

Practice Advisory:

Thymectomy for Myasthenia Gravis

Summary for Patients and Their Families

Experts from the American Academy of Neurology, or AAN, carefully reviewed the available scientific studies about operations to remove the thymus gland to treat myasthenia gravis, or MG. The following summary highlights what their findings mean for you.

This document discusses a thymus gland operation for treating one type of MG: generalized MG that affects the muscles of the skeletal system.

Other types of MG are not discussed here.

What is the key message for me?

An operation to remove the thymus gland can help treat people who have generalized MG, a rare but serious muscle disease.

If you have MG and are thinking of having your thymus gland removed, talk with your doctor. It is important to understand the benefits and risks of this operation.

What is MG?


MG is a disease that causes an unusual amount of weakness in certain muscles. These include muscles of the eyes, face, and limbs, and the muscles used for chewing, swallowing, and breathing. In this disease, the immune system makes blood proteins known as antibodies. They attack the connections between the nerves and the muscles, causing muscle weakness.

What is the thymus gland?


The thymus gland is a body part found in the upper chest, below the upper part of the breastbone. This gland is involved in the body's immune response. Experts think that this gland plays a role in the cause of MG.


Key to Evidence Levels

After the experts review all of the published research studies, they describe the strength of the evidence as follows:

 **Strong evidence** = Future studies very unlikely to change the conclusion

 **Moderate evidence** = Future studies unlikely to change the conclusion

 **Low evidence** = Future studies likely to change the conclusion

 **Very low evidence** = Future studies very likely to change the conclusion


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What does the research say?

One study of MG treatment was examined here. The study looked at two groups of people with MG who received steroid medicines. One group had an operation to remove the thymus gland, and the other group did not. The study was done to see whether the operation would help lessen MG symptoms and improve daily functioning.

Three years after the thymus gland operations, more people who had the operation had good treatment results than those who did not.

- Forty-seven percent of people treated only with steroid medicines had less muscle weakness
- Sixty-seven percent of people treated with steroid medicines and thymus gland removal had less muscle weakness

 The study shows evidence that removing the thymus gland can help lessen symptoms of generalized MG that affects the muscles of the skeletal system. The strength of this evidence is **moderate**.

In this operation, the surgeon cuts through the breastbone to reach the thymus gland. A second approach requires a smaller surgical cut into the chest wall and takes less time. However, experts do not know whether this second approach is as effective at removing all thymus tissue as cutting through the breastbone.

How do I know whether a thymus gland operation is right for me?

It is difficult to decide whether an operation is right for you. Many major operations can be painful and costly. Also, there are benefits and risks for every treatment option.

The study examined here found that having your thymus gland removed may have the following benefits:

- Lessened MG symptoms and better daily functioning
- Ability to rely on a lower dose of steroid medicines
- Less likelihood of needing to go to the hospital for urgent MG care


In the study, people treated only with medicines had more side effects than people who also had thymus gland removal.


Overall, thymus gland removal appears to be a safe and effective treatment choice. Still, this operation is not right for everyone. Be sure to talk with your doctor about the risks and benefits of this treatment option.





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