

# **PORTSMOUTH HOSPITALS NHS TRUST**

Patient Information Leaflet:

## **Having an adrenal operation**

This information leaflet has been created by the Portsmouth specialist laparoscopic surgeons:

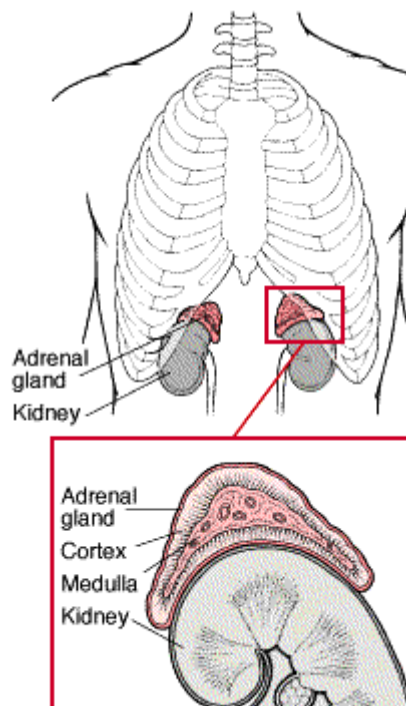
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If you have any suggestions as to how we can improve this leaflet for future patients, please write to:

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### **What is an adrenal gland?**

You have two adrenal glands, one just above each of your kidneys. Your adrenal glands produce several different hormones that give instructions to virtually every organ and tissue in your body.

### **What can go wrong with adrenal glands?**

They can develop tumours. These are usually benign (non cancerous) but, rarely, they can be malignant (cancerous).

If the tumour produces excess hormones, you may experience symptoms related to having too much of that particular hormone.

If the tumour is not producing hormones then it will have been found as a result of you having had a scan for another reason.

### **Why should I have an operation to remove my adrenal gland?**

If you have an adrenal tumour producing hormones, it is important to remove the tumour producing those excess hormones and allow your body to function normally again.

If your tumour has been picked up “accidentally” as a result of a scan for something else, you will have had tests by the endocrine specialist team to exclude hormone production, but we are advising you to have the gland removed in order to ensure it is not cancerous. The larger the

tumour in the gland, the more likely it is to be cancerous, so we advise removal at 3.5cm and above.

All adrenal glands that we remove are sent to be analysed under the microscope.

### **What does the operation involve?**

Adrenal glands can be removed by keyhole (laparoscopic) surgery or by open surgery. The operation inside the abdomen is the same (the removal of the adrenal gland), but keyhole surgery involves several 1cm cuts on the tummy, with a 3-4cm cut to remove the tumour, whilst the open operation involves a single 15cm cut on the tummy.

Most people are suitable for keyhole surgery, and only around 10% of patients having keyhole surgery of their adrenal gland wake up to find they have had to have an open operation due to difficulties their surgeon has experienced in the course of the operation.

### **When will I be able to go home?**

To be able to go home you must be able to eat, drink, walk about, and be able to pass urine. Most people can go home the following day if they have keyhole surgery, whilst the large cut of open surgery involves several days in hospital.

Patients who have a tumour producing adrenaline or noradrenaline (a phaeochromocytoma) go to the Intensive Care Unit after operation to allow close monitoring of their blood pressure, and may require several days in hospital to stabilise the blood pressure before being able to go home.

### **What will I be able to do when I go home?**

It is normal to feel tired and a bit sore for several days. With keyhole surgery, the pain can often be felt in the shoulder. Many people feel their appetite is poor. Your tummy may appear a little swollen for one to two weeks afterwards. This is quite normal after this surgery. You should rest, and eat only light meals for the first day or two, and avoid any alcohol while taking painkillers stronger than paracetamol.

You may find your bowels to be constipated, this is as a result of missing normal meals around the time of your surgery, and is also a side effect of many painkillers. It should settle by itself, but if not, you can use a gentle laxative that you can buy from any chemist.

You will probably not feel like leaving the house for the first couple of days, but make sure you walk about within the house or around the garden every couple of hours during waking hours to keep the blood

circulating in the legs and reduce the chance of a blood clot forming in the legs (known as “deep venous thrombosis”).

Younger people will return to normal sooner than an older person.

### **How do I look after my wounds after I go home?**

Before you leave the ward to go home, the nurses will give you detailed instructions in how to look after the wounds you have.

It is quite normal to develop some bruising around the wounds. In general, if you have keyhole surgery, the little wounds have dissolving stitches (which therefore don't have to be taken out) and will be covered with small dressings. You should keep your wounds dry for 48hrs, and after that it is fine to shower. If your wounds are not weeping after 48hrs, you do not require any dressings over them, although you may find it more comfortable to put a dressing on some of them to prevent clothes catching. It is sensible to cover your wounds if they are weeping, in order to protect your clothes. Wounds should not weep for more than 5 days. If your wounds do continue to weep after 5 days, then you should contact your GP's surgery to get your GP practice nurse to take a look at them. If your operation went from keyhole surgery to an open operation, then you will have a 6-12 inch wound which may have stitches or metal clips which need to be removed, rather than dissolving stitches. These stitches/clips will need to be removed at 7-10 days. As you are usually at home by then, this is normally done by your GP practice nurse, or district nurse. Before you go home, the ward nurses will tell you whether they have arranged this, or whether you need to telephone your GP surgery in order to arrange it. These larger wounds often weep for longer, and usually require to be covered for 5 days. You may still shower at 48hrs, but you should put a fresh dressing on afterwards.

With both keyhole surgery and open surgery, you may have a bath from 5 days following your operation, as long as the wounds are not weeping.

Normal weeping is either clear fluid or blood-stained. If the fluid becomes thick and yellow/greenish, then this may indicate a wound infection, and you should see your practice nurse within 24hrs of noticing it.

It is normal for wounds to feel lumpy and tender for several weeks afterwards, with a slight redness along the line of the wound. If this redness spreads more than 1cm from the wound edges then this may be a sign of a wound infection developing; again you need to see your GP practice nurse.

### **When will I be able to go back to work?**

This depends on your type of work, and whether you had keyhole surgery or open surgery.

A desk job can be returned to after a week or two if you have had keyhole surgery, or around four weeks with open surgery.

A heavy manual job will require longer off work, around three to four weeks off for keyhole surgery, and six to eight weeks for open surgery.

### **When can I start to drive again?**

Once you can comfortably use all the controls in the car, and are no longer taking strong painkillers. This means being able to perform an emergency stop, and being able to turn round in your seat to safely reverse the car.

We usually recommend not driving for three or four days after keyhole surgery, and around ten days for open surgery.

It is always best to check with your insurance company to see if they have any specific rules related to the type of operation you have had done. This is particularly important for professional drivers e.g taxi drivers, HGV drivers

### **Can there be complications of an operation to remove my adrenal gland?**

Yes. All operations carry a risk.

There are general risks that are common to all operations:

- **Wound infection:** the skin around the wounds may go red and painful, or the wounds may leak. Around 1 in 5 patients will experience this, usually after they are already at home. You should get your doctor or practice nurse to check your wounds if this occurs, as you may need antibiotics.
- **Bruising:** it is quite normal to experience some bruising where your wounds are, often this does not appear until after you have gone home from hospital. Occasionally a very large bruise may form which takes one or two weeks to go away. The wounds may ooze a little bit of blood for the first 48hrs, requiring a change of wound dressing. This is quite normal.
- **Chest infection:** if you develop a cough, or feel short of breath after your operation, you may have developed a chest infection. This is rare if you are fit and healthy. You are at high risk of this if you have a lung disease (chronic bronchitis, emphysema, severe asthma), and moderate risk if you are overweight, or are a smoker.
- **Internal bleeding:** this is rare (occurring in less than 1 in 100 operations), and occurs within the first 24hrs following surgery. It

may require you to have a blood transfusion, or a second operation in order to stop the bleeding. The nurses check your pulse rate and blood pressure after the operation in order to detect this problem.

- **Allergic reactions** to antibiotics or anaesthetics: this is also rare (occurring in less than 1 in 100 operations). If you have had a previous bad reaction to an anaesthetic or any medication, you **MUST** inform the surgeon or the anaesthetist before your operation. If you have a shellfish allergy, this may mean you are allergic to iodine, which is used in the operating theatre, so please alert us to this. It is also important that you alert us if you have a latex allergy.
- **Blood clots** in the legs: this is also known as deep venous thrombosis (DVT). It carries the risk of the blood clot moving from the leg up to the lungs (pulmonary embolus), which can be a life-threatening condition. A blood clot in the leg may not give any sign or symptom that it is there, or it may cause a pain in the leg (usually in the calf muscle) or swelling of the leg. A fit healthy person has a very small risk of DVT. Your risk is higher if you are overweight, a smoker, in poor general health, have difficulty walking, or have had a previous DVT. To reduce your chance of developing a DVT you will be encouraged to get out of bed as soon as you are sufficiently recovered from the anaesthetic. You may also be given an injection of a medicine called heparin, which is proven to reduce your chance of developing a large pulmonary embolus. While you are on bed rest, you should exercise your calf muscles by moving your feet up and down. If you fall in to a category of having a high risk of a DVT, you will be given a heparin injection before your operation and will have to continue to inject yourself with heparin at home to complete the course.

There are also risks specific to the adrenal removal operation:

- **Haemorrhage.** Adrenal glands have several large blood vessels which require disconnecting before removal of the gland. Rarely one may bleed during surgery and require a blood transfusion or your operation being changed from keyhole surgery to open surgery.
- **Liver/spleen damage.** The right adrenal gland is tucked beneath the liver and the left adrenal gland is tucked beneath the spleen; these organs need to be gently lifted up to get access to the adrenal. Rarely they may be damaged, requiring a blood transfusion, or, extremely rarely, removal of the spleen to control bleeding.

- **Damage to bowel:** this may occur as a result of the ports being placed (ports are hollow cylinders which are put in place through the skin in to your abdominal cavity, these allow the camera and instruments in to your abdomen), or from your bowel being scarred from previous surgery or inflammation. Bowel damage is usually seen at the time of operation, and dealt with. Sometimes an open operation is required, if the bowel cannot be repaired by keyhole surgery. Rarely, bowel damage is not seen at the time of the operation, and a second operation within days of the original operation is required to deal with it. If you do suffer this rare complication, it will prolong your stay in hospital.

There are risks specific to the patient's general health:

- **if you have heart disease:** removal of an adrenal gland is major surgery, which can put a strain on existing heart problems, resulting in a heart attack around the time of surgery. This may result in death, or prolonged ill health. You may have to have a heart scan (echocardiogram), and an anaesthetic review in advance of surgery. You may also require review by a heart specialist (cardiologist).
- **if you have breathing problems:** you may require special tests on your lungs, and an anaesthetic review. Your risk of developing a chest infection (pneumonia) will be markedly increased. People with severe breathing problems may require admission to Intensive Care for observation, sometimes for support on a breathing machine.
- **if you are on warfarin:** this will have to be stopped in advance of your operation. For some patients, the warfarin can be stopped for a few days with minimal risk, but for others (such as patients with artificial heart valves) once the warfarin is stopped we need to keep your blood thinned with heparin. This needs to be done while you are in hospital, so you will need to be admitted to hospital one or more days before your planned operation day. The heparin needs to be stopped several hours before you go to the operating theatre, so that your blood clots normally at the time of your surgery. It is not possible to operate on an adrenal gland without normal blood clotting, as the risk of a major life-threatening haemorrhage is too great. Clearly you have been put on warfarin in order to prevent your blood clotting normally, and there is a risk to you during the time you are off warfarin. Having surgery when you are on blood thinning medication always increases the risk that you will develop

a haemorrhage at the time of surgery or in the first few days after surgery.

- **If you have diabetes:** mild diabetes controlled by diet or a small number of tablets is often not a problem. If a combination of tablets, or insulin injections, is required to keep your diabetes under control then you will have a longer stay in hospital, having insulin given by a drip. If you have had diabetes for many years it may have had a bad effect on your heart and kidney function, and problems with your circulation: if this is the case then the risks to your life of having surgery is increased.
- **if you are overweight:** this increases your chances of developing a blood clot in the legs, which may lead to a pulmonary embolism (the blood clot travels to the lungs, a condition which can be fatal). You are also at increased risk of developing a chest infection (pneumonia). People who are overweight are also at risk of diabetes and heart disease, which also increases your risks when having surgery (as described above).
- **if you are a smoker:** you are at increased risk of developing a chest infection and blood clots in the legs after an operation. You are also at increased risk of a wound infection. Smoking also increases the risks of heart disease, so you are at increased risk of developing a heart attack around the time of surgery.

If we feel you are a high-risk patient, we will tell you.

### **Will I be seen in a clinic after my operation?**

The surgical team will see you 4-6 weeks in the outpatient clinic to check your wounds.

If you had a tumour that was producing hormones, the endocrine team will usually also see you in their clinic as your medication may require adjusting/stopping.

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