



# Practice Advisory: Thymectomy for Myasthenia Gravis (Practice Parameter Update)

This is a summary of the American Academy of Neurology (AAN) practice advisory, “Thymectomy for Myasthenia Gravis (Practice Parameter Update),” which was published in *Neurology*<sup>®</sup> online on March 25, 2020, and appears in the April 21, 2020, print issue.

Please refer to the full practice advisory at [AAN.com/guidelines](http://AAN.com/guidelines) for more information, including full descriptions of the processes for classifying evidence, deriving conclusions, and making recommendations.

## For patients with generalized myasthenia gravis (MG), is thymectomy, compared with medical therapy alone, effective in improving patient-relevant outcomes?

### Recommendation 1

#### Rationale

Thymectomy leads to meaningful benefits for patients with acetylcholine receptor antibody–positive (AChR ab+) generalized MG. In addition, transsternal thymectomy appears to be safe.<sup>1</sup>

Because of the moderate benefits of thymectomy and the need for a major surgical procedure with its attendant discomforts and costs, there is likely to be considerable variability in patient preferences relative to undergoing thymectomy. However, the panel anticipates that most patients would want to be aware of the availability of thymectomy as a treatment option.

Level	Recommendation
<b>Level B</b>	Clinicians should discuss thymectomy with patients who have AChR ab+ generalized MG and are 18–65 years of age. The discussion should clearly indicate the anticipated benefits and risks of the procedures and uncertainties surrounding the magnitude of these benefits and risks.

### Recommendation 2

#### Rationale

There are several surgical methods of thymectomy, with the goal of removing as much thymic tissue as possible safely while preserving phrenic, left vagus, and recurrent laryngeal nerve function. The classical method of thymectomy is an external transsternal thymectomy, facilitating complete removal of thymic tissue and fat. A transcervical approach uses smaller incisions but is rarely used alone because of inadequate visualization of the thymus; it may be combined with the transsternal approach. Minimally invasive techniques include video-assisted thoracoscopic thymectomy (VATS) or robotic-assisted thoracoscopic surgery, both with potentially higher risk for leaving residual thymic tissue.<sup>2</sup> It is uncertain whether the results of a thymectomy study using an extended transsternal approach can be generalized to minimally invasive thymectomy techniques that do not involve a median sternotomy. A randomized trial with unblinded outcome assessment comparing VATS with transsternal thymectomy demonstrated reduced blood loss, surgical times, intensive care unit stay, and hospitalization length for patients undergoing VATS but was underpowered to detect significant differences in MG clinical outcomes.<sup>3</sup> It seems likely, if otherwise equally efficacious in removing all thymic tissue, that patients with MG would prefer minimally invasive thymectomy techniques without a median sternotomy.

Level	Recommendation
<b>Level B</b>	Clinicians should counsel patients with AChR ab+ generalized MG considering minimally invasive thymectomy techniques that it is uncertain whether the benefit attained by extended transsternal thymectomy will also be attained by minimally invasive approaches.

## References

1. Jaretzki A III, Barohn RJ, Ernstoff RM, et al.; on behalf of the Task Force of the Medical Scientific Advisory Board of the Myasthenia Gravis Foundation of America. Myasthenia gravis: recommendations for clinical research standards. *Ann Thorac Surg* 2000;70:327–334.
2. Jaretzki A III Thymectomy for myasthenia gravis: analysis of the controversies regarding technique and results. *Neurology* 1997;48(Suppl 5):S52–S63.
3. Bagheri R, Boonstani R, Sadrizadeh A, et al. Thymectomy for nonthymomatous myasthenia gravis. Comparison of video-assisted thoracoscopic and transsternal thymectomy. *Innovations* 2018;13:77–80.

This statement is provided as an educational service of the American Academy of Neurology. It is designed to provide AAN members with evidence-based guideline recommendations to assist the decision making in patient care. It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, and are based on all of the circumstances involved. Physicians are encouraged to carefully review the full AAN guideline so they understand all recommendations associated with care of these patients.

The AAN develops these summaries as educational tools for neurologists, patients, family members, caregivers, and the public. You may download and retain a single copy for your personal use. Please contact [guidelines@aan.com](mailto:guidelines@aan.com) to learn about options for sharing this content beyond your personal use.

American Academy of Neurology, 201 Chicago Avenue, Minneapolis, MN 55415  
Copies of this summary and additional companion tools are available at [AAN.com](http://AAN.com) or through AAN Member Services at (800) 879-1960.