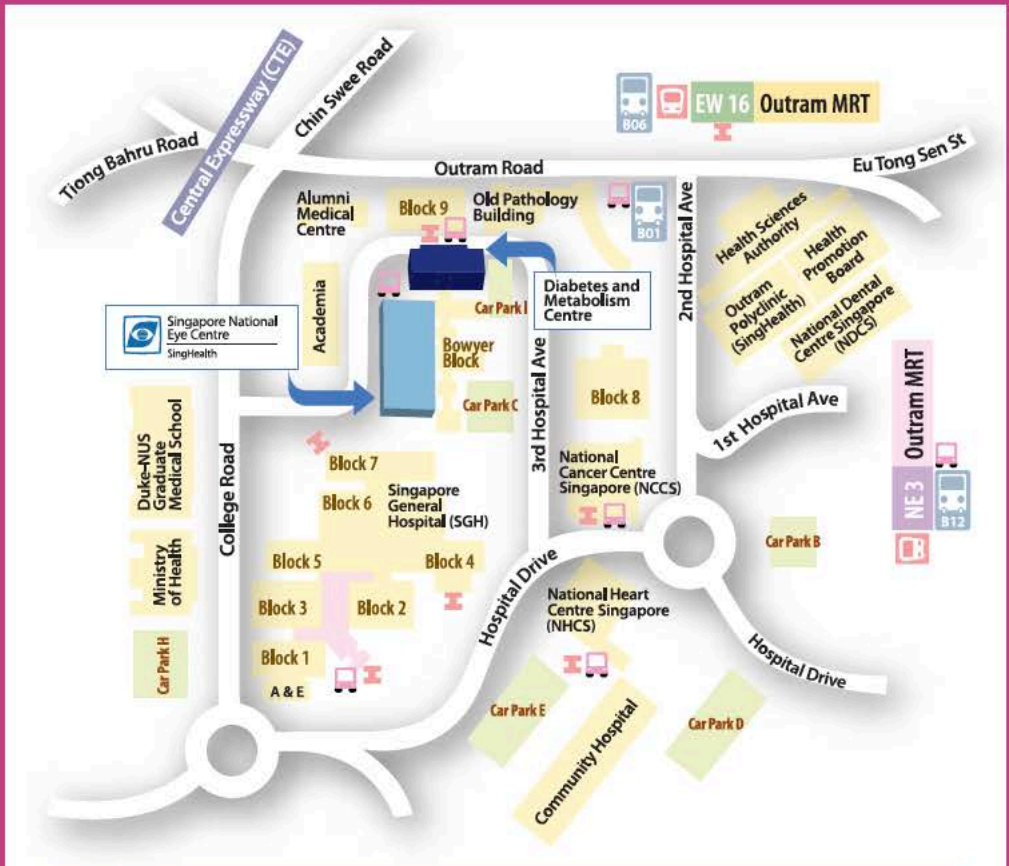
Prolonged use can lead to serious side effects, such as osteoporosis, weight gain, diabetes and increased risk of infection.

- **Steroid-sparing immunosuppressants**

If you are dependent on corticosteroids, you may be prescribed other medications that alter your immune system, such as Mycophenolate Mofetil or Azathioprine so that you can be weaned off corticosteroids.

Side effects such as increased risk of infection, liver or kidney damage may be possible. You will need to be monitored with regular blood tests.

LOCATION MAP



Legend

MRT Station

Taxi Stand

East West Line

North East Line

Shuttle Bus Service
Mon to Fri (8.00am-7.00pm)
Sat (8.00am-2.00pm)



Opp Outram Park Stn
Bus No. 33, 63, 75, 121,
122, 174, 174e, 851, 970



Outram Park Stn/Outram Rd
Bus No. 33, 63, 75, 121, 122, 174,
174e, 534, 535, 549, 761, 851, 970



Outram Park Stn Exit F
Bus No. 61, 124, 143, 147,
147e, 166, 197, 961, 961C

This patient information leaflet is a general guide to help patients understand specific eye conditions, treatment or tests. The information does not replace the need for individual advice from an ophthalmologist. Please consult with your ophthalmologist about your specific eye condition and/or concerns.

The contents of this leaflet are not to be produced in any form without the prior permission of the Singapore National Eye Centre.

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