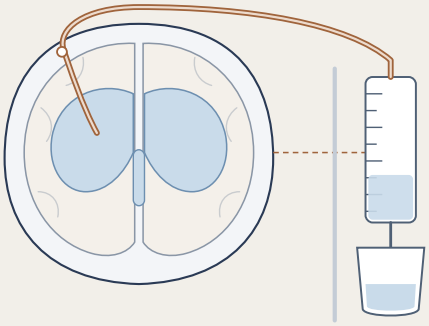
Professor Jason John Labuschagne
PAEDIATRIC AND ADULT NEUROSURGEON

PAEDIATRIC NEUROSURGERY

External Ventricular Drain

Information and consent for parents and guardians



This booklet explains what an external ventricular drain (EVD) is, why it may be needed and how it is cared for. Because an EVD is often needed urgently, you may receive this booklet after the decision to operate; 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.

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

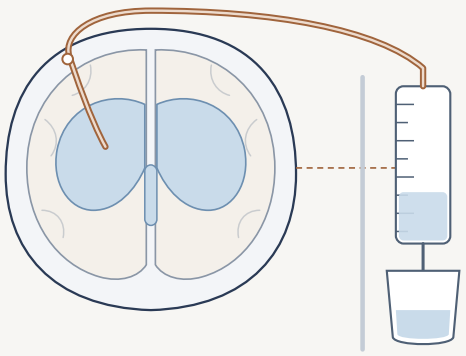
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HPCSA MP 0530077

01 General information

What is an EVD?

An external ventricular drain is a thin, soft tube placed into one of the fluid-filled spaces (ventricles) of the brain. The tube is brought out through the scalp and connected to a closed collection system beside the bed. It allows cerebrospinal fluid (CSF) to drain in a controlled way, relieves raised pressure and allows the pressure inside the head to be measured.

An EVD is a temporary treatment. It is used, for example, when hydrocephalus develops suddenly, after bleeding into the ventricles, when a shunt is infected and has been removed, before or after surgery for a brain tumour, or after a head injury.



The drain passes from the ventricle through a small hole in the skull and out through the skin to a measuring chamber, which is set at a level prescribed by the neurosurgeon.

How is it inserted?

The drain is usually placed under a general anaesthetic in theatre, or occasionally in the intensive care unit. A small area of hair is clipped, a small incision is made and a small hole is drilled in the skull. The catheter is passed into the ventricle and then tunnelled under the scalp for a short distance before it comes out, to reduce the risk of infection. It is secured with stitches and covered with a sterile dressing.

02 Alternatives to surgery

- **Lumbar drain or lumbar punctures**, in some types of hydrocephalus where the fluid pathways are open.
- **A ventricular reservoir** placed under the scalp, from which fluid can be removed with a needle.
- **A permanent shunt or an ETV**, if the situation is stable and long-term treatment is clearly needed.
- **Medication** may help briefly but does not drain the fluid.
- **No treatment.** When pressure is rising, delay can cause brain injury or death.

03 What to expect during and following surgery

Your child will be cared for in the paediatric intensive care unit or a high-care ward with nurses experienced in managing drains.

- The height of the drainage chamber is set by the neurosurgeon and must not be changed. The drain is clamped temporarily when your child is moved, sat up or lifted. Please always ask a nurse before moving your child.

- The amount and colour of the fluid are checked regularly, and samples are sent to the laboratory to look for infection.
- Your child may need to stay in bed, and younger children may need gentle restraint or sedation to stop them pulling at the tube.
- When the drain is no longer needed it is usually clamped for a trial period. If your child remains well, it is removed on the ward and the small wound is stitched. If not, a long-term treatment such as a shunt or ETV is planned.
- The drain usually stays in for days to a couple of weeks, depending on the reason it was placed.

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

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- Discomfort at the drain site.
- **Blockage of the drain**, which may need flushing or replacement.
- Accidental dislodgement, especially in active young children.

Less common

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- **Infection** of the fluid (ventriculitis), which becomes more likely the longer the drain is in. It is treated with antibiotics and may require the drain to be changed.
- Over-drainage, if the chamber is too low or the drain is unclamped during movement, which can cause headache, vomiting or bleeding.
- Leakage of fluid around the drain.
- The catheter not reaching the ventricle, needing repositioning.

Rare but serious

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- Bleeding into the brain or ventricles along the catheter.
- Injury to the brain causing weakness or other new problems.
- Severe infection that may cause lasting harm.
- Serious complications of anaesthesia, or death. These are very rare.

05 After the operation: what is normal

- Your child may seem irritable or uncomfortable with the tube and dressing; this is normal.
- The fluid is often blood-stained at first and clears over time.
- Small hair clipping and stitches at the drain site, which heal quickly once the drain is removed.

06 Recovery

- After removal, the wound is checked for leakage. Keep it clean and dry until healed.
- Most children recover from the drain itself very quickly; overall recovery depends on the condition that made the drain necessary.
- Follow-up will be arranged according to the underlying condition.

07 When to contact the rooms

While in hospital, please tell the nurse immediately if your child becomes drowsy, vomits, or if the dressing becomes wet or the tube appears disconnected. 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 external ventricular drain 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