

Classification of myasthenia gravis based on disease severity

Osserman classification (1958)¹

The Osserman classification system for myasthenia gravis divided patients into five groups:

1) Localized (ocular)

2) Generalized (mild/moderate)

3) Acute fulminating

4) Late severe

5) Muscle atrophy

Osserman-Genkins revision (1971)¹

The revised classification subdivided Group 2 to better grade disease severity and assess perioperative risk

2a) Mild

2b) Moderate

MGFA classification (2000)²

LOW **Disease severity** HIGH

Class I
(ocular MG)

Class IIa/b*
(gMG)

Class IIIa/b*
(gMG)

Class IVa/b*
(gMG)

Class V⁺
(intubation)



Ocular muscle weakness only

Mild[±] muscle weakness +/- ocular weakness



Moderate[±] muscle weakness +/- ocular weakness



Severe[±] muscle weakness +/- ocular weakness

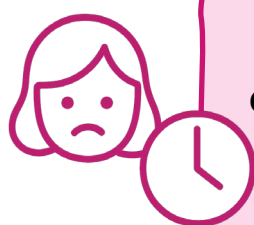


Intubation +/- mechanical ventilation

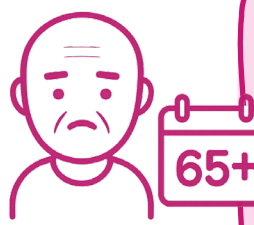
The MGFA classification system uses subjective assessments and lacks quantification²

Patients typically present with ocular symptoms that often progress to generalized weakness³

Factors affecting severity



Delayed consultation can worsen disease severity due to treatment delay³



VLOMG (symptom onset after age 65) is associated with a **more severe disease onset**⁴



Specific symptoms at diagnosis (i.e., muscle ache after activity, ptosis, and ocular muscle weakness) are linked to **increased disease severity**³

MG symptoms span a broad spectrum, from ocular-only disease to respiratory crisis.² MG severity tools capture only a snapshot of fluctuating disease, highlighting the need to characterize broader burden and treatment-response subgroups⁵⁻⁷

*(a) Predominantly affecting limb, axial muscles, or both, but may also have lesser involvement of oropharyngeal muscles; (b) predominantly affecting oropharyngeal, respiratory muscles, or both, but may also have lesser or equal involvement of limb, axial muscles, or both.² Use of a feeding tube without intubation places the patient in Class IVb.² The severity of muscle weakness is determined by clinician-assessed categories based on observation of muscle strength.²

gMG, generalized myasthenia gravis; MG, myasthenia gravis; MGFA, Myasthenia Gravis Foundation of America; VLOMG, very late-onset MG.
¹ Rios SK, et al. Open J Anesthesiol. 2013;3:48-50. ² MGFA Task Force, et al. Neurology. 2000;55(1):16-23. ³ Pesa J, et al. Sci Rep. 2025;15(1):11108.
⁴ Liampas I, et al. Front Neurol. 2025;16:1641701. ⁵ Mahic M, et al. Orphanet J Rare Dis. 2023;18(1):169.
⁶ Schneider-Gold C, et al. Ther Adv Neurol Disord. 2019;12:1756286419832242. ⁷ Mishra RK, et al. Digit Biomark. 2025;9(1):193-202.

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