

Patient agreement to investigation or treatment

Surgical removal of acoustic neuroma

Authors: Department of Neurosurgery

Brief description:

- You have been recommended surgery to remove an acoustic neuroma. An acoustic neuroma is a benign tumour (growth) on the nerve of balance, which runs between the brainstem and the ear.
- Here, we explain some of the aims, benefits, risks and alternatives to this operation (procedure/treatment). We want you to be informed about your choices to help you to be fully involved in making any decisions.
- Please ask about anything you do not fully understand or wish to have explained in more detail.
- If you would like this information in another format or language or would like help completing the form, please ask a member of our staff.

Please bring this form with you to hospital

- You will be asked to read this form carefully, and you and your doctor (or other appropriate healthcare professional) will sign it to document your consent.
- All our consent forms are available on the Addenbrooke’s website: <http://www.addenbrookes.org.uk/consent>
- Remember, you can change your mind about having the operation at any time.

For staff use:

Does the patient have any special requirements? (For example, requires an interpreter or other additional communication method)

.....

.....

About surgical removal of acoustic neuroma

Usually the first symptom of an acoustic neuroma is when you lose some or all of the hearing in one ear. However, the tumour actually arises from one of the nerves of balance. Typically, growth is slow and almost invariably the tumour is benign (not cancer). However, without treatment, it can enlarge progressively to compress the brainstem to damage other nerves and block the spinal fluid pathways. Eventually it could cause serious neurodisability or even death.

Before your operation

- You will usually be seen in our pre-admission clinic by our specialist nurse practitioner.
- At this clinic, we shall ask you for details of your medical history and carry out any necessary clinical examinations and investigations, such as audiology, ECG and blood tests. This is a good opportunity for you to ask us any questions about the operation, and please feel free to discuss any concerns you might have at any time.
- You will be asked if you are taking any tablets or other types of medication - these might be ones prescribed by a doctor or bought over the counter. It helps us if you bring details with you of anything you are taking (for example, bring the packaging with you).
- Most people who have this type of operation will need to stay in hospital for approximately five to seven days. Sometimes we can predict whether you will need to stay for longer than usual - your doctor will discuss this with you before you decide to have the operation.
- If you are taking Aspirin then you must stop taking it 10 days before surgery.

During the operation (procedure/treatment) itself

- This operation involves the use of general anaesthesia. See page seven for further details about the types of anaesthesia we shall use.
- Surgery is one of three options for the management of acoustic neuromas. Other options are 'wait and watch' and radiosurgery (see the section on alternative treatments). Complete removal of the tumour at surgery is achievable in 99.6% of cases and only 1% of tumours will start growing again. In patients who have small tumours and socially useful hearing (ie you can use the telephone), an attempt can be made to preserve the remaining hearing on the affected side; however, only around one in three of these patients will have any hearing at all in that ear after the operation. In patients who have larger tumours, or those who have no socially useful hearing, it can be assumed that hearing will be permanently lost on that side after surgery.
- Your surgeon will discuss with you whether it is possible to attempt to save some hearing on the affected side. This affects the technical details of the operation and how we reach the area:
- A hearing-preservation operation is described as a **retro-sigmoid approach**.

- Most non-hearing preservation operations are carried out via a **translabyrinthine approach**.
- For both operations, we make an incision behind the ear and remove a small amount of bone to give us access to the tumour. When we close the wound, we remove a small piece of tissue from the outer thigh (usually the right side) to seal up the bone of the ear. This is necessary to reduce the risk of cerebrospinal fluid (one of the fluids surrounding the brain) getting into the ear and then draining out through the nose via the small tube that connects the two.
- Occasionally, a small amount of the capsule (covering of the tumour) will be left in place if it is attached to important structures, for example the facial nerve. This decision will be made if there is concern that removing all of the capsule will cause nerve damage. Surgery cannot restore function in nerves that have already been damaged or destroyed by the tumour.

After the operation (operation/treatment)

- You will wake up in the recovery room after your operation. You might have an oxygen mask on your face to help you breathe. You might also wake up feeling sleepy.
- After this operation, most people will have a small, plastic tube in one of the veins of their arm. This might be attached to a bag of fluid, called a drip, which feeds your body with fluid until you are well enough to eat and drink by yourself. You will also have a urinary catheter and thigh drain.
- While you are in the recovery room, a nurse will check your pulse and blood pressure regularly. When you are well enough to be moved, you will be taken to a ward.
- Sometimes, people feel sick after an operation, especially after a general anaesthetic, and might vomit. If you feel sick, please tell a nurse and you will be offered medicine to make you more comfortable.
- Eating and drinking: You can eat and drink when you feel ready, which is usually 24 hours after surgery.
- Getting around and about: After this operation, we will try to get you mobile (up and about) as soon as we can to help prevent complications from lying in bed and to help with balance. The physiotherapists will help you with advice and exercises.
- When you can leave hospital: The length of time that you stay in hospital will depend on your general health, how quickly you recover from the operation and your doctor's opinion. Patients are generally in hospital for approximately seven days. We advise you to have someone at home with you for two weeks after you are discharged.
- When you can resume normal activities including work: Recovery from this operation is slow and steady, it will take approximately eight to twelve weeks. You should not return to work until you have been reviewed in the outpatients clinic, which will be approximately six weeks after surgery.

- Special measures you need to take after the operation: You will be given more detailed information about any special measures you need to take after the operation. You will also be given information about things to watch out for that might be early signs of problems (for example infection). You are advised not to drive until you have been reviewed in the outpatients clinic and must not fly for three months after surgery.
- Check-ups and results: You will be given an outpatients appointment to be reviewed by the neurosurgeon about six weeks after surgery. You will also be asked to attend an appointment to see the ENT surgeon 12 weeks after surgery.

Intended benefits of the operation

- The aim of surgery is to remove the tumour completely. However if the capsule of the tumour is very adherent to the facial nerve or brainstem, a small remnant may be left attached, if removal of it is likely to cause nerve damage.

Who will perform my operation?

- This operation will be performed jointly by a Neurosurgeon and an Otologist.

Alternative operations that are available

- Interval scanning ('wait and watch policy'): As acoustic neuromas often grow very slowly (the average growth rate is around 2 mm per year), small tumours can be monitored by a period of observation. Generally, this is only suitable in the longer term for small tumours (those that are less than around 1.5 cm).
- **Stereotactic radiosurgery:** Radiosurgery is an alternative to surgical removal but is not generally suitable for large tumours (greater than about three cm in diameter). In this operation, the tumour is not removed but gamma radiation, a high-energy type of X-ray, is used to try and prevent further growth. The two methods of carrying out this treatment are:
 - Gamma knife –You would receive a single dose of gamma radiation using multiple radiation beams that are focused on the tumour. This treatment is currently available in Sheffield and London
 - Linear acceleration (LINAC) – Radiation is given as a series of fractions rather than as a single dose. This treatment is currently available in Cambridge.
- The main advantages of radiosurgery are that it avoids the risks of a surgical operation (see page five). You will recover from the operation quickly. In the short term at least, any remaining hearing in the affected ear is likely to be preserved as is the facial nerve function.

- The disadvantages of radiosurgery are that the tumour is not removed, and the treatment does not always prevent the tumour from continuing to grow.
- Radiosurgery can also make any following surgery on this area technically more difficult.
- Having radiosurgery before surgical removal does not significantly change the risks of damage to the facial nerve. There is however, a theoretical risk that using radiation during radiosurgery could stimulate the growth of a malignant (cancerous) tumour at a later date. However, the risk of this is extremely small (there have been no more than a handful of cases reported world-wide despite more than 20,000 patients receiving this treatment).

Serious or frequently occurring risks

The risks of any surgical operation:

- **Haemorrhage** (1%). Although the risk of bleeding is very small, when it occurs in a confined space, for example next to the brainstem, it can result in serious permanent neurological disability. This can include limb weakness or paralysis, difficulty in breathing or impaired swallowing.
- **Respiratory complications** - chest infections which can usually be treated with antibiotics.
- **Blood clots** - there is a risk of deep-vein thrombosis in the legs, which occasionally pass to the lungs (pulmonary embolism).
- **Wound problems** including wound infection or leakage.
- **Heart** for example, abnormal rhythm or heart attack.
- **Death** (less than 1%).

The risks specifically related to the surgical removal of acoustic neuromas:

- **Facial weakness:** The facial nerve (which is a nerve that supplies the muscles of facial expression), and the acoustic nerve (the nerve of hearing and balance) run very close together. Due to their anatomical position, the facial nerve is always attached to the surface of the tumour and is at risk during tumour removal. The risk of facial weakness after this operation depends on the size of the tumour and how tightly it is stuck to the facial nerve.
- With small tumours, it is nearly always possible to preserve the facial nerve anatomically (ie not seen to damage it 'by eye'), but the facial muscles may be weak for a number of months afterwards.

- With some larger tumours, and even very occasionally small tumours, it is not possible to spare the facial nerve. If the facial nerve is completely lost, or fails to recover after the operation, there are a number of plastic surgical operations that can be undertaken to restore some function (your doctor can discuss this with you).
- **Hearing loss:** Most acoustic neuromas are diagnosed after the patient experiences a loss of hearing, which can be partial or total. Following surgery, the majority of patients will lose their hearing completely in the affected ear. We will review your hearing tests and look at the appearance of the tumour on the scan. With this information, we can advise you as to whether an attempt can be made to preserve your remaining hearing in that ear. This will be discussed in detail with you before the operation.
- **Tinnitus:** Some patients experience tinnitus (for example ringing noise) in the affected ear. Even when hearing is lost completely after surgery, it is possible that you will still have tinnitus. Even if you had no tinnitus before the operation, it may develop afterwards. However, it is unusual for tinnitus to be dramatically worse after an operation.
- **Cerebral spinal fluid (CSF) leak:** CSF bathes the brain in fluid. When the tumour is removed, the cerebro-spinal fluid pathways around the brain are opened. CSF can leak out either through the entry wound or into the ear and then down the nose. The risk of this leakage is around 4%. If a drainage tube is placed temporarily in the spinal fluid pathways in your back, the majority of leaks will settle down, but around one in three leaks will require a second operation to repair them.
- **Infection:** The surgical removal of acoustic neuroma is long, and the ear can contain germs that can get inside the head. These can infect the cerebro-spinal fluid and cause either a local wound infection or meningitis. If there is leakage of cerebro-spinal fluid after surgery (see above) this can cause infection. The diagnosis is made from lumbar puncture. The majority of infections can be treated satisfactorily with antibiotics. Very occasionally, there can be serious and long-standing problems from infection inside the head. Your doctor can discuss this with you on request.
- **Problems with balance:** Although this type of tumour is called an acoustic neuroma, they usually arise from the nerve of balance. In many cases, the nerve will have been slowly destroyed by tumour growth. This allows your brain to compensate for the reduction in information it receives about balance by relying on the other ear. The tumour can only be removed by cutting through the nerve of balance in the affected ear. Therefore, if before the operation there was some function in the nerve, you will feel dizzy and unsteady after the operation, until your brain gets used to it. Your balance may be tested before the operation; your surgeon will discuss with you the likelihood of you being unsteady or dizzy after surgery.

In addition, we will need to temporarily displace the cerebellum (the balance part of your brain). There is a very small risk that this part of your brain could be injured during removal of the tumour which might result in permanent unsteadiness.

- **Difficulty swallowing:** In large tumours (generally those more than 3cm), the nerves that control swallowing and supply the vocal cords might be stuck to the tumour. If this is the case, these nerves might not function after the tumour has been removed. This can result in difficulty in swallowing and hoarseness of the voice for a number of months after surgery. Very occasionally, problems of this kind are permanent.
- **Stroke/major neurological impairment:** There is a very small (around 1 %) risk of major neurological impairment following surgery. The greatest risk is if there is any bleeding into the cerebellum or around the brainstem after surgery. A further small risk is of bleeding from the important blood vessels supplying the brainstem and cerebellum, which can become quite stuck to the tumour, particularly if it is of a large size.
- **Headache and neck pain:** So we can gain access to the bone behind the ear during surgery, we need to disturb some of the neck muscles in this area. This will cause some neck pain and stiffness. It is common to experience headache after operations on the head, particularly for the first few days. This will be controlled with painkilling medication, and occasionally by repeated lumbar puncture.
- **Numbness of the facial skin:** With large acoustic neuromas, the trigeminal nerve (the nerve of feeling to the face) can also become stuck to the tumour. If this nerve is damaged during the operation, you can experience numbness in that side of the face. Our greatest concern here is if the surface of the eye becomes numb. If grit or dirt gets into the eye you might not be able to feel it, which can lead to damage and later infection. If you have facial numbness, particularly in combination with facial weakness, you will need to take particular care to ensure that your eye is protected. If this is necessary, you will be taught how to do this.

General Anaesthesia

Before your operation

Before your operation your anaesthetist will visit you in the ward, although occasionally this will happen in a pre-anaesthetic assessment clinic. If you are a day case patient it may not be until just before your operation. The anaesthetist who looks after you on the day of your operation is the one who is responsible for making the final decisions about your anaesthetic. He or she will need to understand about your general health, any medication that you are taking and any past health problems that you have had.

Your anaesthetist will want to know whether or not you are a smoker, whether you have had any abnormal reactions to any of the drugs or if you have any allergies. They will also want to know about your teeth, whether you wear dentures, have caps or a plate. Your anaesthetist needs to know all these things so that he or she can assess how to look after you in this vital period. Your anaesthetist may examine your heart and lungs and may also prescribe medication that you will be given shortly before your operation, the pre-medication or 'pre-med'.

Pre-medication is the name given to medication (drugs) given to you some hours before your operation. These drugs may be given as tablets, injections or liquids (to children). They relax you and may send you to sleep. They are not always given. Do not worry if you do not have a pre-med, your anaesthetist has to take many factors into account in making this decision and will take account of your views on the topic if possible. Do not be worried about your anaesthetic. When your anaesthetist visits you before your operation, this is the time to ask all the questions that you may have, so that you can forget your fears and worries.

Before your operation you will usually be changed into a gown and wheeled to the operating suite into an anaesthetic room. This is an ante-room outside the theatre. The anaesthetist, their assistant and nurses are likely to be present. An intravenous line (drip) may be inserted. Monitoring devices may be attached to you, such as a blood pressure cuff or a pulse oximeter. A pulse oximeter is usually a little red light in a small box, which is taped to your finger. It shows how much oxygen you have in your blood and is one of the vital monitors that an anaesthetist uses during your operation to ensure that you remain in the best of health. You may be given some oxygen to breathe. It is common practice nowadays to allow a parent into the anaesthetic room with children: as the child goes unconscious, the parent will usually be asked to leave.

During your operation

While you are unconscious and unaware your anaesthetist remains with you at all times. He or she monitors your condition and administers the right amount of anaesthetic drugs to maintain you in the correct level of unconsciousness for the period of the surgery. Your anaesthetist is constantly aware of your condition and trained to respond. Your anaesthetist will be monitoring such factors as heart rate, blood pressure, heart rhythm, body temperature and breathing. They will also constantly watch your need for fluid or blood replacement. If you have any other medical conditions, your anaesthetist will know of these from your pre-operative assessment and be able to treat them during surgery.

After your operation

After your operation your anaesthetist continues to monitor your condition carefully. You will probably be transferred to a recovery ward where specially trained nurses, under the direction of anaesthetists, will look after you.

Your anaesthetist and the recovery nurses will ensure that all the anaesthetic effects are reversed and that you are closely monitored as you return to full consciousness. You may be given some oxygen to breathe in the recovery area, and may find that intravenous drips have been inserted whilst you are unconscious in theatre and that these will be replacing fluids that you might require. You will be given medication for any pain that you might feel, and systems, such as Patient Controlled Analgesia (PCA) may be set up to continue pain control on the ward.

You are likely to feel drowsy and sleepy at this stage. Some patients feel sick, others may have a sore throat related to the insertion of the breathing tube during surgery. During this time it is important that you relax as much as you can, breathe deeply, do not be afraid to cough, and do not hesitate to ask the nursing staff for any pain relief, and about any queries you may have. You are likely to have hazy memories of this time and some patients experience vivid dreams. Once you are fully awake you will be returned to the ward, and if you are a day patient will be allowed to go to the waiting area to fully recover before you are accompanied home. Do not expect to feel completely normal immediately!



We are currently working towards a smoke free site. Smoking is only permitted in the designated smoking areas.

For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169

Help with this leaflet:



If you would like this information in another language, large print or audio format, please ask the department to contact Patient Information: 01223 216032 or patient.information@addenbrookes.nhs.uk

Polish

Jeżeli chciałbyś uzyskać te informacje w innym języku, w dużej czcionce lub w formacie audio, poproś pracownika oddziału o kontakt z biurem Informacji Pacjenta (Patient Information) pod numerem telefonu: 01223 216032 lub pod adresem patient.information@addenbrookes.nhs.uk

Portuguese

Se precisar desta informação noutra língua, em impressão de letras grandes ou formato áudio, por favor peça ao departamento que contacte a secção de Informação aos Doentes (Patient Information) pelo telefone 01223 216032 ou através do e-mail patient.information@addenbrookes.nhs.uk

Arabic

إذا كنت تود الحصول على هذه المعلومات بلغة أخرى، بالأحرف الكبيرة أو بشكل شريط صوتي، يمكنك أن تطلب من القسم الاتصال بمعلومات المريض على الرقم: 01223216032 أو عبر البريد الإلكتروني: patient.information@addenbrookes.nhs.uk

Cantonese

如您需以另一語言版本、特大字體或錄音形式索取本資料，請要求部門聯絡病人諮詢服務：電話 01223 216032，電郵地址 patient.information@addenbrookes.nhs.uk

Turkish

Eğer bu bilgileri başka bir dilde veya büyük baskılı veya sesli olarak isterseniz, lütfen bulunduğunuz bölümdeki görevlilere söyleyin Hasta Bilgilendirme servisini arasinlar: 01223 216032 veya patient.information@addenbrookes.nhs.uk

Urdu

اگر آپ کو یہ معلومات کسی دیگر زبان میں، بڑے الفاظ میں یا آڈیو طریقہ سے درکار ہوں تو برائے مہربانی اس شعبہ سے پیشمنت انفارمیشن سے ذیل کے ذریعہ رابطہ کرنے کی درخواست کریں: 01223 216032 یا patient.information@addenbrookes.nhs.uk

Bengali

আপনি যদি এই তথ্য অন্য কোন ভাষায়, বড় অক্ষরে বা অডিও রেকর্ডিং পোতে চান তাহলে 'প্যাশেন্ট ইনফরমেশন' এর সঙ্গে 01223 216032 নম্বরে ফোন করে বা patient.information@addenbrookes.nhs.uk ঠিকানায় ই-মেইল করে যোগাযোগ করার জন্য ডিপার্টমেন্টটিতে অনুরোধ জানান।

Document history

| | |
|-----------------------|--|
| Authors | Jean Hatchell and Mr Robert Macfarlane |
| Department | Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ www.cuh.org.uk |
| Contact number | 01223 245151 |
| Published/Review date | June 2010/June 2013 (minor amendment made October 2010) |
| File name | Neuro_acoustic_neuroma.doc |
| Version number/Ref | 3/CF083 |

Consent Form (Adults)

Patient agreement to
investigation or treatment

| |
|--|
| <p>For staff use only: Surname: First names: Date of birth: Hospital no: Male/Female: (Use hospital identification label)</p> |
|--|

Responsible health professional

.....

Special requirements
(For example other language/other communication method)

Name of proposed operation or course of treatment

**Surgical removal of acoustic neuroma and harvesting of fat
and fascia from the thigh** **Side (left/right)**

Statement of health professional

(To be filled in by a health professional with an **appropriate knowledge of the proposed procedure**, as specified in the Hospital's consent policy)

I have explained the procedure to the patient. In particular, I have explained:

- The intended benefits of the procedure: to remove the tumour with 1% risk of recurrence.

Other, please state:

- Any serious or frequently occurring risks from the procedures including those specific to the patient: 1% risk of death/severe permanent neurodisability, deafness in effected ear, facial weakness/paralysis, spinal fluid leak, facial numbness, hoarseness/swallowing problems, infection, meningitis. Bleeding, unsteadiness, headache, double vision, tinnitus, dry eye.

Other, please state:

- Any extra procedures that might become necessary during the procedure:

Blood transfusion Other procedure (please specify)

I have discussed what the treatment / procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

- The following information leaflet has been provided: Surgical removal of acoustic neuroma

Version/Date/Ref: 2/June 2010/CFPI083

This procedure will involve:

General and/or regional anaesthesia Local anaesthesia Sedation

Health professional's signature:Date:

Name (PRINT): Job title:

Contact details (if patient wishes to discuss details later)

I have offered the patient information about the procedure but s/he has declined information.

Statement of the interpreter (if appropriate)

I have interpreted the information to the best of my ability, and in a way in which I believe s/he can understand:

Interpreter's signature..... Date:

Name (PRINT):.....

Important notes: (tick if applicable)

- The patient has withdrawn consent (ask patient to sign/date here)
- See also advance directive/living will (eg Jehovah's Witness form)

Copy accepted by patient: yes / no (please circle)

| |
|--|
| For staff use only: |
| Surname: |
| First names: |
| Date of birth: |
| Hospital no: |
| Male/Female: |
| (Use hospital identification label) |

Statement of patient

Please read this form carefully. If your treatment has been planned in advance, you should already have your own copy, which describes the benefits and risks of the proposed treatment. If not, you will be offered a copy now. Do ask if you have any further questions. The staff at Addenbrooke's are here to help you. **You have the right to change your mind at any time before the procedure is undertaken, including after you have signed this form.**

Training doctors and other health professionals is essential to the continuation of the Health Service and improving the quality of care. Your treatment may provide an important opportunity for such training, where necessary under the careful supervision of a senior doctor. You may, however, decline to be involved in the formal training of medical and other students without this adversely affecting your care and treatment.

Please read the following:

I understand that I will have the opportunity to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of my situation prevents this. (This only applies to patients having general or regional anaesthesia.)

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person undertaking the procedure will, however, have appropriate experience.

I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health.

I have been told about additional procedures which may become necessary during my treatment. I have listed below any procedures that **I do not wish, without further discussion, to be carried out.**

.....
I understand that any tissue (including blood) removed as part of the procedure or treatment will be anonymised and may be used for teaching or quality control, and stored or disposed of in a manner regulated by appropriate, ethical, legal and professional standards.

I understand that all research will be approved by a research ethics committee and undertaken in accordance with appropriate ethical, legal and professional standards.

I understand that the research may be conducted within a hospital, university, not for profit organisation or a company laboratory.

Please tick boxes to indicate you either agree/disagree to the three points below. **Yes** **No**

I agree that tissue (including up to 20ml blood that would not otherwise be taken) not needed for my own diagnosis or treatment can be used for **research which may include genetic research.** **If you wish** to withdraw your consent for the use of your tissue (including blood) for research, please contact the Patient Advice and Liaison Service at Addenbrooke's Hospital.

I agree to the use of photography for the purpose of diagnosis and treatment.

I agree to anonymised photographs being used for medical teaching.

I confirm that the risks, benefits and alternatives of this procedure have been discussed with me and I have read and understood the above and agree to the procedure (or course of treatment) on this form.

Patient's signature: **Date:**

Name (PRINT):

If the patient is unable to sign but has indicated his/her consent, a witness should sign below. Young people may also like a parent to sign here (see guidance notes).

Witness' signature: **Date:**

Name (PRINT):

Confirmation of consent (to be completed by a health professional when the patient is admitted for the procedure, if the patient has signed the form in advance)

On behalf of the team treating the patient, I have confirmed with the patient that s/he has no further questions and wishes the procedure to go ahead.

Signature Date:

Name (PRINT): Job Title: