

Patient information

Transsphenoidal Surgery

Diabetes and Endocrinology

What is Transsphenoidal Surgery?

Transsphenoidal surgery is carried out with the help of an endoscope through the nose. It means the surgeon can remove the pituitary tumour, without having to cut open your skull (a craniotomy). It can also mean that the pituitary gland is less damaged by surgery.

Surgery can reduce the size (mass effect) of the tumour that may have caused visual loss, headaches and reduced hormone production. Surgery can also correct excess production of hormones. Craniotomy (cut through the skull) nowadays is used on rare occasions to remove pituitary tumours.

What are the benefits of having Transsphenoidal Surgery?

The advantages of this type of surgery are:

- Minimal disturbance to the brain
- No external scar
- No need to shave your head
- Minimal blood loss (blood transfusion is not normally required)
- Less time spent in hospital.

What are the risks of having Transsphenoidal Surgery?

- **Diabetes Insipidus (D.I.)** – (for a few days) after the operation some patients feel thirsty and pass more urine than normal. Usually this is a temporary side effect, but in some cases it may be permanent. The ward nurses will monitor the amount of fluid you drink and urine that you pass and you will have blood tests taken to monitor your salt levels. Diabetes Insipidus is treated by either a nasal spray or tablets.
- **Meningitis** – this occurs if the linings of the brain are damaged by an infection. If this is suspected, blood samples will be taken from you to see if you have an infection. You will also need to have a lumbar puncture performed. The meningitis is treated with intravenous antibiotics. If you develop meningitis you may have headaches, a high temperature and find bright lights difficult to cope with.

- **Lumbar puncture** – a procedure in which a hollow needle is inserted into the lower spinal column to withdraw cerebrospinal fluid (fluid circulating around your spine and brain). Local anaesthetic is used to numb your skin before the needle is inserted. Once the samples have been obtained, the needle is removed and a small sterile dressing is applied to the area. The procedure takes less than 20 minutes and usually causes no discomfort although some patients may experience a headache afterwards. You will need to remain on bed rest for at least six hours after the procedure.
- **Cerebrospinal fluid (CSF) leak** – rarely, the fluid circulating around your brain and spine can leak through the nose.

If this happens you will need to (go to theatre to) have a spinal drain inserted. You may be commenced on intravenous antibiotics. If the leak continues after several days you may have to return to theatre to have the leak repaired.

What sort of anaesthetic will I have?

You will be given a general anaesthetic so you will be unconscious throughout your operation. It is always given by an anaesthetist, who is a doctor with specialist training.

General anaesthesia can cause certain side effects and complications. Side effects are common but usually short-lived, such as nausea (feeling sick) and drowsiness.

Complications are very rare but can cause lasting effects, such as paralysis and death.

There is a risk of damage to teeth, particularly caps or crowns and veneers. Your anaesthetist will take every care, but occasionally damage can occur.

You will be given an opportunity to discuss your anaesthetic options and risks with your anaesthetist before your surgery.

If you are worried about any of these risks, please speak to your consultant or a member of their team.

Where will I have my operation?

You will be admitted to the Walton Centre for Neurology and Neurosurgery NHS Trust.

Getting ready for your operation

- Before your operation you will have blood tests, a chest X-ray, and a heart trace (ECG).
- The ward staff will ask you routine questions about your health, the medicine you take at the moment and any allergies you may have. Please remember to bring in all your current medication.
- As well as the usual toiletries and your night-clothes.

The day of your operation

- You will be asked to sign a consent form to say that you understand the procedure, and what the operation involves. This is a further opportunity to discuss the operation with your surgeon.
- The ward staff will advise you when to stop eating and drinking on the day of your operation.
- You will need to have a shower and put a hospital gown on. The nursing staff will give you a pair of elasticated (anti-embolic) stockings to wear.
- These stockings help to prevent the formation of clots in your legs.
- You will have a cannula (short tube) inserted into a vein in your arm to receive medicines just before, during and immediately following your operation.
- You are usually given intravenous (through a vein) steroid (hydrocortisone) medication before your operation.

Your operation

Most operations for pituitary tumours are performed through your nose. The surgeon passes an endoscope up the nose to reach the base of the skull and identify the pituitary fossa (bony cup holding the pituitary tumour in the skull base). The surgeon will then drill the bony floor of the pituitary fossa and cut through the protective layer that covers the brain in order to reach the pituitary gland.

If there is a CSF leak during the time of tumour removal then the floor of the pituitary fossa is sealed at the end of the operation, often by using a piece of your own fat taken from your tummy.

Occasionally it is not possible to remove the tumour through the transsphenoidal route. When this happens, the surgeon will need to cut into the front of your skull. This operation is called a craniotomy. The cut is made around your hairline, which means that the scar will be hidden by your hair.

What should I expect after my operation?

- The operation usually takes two to three hours.
- Following this you will be moved through to the recovery ward for one to two hours.
- When you are awake and pain free, you will be transferred back to the ward.
- However, if you have had a craniotomy, you may be transferred to the high dependency unit (HDU) or to the intensive care unit (ITU) for 24 hours as a routine precaution.
- You will rarely have packing and tubes or drains in each nostril following an endoscopic transsphenoidal surgery. However, there will be gauze strips positioned beneath your nose and secured with tape.
- The gauze dressing may mean that you will have to breathe through your mouth until they are removed. The gauze dressings do get soaked with blood and may need changing from time to time especially in the first 24 hours.

- Your pulse, blood pressure, breathing and wound will be checked regularly by a nurse.
- **It is important that if you feel any pain you must tell the nursing staff, who can give you painkillers to help.**
- You will have a drip in your arm to keep you hydrated until you are able to tolerate drinking. Until this time you will be offered mouthwash to prevent a dry mouth. The ward staff will advise you when you can start taking sips of water, which is usually six hours after your operation. Most people are eating and drinking by the next day and the drip is removed.
- If a piece of fat has been removed you will have stitches and a dressing at the wound site.
- You will need to continue taking hydrocortisone following your operation. At first, this will be given to you through one of your veins until you are eating and drinking, and then you will be given tablets.

The first day after your operation

You will be encouraged to be up and out of bed the day after your operation. The gauze dressing on your nose is normally kept for 24 hours.

You will have blood tests each day to monitor your recovery. Through these tests we can check on things such as your salt levels and kidney function.

The second day after your operation

There is usually a small amount of blood stained fluid seeping out of the nose which will progressively reduce in volume over the next three to four days. The ward staff will advise you more about this at the time.

It is important that you do not blow or pick your nose for up to six weeks. You also need to avoid sneezing violently.

Going Home

If all is well, you will usually be allowed to go home within five days of your operation, usually less if you had transsphenoidal surgery.

Pain relief and medication

The nursing staff will advise you about painkillers before you leave the hospital. Please tell the nurses what painkilling tablets you have at home. You will normally be discharged on a regular daily dosage of hydrocortisone till the time you have your pituitary functions assessed by the endocrine team.

Your wound

Your nostrils will have no stitches but will feel blocked and the hospital staff will recommend normal saline drops for a week or two after surgery to dissolve any nasal crusting.

If you have had fat taken from your thigh or tummy the ward staff should arrange for a community nurse to remove the stitches from this wound for you.

However, it is important to seek immediate medical attention if:

- Your vision deteriorates.
- You have clear fluid dripping down the back of your throat or your nose.
- High temperature headaches and neck stiffness.
- Excessive thirst, drowsiness and large urine volumes.

Will I need radiotherapy?

Some patients require radiotherapy to decrease the chance of tumour re-growth and to reduce excessive hormone secretion.

There is a separate leaflet giving details about radiotherapy should you be referred for treatment.

Will I have to take tablets for the rest of my life?

Transsphenoidal surgery can affect the normal pituitary function, resulting in insufficient or complete absence of one or more of the pituitary hormones.

If this happens you will be given medication to replace the hormones.

Returning to work

Depending on your job, it is usual to return to work after your six-week clinic appointment. However, you may need longer to recover.

Further Appointments

You will be given an appointment for the Walton Centre for Neurology and Neurosurgery for six weeks following your discharge from the ward.

If you have experienced any sight problems due to the pituitary tumour or surgery an appointment will also be made for you to be reviewed by an Ophthalmologist.

You will also need to have a repeat MRI scan and visual field assessment. You will also be referred to the investigations unit at Broadgreen Hospital for pituitary function assessment.

You will be reviewed in clinic initially two to three months after your surgery. You will be reviewed regularly following this, approximately six to twelve monthly. You may have to attend on an annual basis for assessment of your hormonal status. It is usual for patients to attend for follow up appointments for at least five years, maybe even lifelong. These appointments may be at the Walton Centre, the Royal Liverpool Hospital, Broadgreen hospital or your local Endocrine department.

Further Information

Please feel free to contact the Endocrine Specialist Nurses with any questions you may have. There is an answer machine where you can leave your name and contact details. We will return all calls.

The Endocrinology Specialist Nurses

Tel: 0151 706 2417

Textphone Number: 18001 0151 706 2417

Ward 10, Medical day case,

Broadgreen Hospital

Tel: 0151 706 2396/8

Textphone number: 18001 0151 706 2396

Walton Centre for Neurology and Neurosurgery

Tel: 0151 525 3611

Textphone Number: 18001 0151 525 3611

Related Patient information leaflet:

Pituitary radiotherapy (PIF 1062)

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