

Adrenalectomy



Information for patients Endocrine Surgery

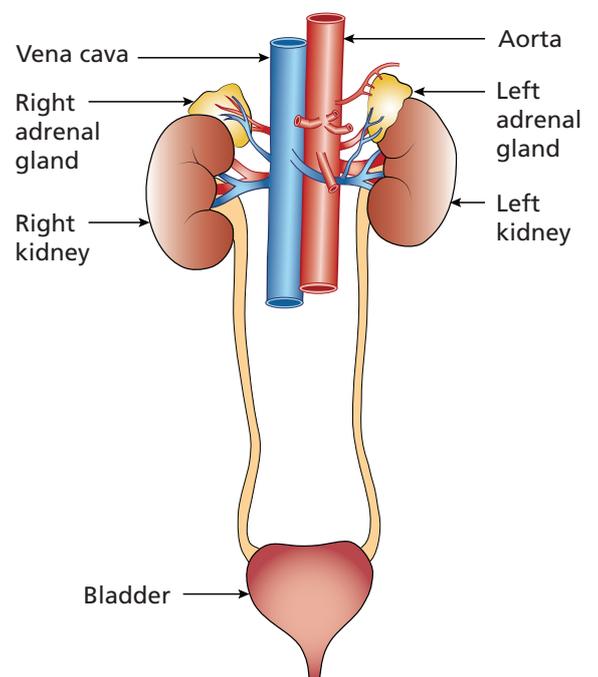
What are adrenal glands and what do they do?

The adrenal glands are 2 glands that sit on top of each kidney. Each gland has 2 parts, the outer cortex and the inner medulla, which produce different hormones.

The cortex produces 3 groups of hormones:

- Mineralocorticoids (commonly Aldosterone), which help to maintain the body's water and salt levels, and thus blood pressure
- Glucocorticoids (commonly Cortisol), which are involved in the stress response and controls the body's metabolism
- Sex hormones, which help in the development and working of the reproductive systems

The medulla produces another group of hormones called Catecholamines (commonly Adrenaline), which help in the 'fight or flight' stress response.



What is done in this procedure?

This procedure involves the removal of one (or very rarely both) adrenal gland(s). Vital adjacent organs such as the liver and kidney (on the right) and the spleen, pancreas and kidney (on the left) are usually preserved. Very rarely in patients with suspected adrenal cancer, a part or all of one or more of the organs next to the adrenal may also be removed.

The procedure may be performed either via a large incision (cut) across the abdomen (known as 'open surgery') or by a number of small incisions (known as the 'key-hole' laparoscopic approach). Sometimes, an in-between approach using a few small incisions and a medium size incision (known as hand-assist laparoscopy) is used.

This is done whilst the person is asleep (general anaesthetic).

Why is this procedure performed?

Adrenalectomy may be performed for a variety of reasons (indications). They include

- Adrenal cancer
- Possible adrenal cancer
- Over-activity of a part of the adrenal gland, resulting in hormone excess. Based on the type of hormone excess, diseases are called phaeochromocytoma (catecholamine excess), Cushing's syndrome (steroid excess) and Conn's syndrome (aldosterone excess).

What risks should I be aware of in relation to this procedure?

The operation is generally a safe and effective procedure. However, there is a potential for complications such as:

Problems during surgery

Injury to adjacent organs is uncommon. If this happens, this is often recognised and treated at the same time. Occasionally, this may result in an operation being converted from a 'key-hole' procedure to an open one. During surgery for a phaeochromocytoma, your blood pressure is very closely monitored and controlled. However, blood pressure may fluctuate widely and this has potential to affect the blood supply to your heart or brain.

Postoperative problems related to adrenal function

Depending on the nature of hormonal abnormality present before surgery, a number of problems may arise following surgery. Patients having surgery for a phaeochromocytoma may develop low blood pressure or low sugar levels. Patients having surgery for a steroid hormone producing tumour may become very unwell due to relative lack of steroid hormones. These issues are often anticipated and specific precautionary steps or treatment are taken as required.

Infection and bleeding

These are risks associated with any surgical procedure. Although some patients may get bruising around the incision (cut) or collection of blood tinged fluid, the risk of a significant infection or bleeding complication is low. Occasionally, a second operation may be needed to treat these complications.

Wound problems

Potential wound complications include gaping of the wound, infection and hernia formation (protrusion of bowel or fat through a weak scar) at the site of the incision. These problems may occur after both 'key hole' and open operations.

Excessive scarring

Although scars usually heal well and (like most scars) fade away with time, some patients develop 'hypertrophic scarring' and 'keloids' at the site of surgery. This is where the body forms excessive scar tissue in response to surgery and the scar becomes thick, prominent and sometimes itchy. If you are prone to developing these types of scars, discuss this with the surgeon.

Recurrent disease

If surgery is performed for cancer, recurrence of the disease is a possibility.

What should I expect before admission, on the day of surgery and after the procedure?

Before admission: You will be asked to have a pre-operative assessment to ensure that a general anaesthetic is possible, safe and appropriate. A part of this assessment includes a number of blood and urine tests.

On the day: You would usually be asked to come in on the day of the procedure. The anaesthetist and surgeon will see you before surgery. The anaesthetist will put you to sleep before the procedure. You may also have an injection at the site of the incisions to relieve pain and discomfort after the surgery. Sometimes, if an open operation is planned, a catheter (fine tube) may be inserted in your back (epidural) to help with pain relief.

After surgery: Some patients are monitored for a short period in intensive care to ensure that any complications are picked up early. After transfer to the ward, you should expect to stay in hospital for a few more days. You will be prescribed painkillers following surgery, but the intensity of pain and discomfort experienced by patients following this operation is quite variable. If your pain is not well controlled, please do not hesitate to talk to the nurse. Some people have nausea and vomiting after surgery; but these can be effectively treated as well.

You may have blood tests at various time intervals before discharge and after discharge at your clinic visits. The need for longer term follow-up in hospital will depend on the underlying adrenal condition and the results of the pathology (analysis of tumour that was removed) and subsequent tests.

Is there any other specific information I should be aware of?

After surgery, further tests and treatment will depend on the primary adrenal problem for which surgery is performed.

For example, if the operation is performed for steroid excess, steroid medications may be necessary for a while after the procedure. In addition, instructions will be given to seek medical help and to self-administer steroids as appropriate. This is because for some time after surgery, the body may be unable to respond to increased steroid need during periods of illnesses.

The speed of recovery is very variable. In general, patients are advised to rest for 3-4 weeks following the procedure. You are also advised to avoid driving for a month following key-hole surgery and for 2 months following an open operation.

You are also advised to avoid long haul air travel for 2 months following surgery.

Is there anything I should look out for when I go home?

An appointment will be made to see you a few weeks after discharge. In the meantime, **if you experience any of the following symptoms, please contact us straight away and ask to see a member of the clinical team sooner.**

- Increasing pain, swelling, redness or discharge at the site of surgery
- Feeling unwell, nauseous, excessively hot or cold.

Where can I get more information?

You should be able to ask the surgeon performing the operation for further information. The following websites may also be helpful.

- <https://medlineplus.gov/ency/article/007437.htm>
- www.endocrineweb.com/endocrinology/overview-adrenal-glands



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