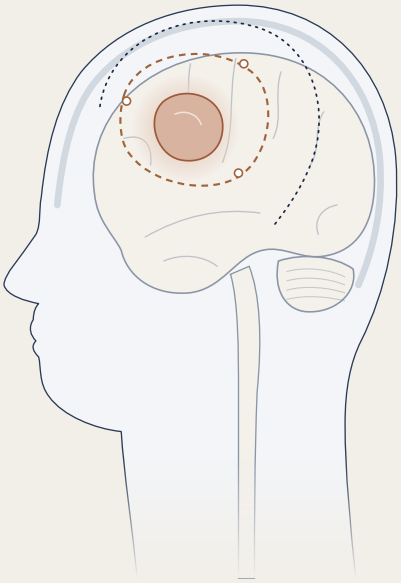
Professor Jason John Labuschagne
PAEDIATRIC AND ADULT NEUROSURGEON

ADULT NEUROSURGERY

Craniotomy for Brain Tumour

Patient information and consent



This booklet explains what a brain tumour is, how a craniotomy is performed, the alternatives, the risks and what recovery usually involves. Please read it with your family, note any questions, and bring it to your consultation. You will be asked to sign the consent section only once you understand the proposed operation and are satisfied that your questions have been answered.

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PATIENT DETAILS OR HOSPITAL LABEL

Patient name

Date of birth

ID / file no.

Procedure date

Version 1.0 · October 2026

Netcare Unitas Hospital
Room 403, Centurion

Nelson Mandela Children's Hospital
Private Suites, First Floor, 6 Jubilee Road, Parktown North

012 664 6026
HPCSA MP 0530077

01 General information

What is a brain tumour?

A brain tumour is an abnormal growth of cells within or around the brain. Some tumours arise from the brain itself, such as gliomas; some arise from the membranes that cover the brain, such as meningiomas, which are usually benign; and some have spread to the brain from a cancer elsewhere in the body (metastases). A tumour may cause symptoms by pressing on or irritating the surrounding brain, and by causing swelling (oedema).

Symptoms depend on where the tumour lies and how large it is. They include headaches, seizures, weakness or numbness, difficulty with speech, vision or balance, changes in memory or personality, and drowsiness. Before surgery you will usually have had an MRI and sometimes a CT scan, and you may be taking steroid tablets to reduce swelling and medication to prevent seizures.

Why is an operation recommended?

- **To obtain a diagnosis.** Examining the tumour under the microscope tells us exactly what it is, which guides all further treatment.
- **To relieve pressure** on the brain and improve, or prevent worsening of, your symptoms.
- **To remove as much tumour as is safely possible**, which for many tumours improves the results of radiotherapy, chemotherapy or radiosurgery.
- Occasionally a scan appearance could represent a tumour or an infection, and surgery is needed to tell the difference.

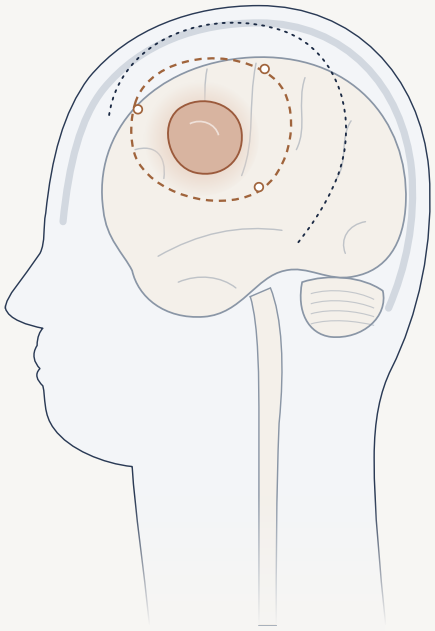
What is a craniotomy?

A craniotomy is an operation in which a window of bone is temporarily lifted from the skull to allow access to the brain. A scalp flap is opened first and the lining of the brain (the dura) is opened afterwards. At the end of the operation everything is put back together and the bone is fixed in place with small titanium plates and screws.

How is the operation performed?

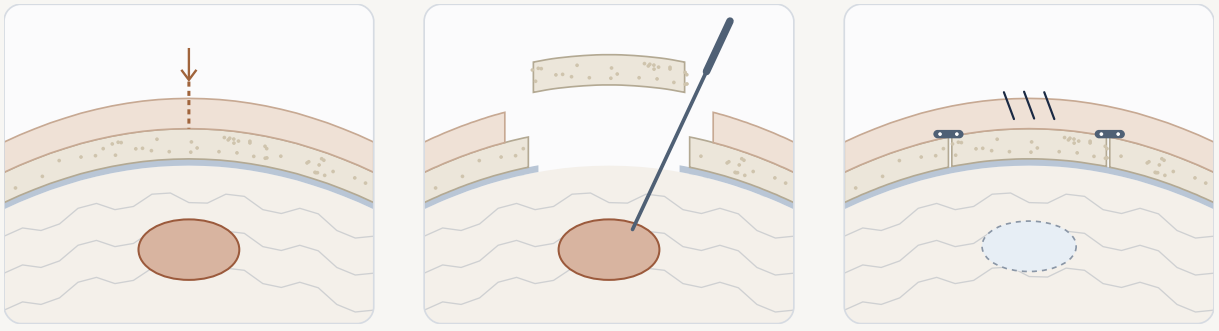
You will be given a general anaesthetic. For some tumours that lie close to areas controlling speech or movement, part of the operation may be performed with you awake and comfortable so that these functions can be tested; this will be discussed with you in detail if it applies. Your head is held still in a padded frame, a narrow strip of hair is clipped along the planned incision and the skin is cleaned with antiseptic.

A computer guidance system (neuronavigation), linked to your scans, is used to plan the incision and to locate the tumour precisely. The bone flap is lifted, the dura is opened and the tumour is removed using an operating microscope and fine instruments. Ultrasound, fluorescent dye and monitoring of the nerve pathways may be used where they help to make surgery safer. If part of the tumour is stuck to an important blood vessel, nerve or area of brain, a small piece may deliberately be left behind to avoid causing a stroke or new disability.



The craniotomy: the incision lies behind the hairline where possible (dotted line) and a window of bone (dashed line) is lifted over the tumour.

Once the tumour has been removed and all bleeding has been stopped, the dura is closed, sometimes with a patch of your own tissue or a synthetic graft, the bone is replaced and the scalp is closed with stitches or staples. The tissue removed is sent to the laboratory for detailed examination.



Left: the layers of the scalp, skull, dura and brain above the tumour. Centre: the bone window is lifted and the tumour removed. Right: the bone is replaced and secured with small plates.

02 Alternatives to surgery

The best treatment depends on the type, size and position of the tumour, your symptoms and your general health. Your case may also be discussed at a multidisciplinary neuro-oncology meeting. Alternatives that may be considered include:

- **Observation with regular scans**, for small tumours that are not causing symptoms and appear slow-growing, such as many meningiomas.
- **Biopsy only**, where a small sample is taken through a small opening, usually with image guidance, when removal would be unsafe or unnecessary.
- **Stereotactic radiosurgery (Gamma Knife)**, a highly focused, single-session form of radiation that can treat small tumours, metastases and some meningiomas without an incision.
- **Radiotherapy and/or chemotherapy**, alone or after a biopsy, for tumours that respond well to these treatments.
- **Medication** such as steroids and anti-seizure drugs, which control symptoms but do not treat the tumour itself.
- **Supportive (palliative) care**, focused on comfort and quality of life, if active treatment is not in your best interests.

Without treatment, most tumours that are causing symptoms will continue to grow, which can lead to increasing disability and may become life-threatening.

03 What to expect during and following surgery

Before admission

- Tell us about any bleeding or clotting problems, recent illness, allergies and all medicines, including herbal remedies.
- Blood-thinning medicines (for example warfarin, aspirin, clopidogrel or newer anticoagulants) and anti-inflammatories usually need to be stopped before surgery. Please follow the specific instructions you are given and do not stop any medication without advice.
- Continue your steroid and anti-seizure tablets as prescribed unless told otherwise.
- You will usually be admitted on the day of surgery or the day before, and must not eat from midnight before surgery, or as instructed by the anaesthetist.

In hospital

You wake up in the recovery room and are then transferred to the ward, or to a high-care or intensive care unit for the first night. Nurses will regularly check your pulse, blood pressure, limb strength, pupils and level of alertness to detect any change early. During the first night you will be woken for these checks.

- Operations on the head are usually less painful than people expect. You will have regular pain relief and anti-nausea medicine.
- A urinary catheter may have been inserted in theatre; it is usually removed within a day or so, along with the drip.
- You will be encouraged to sit out of bed and walk on the day after surgery, and gradually over the next few days you will be able to get around as normal.

- A scan is usually performed after surgery to assess the extent of tumour removal.
- Swelling and bruising of the forehead and around the eye on the side of the operation are common and settle over a week or so.
- Most patients go home after about five to seven days, once comfortable and walking safely. Some go home sooner. If recovery from any weakness is slower, a period of rehabilitation may be arranged.

04 Risks and complications

All surgery carries risk, and brain surgery must be considered carefully. Most patients do not experience serious complications, but it is important that you understand what can happen. The list below is not exhaustive; Professor Labuschagne will discuss the risks that apply particularly to your tumour and its position. The risks of the anaesthetic will be explained separately by the anaesthetist.

Common

●●●

- Headache, nausea and tiredness, which improve over the following weeks.
- Swelling and bruising of the face and eyelids, and numbness or tingling of the scalp around the incision.
- Discomfort or stiffness when chewing, if the jaw muscle was lifted during the approach.
- A temporary worsening of existing symptoms, such as weakness or speech difficulty, because of swelling of the brain after surgery.
- Side effects of steroids, such as raised blood sugar, increased appetite, poor sleep and mood changes.

Less common

●●○

- Seizures (fits), which may occur even in people who have never had one.
- Infection of the wound, or of the bone flap or brain, treated with antibiotics and sometimes further surgery.
- Leakage of cerebrospinal fluid from the wound, or a collection of fluid under the scalp.
- Blood clots in the legs (deep vein thrombosis), which can travel to the lungs.
- Incomplete removal of the tumour, or the tumour growing back in the future.
- Chest or urine infection, or a low blood sodium level, which can cause confusion.

Rare but serious

●○○

- Bleeding at the operation site requiring a return to theatre.
- Stroke, or permanent new weakness, numbness, speech, vision, memory or personality changes, depending on the tumour's position.
- A bone flap infection requiring the bone to be removed and replaced at a later operation.
- Meningitis, or a build-up of fluid in the brain (hydrocephalus) needing a drain or shunt.
- Heart attack, pneumonia or other complications not directly related to the surgery.
- Coma or death. These are rare.

RISKS PARTICULAR TO MY TUMOUR AND ITS POSITION (TO BE COMPLETED BY PROFESSOR LABUSCHAGNE)

Will the tumour come back?

This depends on the type of tumour and what is found at surgery. If a benign tumour and its attachments are removed completely, the chance of recurrence is small. If any tumour is left behind because it is stuck to something important, or if the tumour is of a more aggressive type, it can return. Radiotherapy, radiosurgery or chemotherapy may be recommended to reduce this risk, and you will be followed up with regular scans.

05 After the operation: what is normal

The following are common after a craniotomy and do not usually mean that anything is wrong:

- **Headaches**, present to some degree on most days for several weeks. They change in character as the bone heals and the scalp nerves recover, and usually respond to paracetamol.
- **Numbness** around the incision, because small skin nerves are divided. It usually shrinks over months but may not disappear completely.
- **Clicking or fluid sensations** under the scalp, and occasional sharp, shooting pains around the wound as it heals and starts to itch.
- **Poor concentration and memory** for weeks to months. You may need to re-read things to retain them.
- **Emotional changes**, such as tearfulness, anxiety, low mood and sensitivity to noise or crowds. Please tell us if these are troubling you; we can arrange support.
- **Tiredness**, very common; a rest in the afternoon is normal. Gentle, regular walking helps energy to return.

It commonly takes up to three months to feel well again. Rest during the day, eat healthily, keep to a regular sleep routine and keep alcohol to a minimum.

06 Recovery

- **Wound care.** Keep the wound clean and dry. Stitches or staples are usually removed about 5 to 10 days after surgery. You may gently wash your hair with a mild shampoo from around two weeks after surgery; avoid hair dyes and perms for a couple of months.
- **Medication.** Your steroid dose will usually be reduced gradually. Never stop anti-seizure medication suddenly. Make sure you have enough of every medicine until your next review.

- **Driving.** You may not drive for at least three months after a craniotomy, and possibly longer if you have had a seizure or have a problem with vision. Driving against medical advice may also invalidate your insurance.
- **Work and activity.** Return to work is gradual and depends on your recovery and the nature of your job; this will be discussed at your review. Avoid heavy lifting early on, and do not climb ladders, swim alone or put yourself where a seizure could cause harm.
- **Travel.** Avoid flying for around one month after surgery.
- **Sport.** Avoid contact sports such as rugby or boxing for at least 12 months.
- **Results and further treatment.** The final laboratory result usually takes some days to weeks. It will be discussed with you, often after review at the multidisciplinary meeting, together with any recommended radiotherapy, radiosurgery, chemotherapy or oncology referral.
- **Follow-up.** You will be seen in the rooms about four to six weeks after surgery, and then with regular scans as appropriate.

07 When to contact the rooms

Please contact the rooms promptly if you notice any of the following. If symptoms are severe or sudden, go directly to the nearest emergency department.

- Increasing headache not relieved by your usual pain relief
- Increasing drowsiness or confusion
- A seizure (fit), or a fainting spell
- New or worsening weakness, numbness or difficulty walking
- New difficulty speaking or understanding
- New problems with vision
- Persistent nausea or vomiting
- Fever, chills or a stiff neck
- Redness, swelling, discharge or clear fluid leaking from the wound
- Calf pain or swelling, chest pain or shortness of breath

IN AN EMERGENCY

If you have a seizure that does not stop, sudden severe headache, collapse, chest pain or difficulty breathing, call an ambulance or go to the nearest emergency department immediately. Tell the staff that you have recently had brain surgery and ask them to contact Professor Labuschagne.

THE ROOMS · OFFICE HOURS

012 664 6026

Elective appointments and queries, office hours, for both Netcare Unitas Hospital and Nelson Mandela Children's Hospital

AFTER HOURS

After hours, call the hospital switchboard and ask for Professor Labuschagne: Netcare Unitas Hospital 012 677 8000 · Nelson Mandela Children's Hospital 010 133 0600

Emergency services: Netcare 911 · 082 911 | National ambulance · 10177

NETCARE UNITAS HOSPITAL

Room 403, Netcare Unitas Hospital
866 Clifton Avenue, Lyttelton, Centurion

NELSON MANDELA CHILDREN'S HOSPITAL

Private Suites, First Floor
6 Jubilee Road, Parktown North, Johannesburg

08 Consent

Informed consent is a conversation, not simply a signature. The National Health Act 61 of 2003 and the ethical guidelines of the Health Professions Council of South Africa (HPCSA) give every patient the right to be told, in a language they understand, about their condition, the treatment options available, the benefits, risks, costs and consequences of each, and the right to refuse treatment. You may withdraw your consent at any time before the operation.

If you are unable to give consent yourself, the National Health Act (section 7) allows consent to be given by a person you have authorised in writing or, failing that, by your spouse or partner, parent, grandparent, adult child or sibling, in that order.

THE PROCEDURE

Procedure Craniotomy for Brain Tumour Side / site _____

Condition, in my own words _____

SPECIFIC PERMISSIONS

Blood transfusion, if needed during or after surgery	☐ I agree	☐ I do not agree
Tissue or fluid removed may be sent for laboratory examination	☐ I agree	☐ I do not agree
Anonymised images or results may be used for teaching and research (optional)	☐ Yes	☐ No

Questions I have discussed

Please write down any questions you asked and any particular concerns that were discussed.

My acknowledgement

Please tick each statement.

- ☐ I have read this document, or it has been read to me, and I understand it.
- ☐ Professor Labuschagne has explained my condition, the proposed procedure, its expected benefits, and the alternatives, including the option of no treatment.
- ☐ The risks and possible complications, including those particular to me, have been explained in language I understand.
- ☐ I have had the opportunity to ask questions and raise concerns, and these have been answered to my satisfaction.
- ☐ I understand that no guarantee has been given about the outcome, and that the procedure may not improve, and could worsen, the condition.
- ☐ I understand that if an unexpected finding or a life-threatening event occurs during the procedure, the surgeon may carry out further treatment that is necessary to protect life or prevent serious harm.
- ☐ I understand that the anaesthetic will be explained by the anaesthetist, who will obtain consent for it separately.

- [ ] I understand that my medical scheme may not cover the full cost of treatment, that I am responsible for any shortfall, that separate accounts will be rendered by the hospital and the anaesthetist, and that a quotation is available on request.
- [ ] On the basis of the above, I request that I undergo the procedure described.

PATIENT

Full name _____ ID number _____

Signature _____ Date and time _____

If the patient is unable to consent: person consenting on the patient's behalf (National Health Act, section 7)

Full name _____ Relationship _____

Signature _____ Date and time _____

SURGEON'S STATEMENT

I have explained the patient's condition, the need for treatment, the proposed procedure and its expected benefits, the material risks including those specific to this patient, the reasonable alternatives including no treatment, and the likely consequences if those risks occur. I have offered the opportunity to ask questions and have answered them as fully as possible.

Surgeon Professor Jason John Labuschagne HPCSA no. MP 0530077

Signature _____ Date and time _____

INTERPRETER (IF USED)

I have accurately interpreted the contents of this document and the discussion between the doctor and the patient.

Full name _____ Language _____

Signature _____ Date _____

WITNESS

Full name _____ Capacity _____

Signature _____ Date _____

A copy of this signed document will be kept in the medical record and a copy offered to the patient. Personal information is processed in accordance with the Protection of Personal Information Act 4 of 2013. · Professor Jason John Labuschagne · HPCSA MP 0530077 · Version 1.0 · October 2026