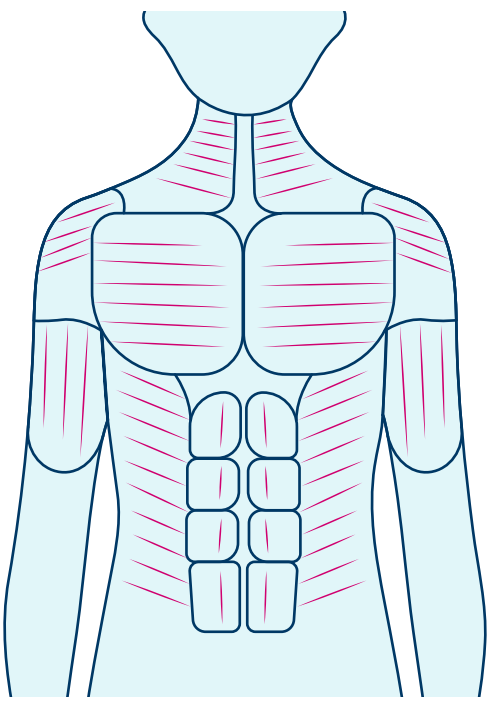
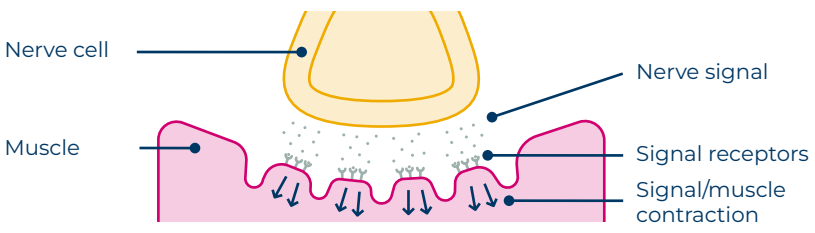
Generalised Myasthenia Gravis (gMG)

What is generalised myasthenia gravis?

Generalised myasthenia gravis (gMG) is a **rare autoimmune disorder** characterised by reduced muscle function and severe muscle weakness.[1]

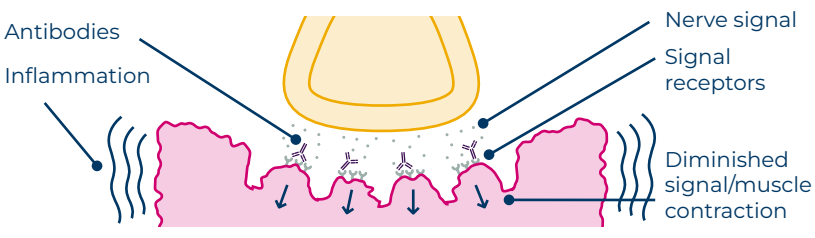


Neuromuscular junction (NMJ)



The **neuromuscular junction (NMJ)** is the connection point between **nerve cells** and the **muscles** they control.[2]

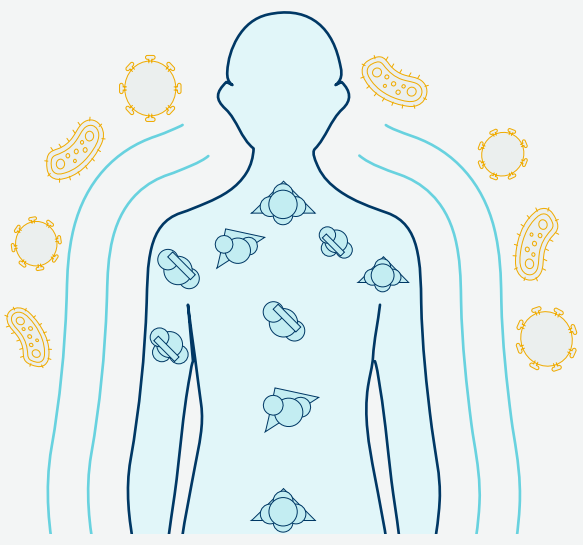
Neuromuscular junction (NMJ) in gMG



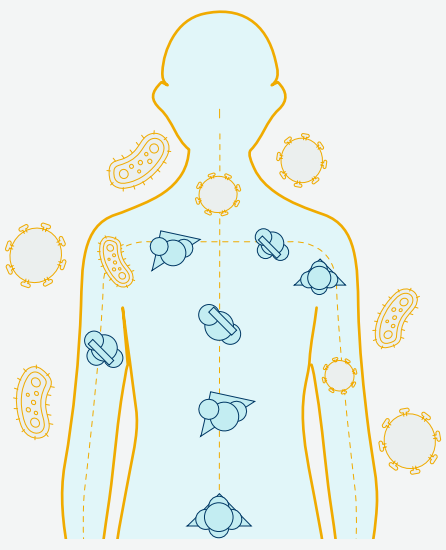
85% of people with gMG are AChR+, meaning they produce specific antibodies (anti-AChR) that bind to signal receptors at the NMJ. This binding activates the complement system, causing the immune system to attack the NMJ. This leads to inflammation and a **breakdown in communication** between the **brain** and the **muscles**.[2-4]

The complement system

The complement system is a part of the immune system and is **essential to the body's defence against infection.**[5]



When the system is thrown out of balance, or dysregulated, these proteins can **trigger a dangerous, uncontrolled cascade of reactions** that attack cells and tissues resulting in **harmful inflammation and the destruction of healthy cells**.[5]



Diagnosed prevalence of gMG

China **~132K**[6]

US **~98K**[6]

EU **~82K**[6]

Japan **~21K**[6]

Most commonly begins for **women before the age of 40** and for **men after the age of 60.**[7]

Initial symptoms of gMG may include[8,9]



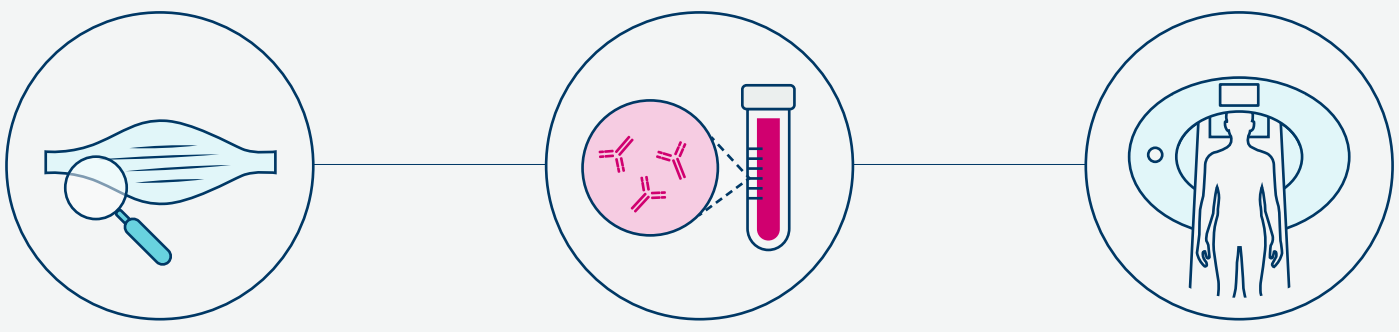
Slurred speech | **Double vision** | **Droopy eyelids** | **Lack of balance**

which can often lead to more severe symptoms as the disease progresses



Impaired swallowing | **Choking** | **Extreme fatigue** | **Respiratory failure**

How is gMG diagnosed?[9-11]



gMG is typically diagnosed with a **physical examination** to evaluate muscle function.

Blood tests for certain antibodies, including anti-acetylcholine receptor (anti-AChR).

Nerve and muscle stimulation and **chest computed tomography** or **magnetic resonance imaging (MRI)** are also used.

Content created by Alexion, AstraZeneca Rare Disease.

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