Thymectomy

Welcome to the Thoracic Surgery Department at Queen Elizabeth Hospital Birmingham. The Thoracic team is a surgical team that deals with problems involving the chest (e.g. lungs, airways, heart etc.)

We hope that this information leaflet can answer some questions or queries you might have about your procedure. The information provided in this leaflet will be discussed with you in full during your admission.

What is thymectomy?

Thymectomy is the removal of the thymus gland. This is a gland that sits in the front of the chest, behind the breast bone and in front of the heart. As a baby, the gland helps the immune system, however as you become and adult, the gland gradually shrinks down to become a thin piece of tissue and may be absent in the elderly.

Thymectomy may be recommended because the gland has a tumour in it (e.g. thymoma) or to improve the symptoms of Myasthenia Gravis (MG).

The chances of improvement in symptoms for younger people with Myasthenia Gravis are:
1 in 4 people improve so much they don't need medication
2 in 4 people improve but still need some medication
1 in 4 people don't improve

What does the surgery involve?

The thymus gland and nearby fat is removed and sent for analysis. If you have MG, your symptoms must be well controlled before surgery.

The surgery can be done in either of two ways, a) via a vertical cut on the front of the chest (median sternotomy), b) keyhole surgery in the side of the chest (also known as Video Assisted Thoracoscopy or VATS).

a) Median Sternotomy

This is the most common technique used for this operation and is the same technique used for most heart surgeries. For median sternotomy, a cut is made vertically down the centre of your chest, measuring around 15-20cm. The breastbone is cut down the middle to allow access to the chest. We then remove the thymus gland and surrounding fat to perform the operation. As the lungs sit closely to the heart, one or two chest drains (plastic tubes) may be inserted into the chest to drain air, fluid and blood. These are usually removed after a day or two. The breastbone is then wired back up with steel wires. The muscles and skin covering the breast bone are then stitched back together. Stitches are usually dissolvable.

b) VATS (Keyhole)

During keyhole surgery (VATS) you will be lay on your side with your arm raised. Up to four small cuts are made, each about 1.5 cm to 5cm long. These enable the instruments and small camera to go into the chest to see the thymus. The thymus is removed through one of the small cuts and

the wounds are then stitched back together. Stitches are usually dissolvable. A chest drain is usually needed for a short time.

What are the alternatives to surgery?

If you have MG you may continue medication as advised by your hospital doctor.
If you have a tumour of the thymus gland, options may include:
Chemotherapy
Radiotherapy
Palliative care

It is your choice whether to go ahead with surgery or choose another kind of treatment. We will respect your wishes and support you in choosing the treatment that suits you. You are always welcome to seek a second opinion.

What are the risks?

The risks here are a guide and your own risk may vary. You should discuss the risks and benefits of surgery with your surgeon, especially if you are worried.

There are some risks which are more specific to thymectomies, these are explained below.

Pain

It is normal to have pain after this operation. Regular pain relief will be given to control the pain and it should settle in a few weeks. The cut through the breastbone usually heals well, and can be painless within a few days. Occasionally, if you have a large or muscular chest, we may arrange for you to wear a chest brace which sits over your clothes, a bit like a seat belt. This helps with healing and also helps with pain as it holds the bones and muscles together.
Very occasionally, pain does not settle (long lasting or chronic pain), and you may need to see a specialist at a pain clinic.

Bleeding

Following chest surgery, some blood loss into your chest drain is normal. Occasionally a blood transfusion will be required, if this is needed further information will be given to you. There are very important blood vessels which sit within your chest, alongside your heart which sits just behind the thymus. These structures are liable to injury and bleeding can be severe. Very few patients will need to return to theatre to control the bleeding.

Nerve injury

Alongside blood vessels, the chest also contains very important nerve structure which supply your diaphragm and voice box. The nerve to the diaphragm runs close to the operation site and there is a risk of injuring this nerve. A further operation may be required to fix this. Some patients develop a hoarse voice following their operation, this much rarer and is usually temporary.

Chest infection

This occurs in a small number of patients.
Physiotherapy, early mobilisation and adequate pain relief can help you to be more mobile, clear chest secretions and reduce the risk of a chest infection occurring. If you develop a chest infection, you may need extra physiotherapy, different antibiotics and to stay in hospital for a little while longer.

Wound infection

Showering before your surgery, frequent hand washing and using the alcohol rubs provided will reduce this risk. Some patients will still develop a wound infection needing antibiotics and wound

dressings. You may require help from the district nurses to dress the wound once you have been discharged.

Shortness of breath
Some people are more short of breath after surgery. Part of your pre-op assessment is assessing your risk of being breathless after surgery. If you already have lung disease, there is a higher risk of being breathless, including needing to have oxygen at home.

Fast heartbeat

With the heart being close to the thymus, the heart can begin to have an irregular and faster beat, this is called AF (atrial fibrillation). This is usually controlled with medication. If AF continues beyond a few days you may need to have medication to thin the blood, such as warfarin.

Air leak or collapsed lung

As the lungs sit next to the heart, the lungs may be damaged when the thymus is removed. This can result in a small collapse of the lung (pneumothorax) or air leaking from the lung. When you wake up, you will have one or two chest drains which will collect air, blood and fluid. We usually remove these drains a day or two after surgery, but if the air leaks for a long while, we may need to keep this in for longer.

In a small number of patients, you may need to go home with the chest drain still in place. You will need to come back to clinic for regular check-ups until the air leak settles and the drain can be removed.

Painful shoulder
This is more specific to keyhole surgery. This is quite common and can be eased with pain relief and regular shoulder exercises.

Constipation
Painkillers often cause constipation. To help, you should have a healthy diet, drink enough fluid, take laxatives and walk around.

Sepsis
Sepsis arises when our body's response to infection injures its own tissues and organs. It may lead to shock, multi-organ failure, and death.

Weakness leading to respiratory failure
Weakness associated with a flare up of Myasthenia Gravis may affect your breathing. Weakness may be severe enough to require help from a ventilator machine. This can be with a face mask with you fully awake, or via a tube in your windpipe Intubation and ventilation with you under sedation. If you need help breathing via a tube for a long time it may be better to have a temporary tracheostomy. This is where a tube is put through the neck and removed once breathing improves. The risk of death from thymectomy is 7 in 1000 (0.7%) nationally - this means 993 out of 1000 people recover from the surgery.

Blood clots
These can occur in the legs (Deep Vein Thrombosis) and then travel to the lung (Pulmonary Embolism). The risk is greatly reduced by wearing support stockings, having daily injections of a blood thinning drug, and early mobilisation. Special boots called Flowtron boots are also put on your legs during your operation.

Heart attack or stroke
This can occur during or after surgery. The risk is higher in patients with a cardiac history or undiagnosed cardiac disease. For this reason, every patient will be fully assessed before surgery.

Death
Nationally 98 in 100 people are alive 1 month after surgery and 2 people die. Your individual risk may be higher or lower depending on your health. This will be discussed with you by your surgeon.

What can I expect during my admission and during my recovery?

Thymectomy is nearly always an elective procedure. This means you will have been brought in from home for your surgery. You will be in hospital for around 2-4 days. After the operation, when you wake up, you will have a plastic tube (chest drain) coming out of your chest to drain air, fluid and blood. Very occasionally you may go home with this drain.

After the procedure, you may experience some discomfort or a hoarse voice. We will give you pain relief and get you mobilising with the physio team early on.

Following surgery, sudden movements can cause discomfort due to the healing and recovery process. You may also have some muscle weakening as a result of having an operation. It is generally not advisable to drive for 4-6 weeks after an operation to allow time for healing. We advise patients to check with their motor insurance provider following surgery.

On average, we expect that it will take around three months for you to return back to your usual level of activity.

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