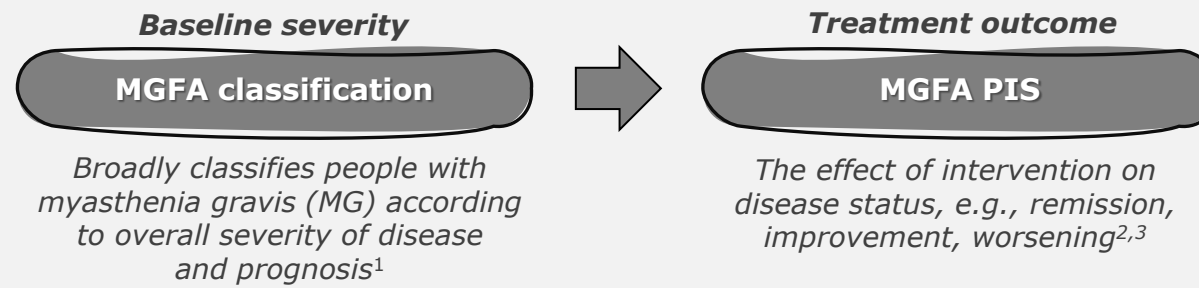


# Assessing myasthenia gravis

## Combining clinical evaluation and PROs to monitor disease severity, progression, and response



### Assess and monitor

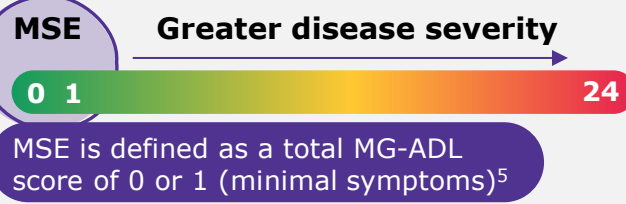
#### Track progress: Symptoms, severity, and daily function

Patient reported    Clinician reported    Patient and clinician reported

#### 8-item outcome measure that reflects ocular, bulbar, respiratory, and limb symptoms<sup>4,5</sup>

MG-ADL scale

Items	Score
Talking	0-3
Chewing	0-3
Swallowing	0-3
Breathing	0-3
Brushing teeth/hair	0-3
Arising from a chair	0-3
Double vision	0-3
Eyelid droop	0-3

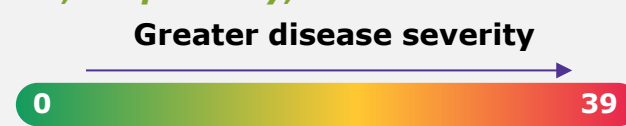


- Features**
- <10 min<sup>5</sup>
  - Useful in routine clinical management and in clinical trials<sup>6</sup>
  - MCID: 2-point reduction in total MG-ADL score indicating improvement<sup>7-9</sup>

#### 13-item evaluation of ocular, facial, bulbar, respiratory, and limb function<sup>10</sup>

QMG score

Items	Score
Double vision	0-3
Ptosis	0-3
Facial muscles	0-3
Swallowing	0-3
Speech	0-3
Right arm outstretched	0-3
Left arm outstretched	0-3
Vital capacity	0-3
Right-hand grip	0-3
Left-hand grip	0-3
Head lifted	0-3
Right leg outstretched	0-3
Left leg outstretched	0-3



- Features**
- ≤25 min (requires a spirometer and a dynamometer)<sup>11</sup>
  - Mostly used in research due to the length of time to perform<sup>11</sup>
  - MCID varies by baseline severity:<sup>9,10,12-14</sup>
    - QMG ≤16: ≥2-point reduction in total QMG test score indicating improvement
    - QMG >16: ≥3-point reduction in total QMG test score indicating improvement

#### 10-item weighted assessment of ocular, muscular, bulbar, and respiratory weaknesses<sup>3,15</sup>

MGC score

Items	Score
Ptosis	0-3
Double vision	0-4
Eye closure	0-2
Talking	0-6
Chewing	0-6
Swallowing	0-6
Breathing	0-9
Neck flexion or extension	0-4
Shoulder abduction	0-5
Hip flexion	0-5



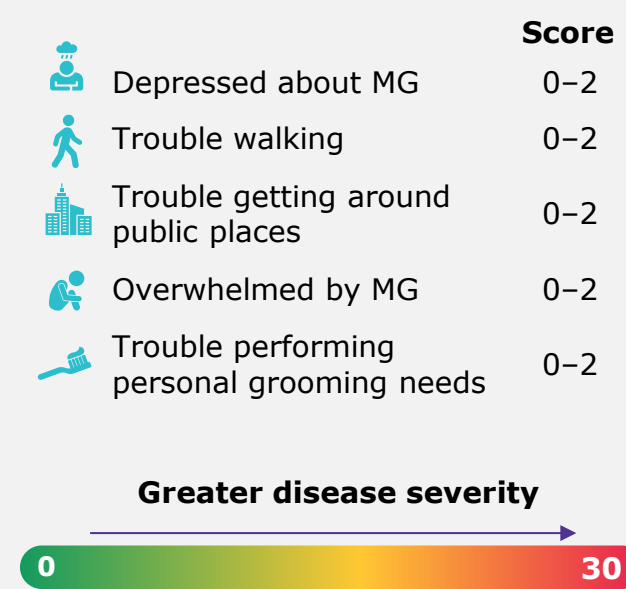
- Features**
- <5 min<sup>15</sup>
  - Widely used in clinical trials and clinical practice<sup>1,15</sup>
  - MCID: 3-point reduction in total MGC score indicating improvement<sup>8,9,16</sup>

### Evaluate impact: HRQoL

#### 15-item questionnaire to assess the impact of MG on physical, emotional, and social domains; reflects impact over past few weeks<sup>1,17,18</sup>

MG-QOL15r scale

Items	Score
Frustrated by MG	0-2
Trouble with double vision	0-2
Trouble eating	0-2
Limited social activity	0-2
Limited ability to enjoy hobbies/fun activities	0-2
Trouble meeting family needs	0-2
Have to make plans around MG	0-2
Limitations in performing work	0-2
Difficulty speaking	0-2
Loss of personal independence	0-2



- Features**
- The preferred HRQoL instrument for MG because of improved clinimetrics and ease of use<sup>17</sup>
  - Widely used in clinical trials and clinical practice<sup>18</sup>

### Measure patient perspective

PASS response

"Considering all the ways you are affected by myasthenia, if you had to stay in your current state for the next months, would you say that your current disease status is satisfactory?"<sup>19</sup>



YES  NO

HRQoL, health-related quality of life; MCID, minimal clinically important difference; MG, myasthenia gravis; MG-ADL, Myasthenia Gravis Activities of Daily Living; MGC, Myasthenia Gravis Composite; MGFA, Myasthenia Gravis Foundation of America; MGFA PIS, MGFA Post-intervention Status; MG-QOL15r, Revised Myasthenia Gravis Quality of Life-15; MSE, minimal symptom expression; PASS, Patient Acceptable Symptom State; PRO, patient-reported outcome; QMG, Quantitative Myasthenia Gravis. 1. Thomsen J, Andersen H. *Front Neurol.* 2020;11:596382. 2. Guptill JT, et al. *Neurology.* 2023;101(10):442-451. 3. MGFA Task Force, et al. *Neurology.* 2000;55(1):16-23. 4. Regnault A, et al. *Neurol Ther.* 2023;12(5):1573-1590. 5. Muppidi S, et al. *Muscle Nerve.* 2022;65(6):630-639. 6. Meisel A, et al. *Eur J Neurol.* 2024;31(7):e16280. 7. Muppidi S. *Ann N Y Acad Sci.* 2012;1274:114-119. 8. Brill V, et al. *Lancet Neurol.* 2023;22:383-394. 9. Howard Jr JF, et al. *Lancet Neurol.* 2021;20:526-536. 10. Barohn RJ, et al. *Ann N Y Acad Sci.* 1998;841(1):769-772. 11. Barnett C, et al. *Neurol Clin.* 2018;36(2):339-353. 12. Katzberg HD, et al. *Muscle Nerve.* 2014;49(5):661-665. 13. Tindall RS, et al. *Ann N Y Acad Sci.* 1993;681:539-551. 14. Bedlack RS, et al. *Neurology.* 2005;64:1968-1970. 15. Burns TM, et al. *Muscle Nerve.* 2008;38(6):1553-1562. 16. Burns TM, et al. *Neurology.* 2010;74(18):1434-1440. 17. Burns TM, et al. *Muscle Nerve.* 2016;54(6):1015-1022. 18. Ben AJ, et al. *Qual Life Res.* 2026;35(4):101. 19. Martinez-Harms R, et al. *Front Neurol.* 2023;14:1187189.

