

Information about

Thymectomy (Removal of the Thymus)

This leaflet will give you information about Thymectomy which is a surgical procedure to remove the thymus.

Department of Neurology
Queen Elizabeth University Hospital
Glasgow, G51 4TF

☎ 0141 232 4022



What is the thymus?

This is a gland that rests behind the breast bone (also called the sternum). It is different from the thyroid gland which lies in the neck. The thymus is associated with the immune system and helps fight infection and disease. It is active until puberty and then shrinks away so that only fatty tissue remains in adulthood. After puberty, the thymus does not play an important role and removing it does not result in any ill effects or any problems with the immune system.

The thymus in myasthenia gravis (MG)

The thymus plays an important role in myasthenia gravis. For the majority of people the thymus shrinks after puberty (thymic atrophy). **However:**

- For younger MG patients the thymus gland is often swollen (referred to as hyperplasia).
- 10% of MG patients (1 out of 10 patients) may have a tumour of the thymus gland which is called thymoma.

There is evidence that removing the thymus gland (referred to as thymectomy) helps to improve symptoms in MG patients and in some cases, results in remission (which means no MG symptoms).

Thymectomy

There has been an international thymectomy trial where removal of the thymus gland was seen to be beneficial in patients who had generalised muscle weakness and who had antibodies to the acetylcholine receptor. The results of this trial found that having a thymectomy reduced the need for some medications in the long term – MG patients were still taking prednisolone but were taking on average lower doses than the ones who did not have a thymectomy. This positive result

applied to all age-groups studied (up to the age of 65 years), but was more significant in the younger patients. This was surprising since previously we believed that thymectomy was only beneficial in the younger age-group.

Why do I need a thymectomy?

Based on the results of the recent international clinical trial, we are now recommending that MG patients with generalised myasthenia gravis and who have acetylcholine receptor antibodies in their blood, are referred for thymectomy. We are recommending that all patients, up to the age of 65 years, are referred for this surgery, assuming they don't have other serious health issues.

Since most patients with ocular myasthenia (myasthenia affecting only the eye muscles) who have acetylcholine receptor antibodies tend to progress to generalised myasthenia, we also are now recommending thymectomy in this group of patients.

If after having a CT scan of the chest, you are found to have a swollen thymus gland, this could be a thymoma (a tumour) therefore we would usually recommend a thymectomy, irrespective of your age. Usually thymoma is benign (non-cancerous) but in some cases it can invade into the structures of the chest and radiotherapy treatment (and occasionally chemotherapy) may be needed.

What is Thymectomy (removal of the thymus)?

This is a surgical procedure to remove the thymus. You will have a general anaesthetic which means you will be asleep during the procedure.

The procedure takes place in the Golden Jubilee National Hospital in Clydebank.

There are 2 different types of thymectomy:

1. Video-Assisted Thoracoscopic Surgery (VATS)

VATS stands for Video-Assisted Thoracoscopic Surgery, where the thymus gland is removed via keyhole surgery. The surgeon makes several small cuts (incisions) on the right or left side of the chest. They pass small flexible instruments through these cuts and then removes the thymus gland. Recovery from this surgery is quick and you are usually in hospital for only 1-3 days. In some cases, the surgeon will not be able to carry out VATS and will discuss this with you at the clinic.

In the Golden Jubilee National Hospital, thymectomy can also be performed using Robotic-Assisted Thoracoscopic Surgery (RATS), and this technique is being used increasingly as part of the keyhole approach. The cuts and surgery are similar to those performed for VATS. Your surgeon will discuss with you what approach is best for you when they first meet you in clinic.

2. Trans-sternal Thymectomy

This is a more extensive procedure where the surgeon makes a cut on the chest wall, the sternum (breast bone) is split and they remove the thymus through this cut. Recovery from this surgery is longer than that for VATS and you will need to stay in hospital longer (for 4-6 days).

What are the benefits of a Thymectomy?

- In about 60% (3 out of 5) of patients, thymectomy results in a significant improvement in the patient's muscle weakness.
- In some cases, about 30% (3 out of 10 cases), thymectomy results in permanent remission (meaning the patient no longer needs medication).

- In some patients, thymectomy makes no difference to their myasthenia.

The improvement from thymectomy is not instantaneous but is usually gradual, occurring 1-2 years after surgery and in some cases even up to 5 years later. The procedure is therefore not a “quick-fix” but more of a longer-term solution.

What are the risks of a Thymectomy?

- Sometimes the surgeon finds at surgery that it is technically difficult to remove the thymus gland by VATS or RATS, and you may need to have a trans-sternal thymectomy instead. The surgeon will be able to convert to a trans-sternal thymectomy during the same procedure (on the same day).
- Bleeding
- Pain and discomfort
- Phrenic nerve palsy (damage to the nerves which run in the chest)

After the surgery

Your Medication

Your neurologist will make sure that you are on the right medications for your MG before referring you for a thymectomy. Your MG will need to be relatively stable before your thymectomy. Usually, your medications will not change a great deal before or immediately after surgery. However, you should not stop or change your medications until you see your neurologist who will then advise you.

When can I return to my usual activities?

This will depend on your muscle weakness, the type of procedure you have had and the type of activities you do. Please discuss this with your Consultant.

When can I return to driving?

After trans-sternal thymectomy you can return to driving after 6 weeks. After keyhole surgery (VATS or RATS), you will be able to drive after 2 weeks. Naturally, you must be comfortable with driving and feeling confident in doing so. Please also check with your Insurance Company that you are appropriately covered after surgery.

You will be able to fly 6 weeks after either procedure. Always mention to your travel insurer that you have MG and you must mention that you have had thymectomy when asked and if the date around your travels is relevant for insurance purposes.

Follow up

You will have a follow up appointment with the surgeon, usually around 6 weeks after the surgery. The myasthenia team will also arrange to see you soon after your surgery in case changes are needed to be made to your medications.

Further Information

If you have any questions please ask the myasthenia team at the Queen Elizabeth University Hospital in Glasgow.

