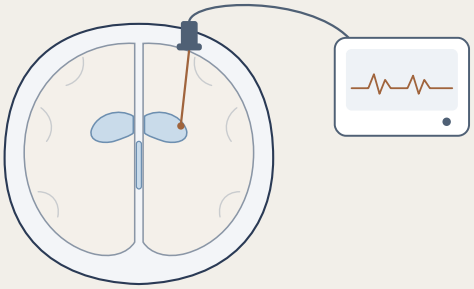
Professor Jason John Labuschagne
PAEDIATRIC AND ADULT NEUROSURGEON

PAEDIATRIC NEUROSURGERY

Intracranial Pressure Monitoring

Information and consent for parents and guardians



This booklet explains why the pressure inside your child's head may need to be measured and how this is done. As monitoring is sometimes needed urgently, please ask any questions at any time.

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PATIENT DETAILS OR HOSPITAL LABEL

Child's name

Date of birth

Parent / guardian

Hospital / file no.

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Netcare Unitas Hospital
Room 403, Centurion

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

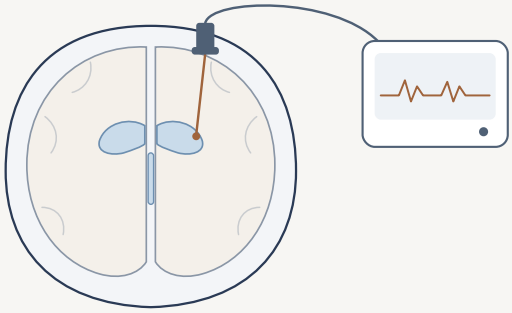
012 664 6026
HPCSA MP 0530077

01 General information

What is intracranial pressure monitoring?

The skull is a rigid box. If the brain swells, or if there is extra fluid or blood inside the head, the pressure rises and can reduce the blood supply to the brain. Measuring this pressure directly allows doctors to treat it early and accurately, and helps with decisions about further treatment.

Monitoring is used, for example, after a severe head injury, in some children with hydrocephalus or a suspected shunt problem where the scans are unclear, and in some children with craniosynostosis to find out whether pressure is raised.



A fine pressure sensor is placed through a small opening in the skull into the brain tissue and connected to a bedside monitor.

How is it done?

Under a general anaesthetic or deep sedation, a small area of hair is clipped and a small incision is made, usually on the front of the head on the non-dominant side. A small hole is drilled in the skull and a fine wire with a sensor at its tip is passed a short distance into the brain tissue, held in place by a small bolt or tunnelled under the skin. The wire is connected to a monitor that shows the pressure continuously. Sometimes the pressure is measured through an external ventricular drain instead.

Monitoring usually continues for one to several days. The wire is removed on the ward or in the intensive care unit, usually without needing another anaesthetic, and the small wound is closed.

02 Alternatives to surgery

- **Clinical observation and repeated scans**, which give indirect information about pressure but can miss important changes.
- **Eye examination** for swelling of the optic nerve, or ultrasound of the optic nerve sheath, which can suggest raised pressure but are less precise.
- **A lumbar puncture**, in selected children where it is safe.
- **An external ventricular drain**, which can both measure pressure and drain fluid.
- **No monitoring**, accepting less precise information on which to base treatment decisions.

03 What to expect during and following surgery

Before the operation

- Please tell us about any allergies, bleeding tendencies, medicines (including herbal remedies) and any recent cough, cold, fever or vomiting.
- The anaesthetist will see you before surgery and give clear instructions about when your child must stop eating and drinking.
- Bring a favourite toy, blanket or dummy; familiar things help enormously.
- Where the hospital allows, one parent may accompany their child into the anaesthetic room until they are asleep.

In hospital after the operation

Your child wakes up in the recovery room and returns to the ward once settled. Some children spend the first night in a high-care or paediatric intensive care unit (PICU) for closer monitoring. Nurses will regularly check your child's level of alertness, pupils, breathing, heart rate, temperature and the wound, and may wake your child during the night to do this. This is routine and not a cause for worry.

- **Pain relief** is given regularly, first through the drip and then by mouth.
- **Eating and drinking** usually restart within hours, starting with small amounts.
- Your child is usually cared for in the paediatric intensive care unit or a high-care ward while monitored.
- Please do not touch the wire or the cable; the nurses will help you hold and comfort your child safely.
- **Going home.** The length of stay depends on the underlying condition rather than the monitor itself.

04 Risks and complications

Every operation carries some risk. Most children recover well, but it is important that you understand what can go wrong so that you can make an informed decision and recognise problems early. The risks are listed according to how often they occur; Professor Labuschagne will also discuss any risks particular to your child. The risks of the anaesthetic will be explained separately by the paediatric anaesthetist.

Common

●●●

- Mild discomfort at the insertion site.
- Inaccurate readings or loss of signal, which may require the sensor to be checked or replaced.

Less common

●●○

- Infection of the wound or, more rarely, deeper infection.
- Leakage of fluid from the insertion site.
- Accidental displacement of the wire.

Rare but serious

●○○

- Bleeding in the brain along the path of the sensor.
- Injury to the brain tissue causing new weakness or seizures.
- A fragment of the sensor remaining in the brain if it breaks on removal.
- Serious complications of anaesthesia, or death. These are very rare.

05 After the operation: what is normal

- A small dressing over the insertion site.
- Your child may be sedated for part of the monitoring period, depending on the reason it is needed.
- A tiny scar that is usually hidden by hair.

06 Recovery

- Keep the small wound clean and dry until it has healed.
- Recovery from the monitor itself is quick; further treatment depends on the results and the underlying condition.
- Professor Labuschagne will discuss the results and the plan with you.

07 When to contact the rooms

After discharge, please contact the rooms the same day, or go directly to the nearest emergency department, if you notice:

- Headache that is severe, persistent or getting worse
- Repeated vomiting
- Unusual sleepiness, difficulty waking, marked irritability or poor feeding
- A tense, bulging fontanelle (in babies)
- A seizure (fit)
- Fever of 38 °C or higher
- Redness, swelling, discharge or clear fluid leaking from the wound
- New weakness, clumsiness or difficulty walking
- A squint, double vision or other change in vision
- Any change in behaviour that worries you

IN AN EMERGENCY

If your child is very drowsy, cannot be woken, is having a seizure that does not stop, or you are seriously worried, call an ambulance or go to the nearest emergency department immediately. Tell the staff about your child's operation and ask them to contact Professor Labuschagne. You know your child best: if something does not feel right, please call.

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.

For a child, consent is given by a parent or legal guardian. In terms of the Children's Act 38 of 2005 (section 129), a child aged 12 or older who is mature enough to understand the benefits, risks and implications of an operation may consent to it, provided that he or she is assisted by a parent or guardian. Younger children are encouraged to take part in the discussion and give their agreement where they can.

THE PROCEDURE

Procedure Insertion of intracranial pressure monitor Side / site _____

Condition, in the parent's 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 child's 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 my child, 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 my child undergo the procedure described.

PARENT OR LEGAL GUARDIAN

Full name _____ Relationship to child _____

Signature _____ Date and time _____

CHILD'S AGREEMENT (WHERE APPROPRIATE)

I have been told about my operation, I have been able to ask questions, and I agree to have it.

Child's name _____ Age _____

Signature _____ Date _____

SURGEON'S STATEMENT

I have explained the child's condition, the need for treatment, the proposed procedure and its expected benefits, the material risks including those specific to this child, 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 parent or guardian.

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 parent or guardian. 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