

Laparoscopic Adrenalectomy

What is a laparoscopic Adrenalectomy

The term laparoscopic adrenalectomy means removal of an adrenal gland using the 'keyhole' (laparoscopic) surgical method. The laparoscopic method of adrenal gland removal involves using three or four one centimetre cuts (incisions). A thin tube with a light and camera on the end (a laparoscope), and surgical instruments can then be passed through these incisions. The camera sends pictures to a TV screen so that the surgeon can see the adrenal gland and surrounding organs. One of the incisions (cuts) will be enlarged to enable the gland to be removed once it has been disconnected from the surrounding tissues and blood vessels.

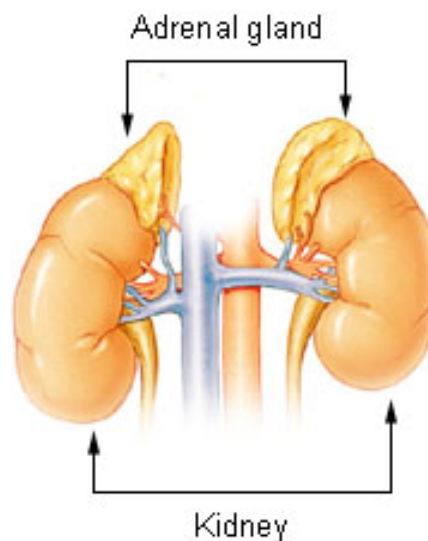
A laparoscopic adrenalectomy is performed under a general anaesthetic. You will meet the anaesthetist on the day of your operation and he or she will discuss the anaesthetic and pain relief with you. You should expect to stay in hospital from 2 to 4 nights depending on the reason for the operation.

The laparoscopic, and most commonly used, method of adrenal gland removal has been shown to cause less blood loss, less pain and fewer complications than the open method, and also a much shorter recovery time. The open method is now only used in more complex cases. Open surgery to remove an adrenal gland involves making a large cut on the side with unavoidable problems such as more intense pain which makes moving around more difficult, a hospital stay of 7 to 10 days, and a prolonged time off work. Your Urology consultant will discuss with you in detail which approach is appropriate for you.

Why would I need this procedure?

The adrenal glands are a pair of small glands which are situated just above the kidneys. The gland on the left is just behind the pancreas gland and just below the spleen. The gland on the right lies behind the right side of the liver.

Adrenal Gland



The main role of the adrenal glands is to release hormones into the blood stream. The main hormones released are stress related (fight and flight hormones) cortisone, nor-adrenaline and

adrenaline, hormones that regulate metabolism, hormones that affect the function of the immune system, androgens (sex hormones), and hormones for salt and water balance (aldosterone).

An adrenalectomy may need to be performed if there is a growth/tumour in the gland(s) and the tumour is:

1. Making excess (too much) hormones.
2. Is large in size (more than 4-5 cms).|
3. Possibly malignant. (cancerous)

What are the symptoms that have led to me having this procedure?

The symptoms of a growth in the adrenal gland will depend on the type of excess hormone being produced.

1. **Pheochromocytomas** produce adrenaline and nor-adrenaline hormones that can cause very severe headaches, excessive sweating, anxiety, palpitations, and a rapid heart rate that may last several seconds to a few minutes.
2. **Conns Syndrome** in which high levels of aldosterone hormone can cause high blood Pressure and low levels of potassium in the blood. Some patients may feel tired and weak and need to pass urine frequently.
3. **Cushing Syndrome** may be caused by a tumour producing too much cortisol. This can cause obesity especially of the face and tummy, high blood sugars, high blood pressure, fragile skin (easy bruising and stretch marks) and menstrual problems. However most cases of Cushing Syndrome are not caused by adrenal tumours, but by excess consumption of steroid medicines.

Some growths on the adrenal gland are not producing hormones at all , cause no symptoms, are benign(not cancer) and do not need to be removed.

The reason for your adrenalectomy will be discussed with you. Before the operation is carried out it is usual to perform various scans and blood tests and often special urine tests to ensure that surgery is right for you. You will probably have been under the care of an Endocrinologist (hormone specialist doctor) during your diagnosis and to stabilise your symptoms before your operation. If this is the case the Endocrinologist will continue to monitor you after surgery and will probably see you on the ward to adjust any medicines you have been taking before you go home as your symptoms may have changed.

Your remaining adrenal gland will serve the full function originally carried out by both glands. It is sometimes necessary, however, to take medications to help the remaining gland recover (usually in patients with Cushing's Syndrome). If both glands have to be removed (this is very rare) medications will have to be taken to replace their function.

What are the potential risks and side effects of laparoscopic adrenalectomy?

Any operation and anaesthetic carries risks. These risks are generally small and not doing the operation may carry a greater risk.

Risks of the anaesthetic can be discussed with the anaesthetist who will see you before the operation.

Possible risks and side effects from the procedure are outlined below. However, if you have any concerns please do discuss them with the nursing and medical staff as it is important that you understand what is going to happen to you.

Common (Greater than 1 in 10)

- Temporary shoulder tip pain
- Temporary abdominal bloating
- Temporary insertion of a catheter and wound drain
- Conversion to open surgery or requiring blood transfusion (less than 5% in The East Sussex Healthcare NHS Trust).

Occasional (Between 1 in 10 and 1 in 50)

- Bleeding, infection, pain or hernia of the incision needing further treatment.

Rare (Less than 1 in 50)

- Entry into the lung cavity requiring insertion of a temporary drain.
- The histological abnormality may eventually turn out not to be cancer.
- Recognised (or unrecognised) injury to organs/blood vessels requiring conversion to open surgery (or deferred open surgery)
- Involvement or injury to nearby structures (blood vessels, spleen, liver, kidney, lung, pancreas, bowel) requiring more extensive surgery.
- Anaesthetic or cardiovascular problems possibly requiring intensive care admission (including chest infection, pulmonary embolus (clot in the lungs), stroke, deep vein thrombosis, heart attack and death)

These figures are taken from the British Association of Urological Surgeons (BAUS).

Risk of hospital acquired infection

- Colonisation with MRSA bacteria (0.9%-1 in 110).
- Clostridium difficile bowel infection.(0.01%-1 in 10,000)
- MRSA in bloodstream (bacteraemia)(0.02%-1 in 5,000)

What happens before I come into hospital for my operation?

You will attend a pre-admission clinic before your operation. The purpose of this appointment is to organise any more tests that may be needed, and to check that you are fit for the operation. You may need an anaesthetic review as well. A member of nursing staff will see you. You will be asked about your past medical, surgical, social history and how you manage your day to day living.

Please bring with you:

- A fresh urine sample, to test for urinary tract infection,
- A list of your usual medicines
- Let us know if you have any allergies (eg. to drugs, latex or solutions)

It is very important that the hospital knows if you are on any drugs which thin the blood eg. Aspirin, Warfarin, Clopidogrel, Dipyridamol. If you are on Warfarin it may be necessary to bring

you into hospital a few days before your operation, or change your Warfarin to injections that can be given at home. If this is the case you may need to stay in hospital a little longer to get your INR to an acceptable range. Aspirin, Clopidogrel and Dipyridamol or other blood thinning drugs should be stopped ten days before surgery or as directed by the anaesthetist.

You may have the following tests:

- A chest X-ray and electrocardiogram (ECG) which records the electrical activity of your heart.
- Blood tests to test for abnormalities
- Swabs taken to check whether you are an MRSA carrier.

Where will the procedure take place?

The operation will take place in Eastbourne DGH part of the East Sussex Healthcare NHS Trust. Eastbourne has a specially adapted laparoscopic theatre where a team of surgeons and anaesthetists with the appropriate experience and expertise will look after you

Will I have an anaesthetic?

The anaesthetist will see you prior to your operation and discuss the best anaesthetic option for you, bearing in mind your overall general health. He/she will need to know your normal medications (medicines) that you take, whether or not you smoke or have any allergies, whether you have loose or capped teeth or dentures and any specific fears or worries that you may have. You will usually have a general anaesthetic and will be asleep throughout your operation. The anaesthetist will also discuss with you options for your post-operative pain relief.

How can I help my recovery?

The Urology Unit has an 'Enhancing Recovery' approach to your care before during and after surgery known as ERAS 'Enhancing Recovery After Surgery'. A Urology Nurse Practitioner (ERAS Nurse) will aim to see you at pre-assessment and during your admission to aid you in participating in your care and recovery. You will have a planned pathway of care tailored to your individual needs. The ward team will agree daily post-op recovery goals with you. They will emphasise the importance of doing leg and breathing exercises, getting out of bed and walking as soon as possible after the operation to minimise the risk of complications.

Please think about what help you may need when you return home e.g. with laundry, shopping, cooking and housework and make arrangements for these before you come into hospital.

Please make arrangements for your transport to get to and from the hospital and future hospital appointments.

If you smoke consider stopping before your operation. Smoking increases the severity of some urological problems and increases the risk of post-operative complications. If you need advice on quitting, ask a member of staff, contact your GP, pharmacist or the 'NHS East Sussex Smoking Cessation Helpline' free on 0800 917 8896.

On the day of admission to hospital

You will usually be admitted on the day of your surgery. If the operation is to take place on the morning list you will be admitted at 7.00am on the morning of your operation. If your operation is scheduled for an afternoon list you will be admitted mid-morning on the day of your operation. You will be admitted to the Admissions Lounge and a nurse will check your details. If you are admitted on the day of your surgery you will go to theatre from the Admissions Lounge and return to the Urology Unit after the operation.

Please bring a supply of your usual medicines to take whilst you are in hospital.

On the Urology Unit, most beds have access to a personal telephone and television. Prepaid cards for the telephone are available via vending machines in the hospital or via credit card. The telephone has an individual number which you can give to your friends and family. Visiting hours are from 2.30pm to 8.00pm.

Consent

The Urologist (consultant surgeon) will see you before your procedure to explain all the risks and benefits. Please make sure you have read and understand this leaflet before you sign your consent form. Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your medical team.

The day of your operation.

Before your operation you will need to starve (nil by mouth) to reduce the risk of problems during the anaesthetic. You may eat and drink normally up until six hours before your operation and then have clear fluids only, up until two hours before the surgery. You may also be given some 'energy drinks' to take before you are 'nil by mouth' to assist your body in coping with the stress of surgery.

Do not stop any of your normal medicines unless you have been told to do so. Some medicines may be stopped or withheld until after your operation. Ask the medical or nursing staff if you are unsure about this before you come into hospital.

You will be asked to bathe or shower before the operation. If you are admitted on the day of surgery, you will do this at home before coming to hospital. You will be given a theatre gown to put on and some special stockings to wear during and after the operation. The stockings are used to reduce the risk of developing blood clots (DVT) in your legs.

Nursing staff will be able to give you an approximate time for your operation, but this is only intended as a guide.

You will be taken from the Admissions Lounge to theatre on a trolley and will transfer to a bed after surgery.

After the operation you will 'come round' in the recovery area and then be taken to the Urology Unit by a member of staff once you are awake, stable and comfortable.

How long will the operation take?

The operation usually takes two to three hours but can vary depending on the individual.

How will I feel after the operation?

After your operation you will initially be cared for in the recovery room where you will be carefully monitored by the anaesthetist and specially trained nurses. You will feel drowsy and sleepy at first, however this soon passes.

You will have intravenous fluids (a drip) going into an arm vein. This will be in place until you are drinking normally. You can start drinking on the day of surgery and the drip can usually be removed the following day. You can start eating the same day if you feel up to it.

Following laparoscopic surgery you may have shoulder pain and “wind like” tummy pain for a couple of days. This is due to the surgeon using gas to inflate your abdominal cavity so he/she can visualise the adrenal gland better. For the first 24 to 48 hours after your operation you may be prescribed a strong slow release pain killer twice a day to enable you to move around and start mobilising. After this most patients only need mild pain killers.

You may feel nauseated for up to 24 hours following the operation and medication can be administered to control this.

A catheter (drainage tube) will be inserted into your bladder whilst you are under anaesthetic. This allows accurate measurement of your urine output which with regular measurement of your pulse, blood pressure, respirations and oxygen levels helps the clinicians to know how you are doing. The catheter is usually removed the following day once you are mobile. During the operation a wound drain **may** be placed at the site of the removed adrenal gland to drain away any blood or fluid collection. This will be removed when there is little or no drainage from it, usually the following day.

You will be encouraged to sit out of bed and to start walking the next day and by day 2 you should be out of bed for most of the day, walking longer distances and be independent with your hygiene needs,

The small wounds are closed with dissolvable stitches. They may have also been glued. Dressings are often not necessary, however the wounds may be covered with a protective plastic film which can be removed the next day if the wounds are dry. A protective waterproof spray may be used. In all cases you will be able to shower or bathe and dressings renewed if needed. A supply can be given to you on discharge.

How long will I be in hospital?

From a surgical point of view you will probably be ready to go home on day 2 or 3. However the Endocrine team may wish to monitor your hormone status for a little longer and may want to see you prior to discharge if you were having symptoms or medication before your operation.

Going home.

Before going home you will be informed of your follow up arrangements. This will be dictated by the reason for your adrenal gland removal and you may need surgical follow up as well as endocrine follow up. You may need medicines to take home (TTAs) and will receive a two weeks supply of any medicines required. You will be given a letter for your GP with details of your treatment, follow up and medications on discharge.

Generally, after discharge the wounds do not require any special attention and you can bathe and shower, and the stitches will gradually dissolve. You may be referred to the District Nurse team if the ward team feel this is necessary. If you are concerned in any way about your wounds- redness, discharge, or increasing pain, you should contact your GP surgery to have your wounds checked by the Practice Nurse. If the GP surgery is closed you should ring the Urology Ward or your Clinical Nurse Specialist.

Once at home

It is sensible to avoid heavy lifting for at least two to three weeks after the operation, since any sudden increase in abdominal pressure can cause pain in wounds. Exercise should be increased gradually. Start with short walks and gentle exercise. Eat a healthy diet and aim to drink two litres of fluid a day. Fresh fruit and vegetablea are important to keep your bowels

regular as your bowel can be 'lazy' for several days after the operation. Sexual intercourse may be resumed three to four weeks after the operation.

You can return to work when you feel fit enough and depending on how physical your job is. Usually two to four weeks off work are needed. It is your responsibility to ensure you are fit enough to drive. You will need to be able to do an emergency stop without hesitation. You are advised to check with your insurance company before resuming driving. You should also refer to the written advice given with any medication you are taking regarding driving and operating machinery.

You may feel tired and rather emotional for a number of weeks after surgery, which is quite normal. However if this persists and you feel depressed it is important to discuss this with your GP.

The Enhanced Recovery Nurse (ERAS) nurse will aim to contact you a few days after your discharge to check that you are recovering well and ask if you have any concerns.

What follow up will I need?

A follow up out-patient appointment will normally be arranged for you six to eight weeks after your operation with the Urology Consultant. At this appointment you will be informed of the results of pathology the tests on the removed adrenal gland, and the plan for your further follow-up discussed with you.

Sources of information

British Association of Urological Surgeons (www.baus.org.uk,)
Alison Gidlow, Uro-oncology Specialist Nurse. East Sussex Healthcare
Peter Rimington, Consultant Urological Surgeon. East Sussex Healthcare.
The Royal College of Anaesthetists-(www.rcseng.ac.uk)

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments please contact our Patient Advice and Liaison Service (PALS) – details below.

Hand hygiene

The trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

This information is available in alternative formats such as large print or electronically on request. Interpreters can also be booked. Please contact the Patient Advice and Liaison Service (PALS) offices, found in the main reception areas:

Conquest Hospital

Email: esh-tr.palsh@nhs.uk - Telephone: **01424 758090**

Eastbourne District General Hospital

Email: esh-tr.palse@nhs.uk - Telephone: **01323 435886**

Contact Information:-

Conquest Hospital- Tel (01424) 755255

Sarah Aylett, Urology Nurse Specialist TEL: 01424 755255 Ext 7229 (Answer Phone) or ask for bleep 0845

Eastbourne Hospital- Tel (01323) 417400

Firle Unit (Pre-admission Unit) 417400 EXT 4153

Alison Gidlow, Tessa Rodgers, Jo Gainsford, Kelly Murrey or Jocelyn Jaun, Urology Nurse Specialists Tel- (01323) 438246 (answer phone) or (01323) 417400 switchboard and. ask for bleep 8246

Jocelyn Jaun Enhanced Recovery Nurse (01323) 417400 Ext 4767 answer phone or (01323) 417400 switchboard and ask for bleep 0159.

Seaford 4 Ward Tel (01323)417400 Ext 4009

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

Reference

Written by: Cynthia Deadman. Enhanced Recovery Nurse. Eastbourne Urology Unit.
Updated by Jocelyn Jaun. Enhanced Recovery Nurse. Eastbourne Urology Unit.
The following clinicians have been consulted and agreed this patient information:
Mr Peter Rimington, Consultant Urologist, Dr Bending Consultant Endocrinologist.
Ms Alison Gidlow, Senior Urology Nurse Specialist

Next review date: October 2018

Responsible clinician/author: Ms Alison Gidlow, Urology Nurse Specialist.

© East Sussex Healthcare NHS Trust – www.esht.nhs.uk