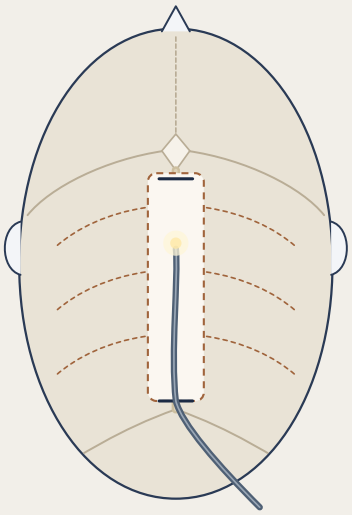
Professor Jason John Labuschagne
PAEDIATRIC AND ADULT NEUROSURGEON

PAEDIATRIC NEUROSURGERY

Craniosynostosis: Flexible Endoscope-Assisted Suture Release (FEASR)

Information and consent for parents and guardians



This booklet explains sagittal craniosynostosis and the minimally invasive operation, Flexible Endoscope-Assisted Suture Release (FEASR), that Professor Labuschagne developed and has published on. It also describes open vault remodelling, the main alternative. Please read it in your own time; you will be asked to sign only once all your questions have been answered.

1	General information	2
2	Alternatives to surgery	3
3	What to expect during and following surgery	4
4	Risks and complications	4
5	After the operation: what is normal	5
6	Recovery	5
7	When to contact the rooms	6
8	Consent	7

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

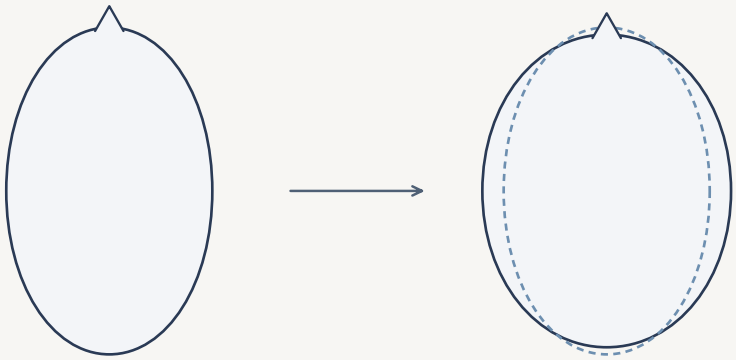
012 664 6026
HPCSA MP 0530077

01 General information

What is craniosynostosis?

A baby's skull is made of several plates of bone joined by flexible seams called sutures. The sutures allow the head to grow as the brain grows during the first years of life. Craniosynostosis means that one or more sutures have fused too early. The skull cannot grow across the fused suture, so it grows more in other directions, producing a characteristic head shape.

The most common type is **sagittal synostosis**, where the suture running from front to back along the top of the head fuses. The head becomes long and narrow, often with a prominent forehead and back of the head. Most babies have no other problems, but if untreated the shape usually persists and in some children the pressure inside the head can rise as the brain grows.

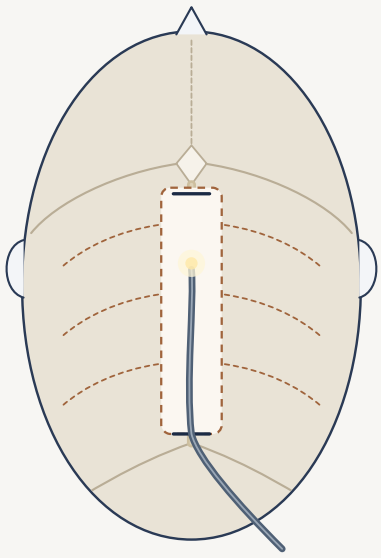


Left: the long, narrow head shape of sagittal synostosis, seen from above. Right: a rounder shape after treatment (dashed line shows the original outline).

What is FEASR?

Flexible Endoscope-Assisted Suture Release is a minimally invasive technique for selected babies with isolated sagittal synostosis, ideally performed in the first months of life, generally before six months of age. Under a general anaesthetic, two small incisions are made on the top of the head, one towards the front and one towards the back. Using a flexible endoscope to see beneath the bone and protect the underlying structures, the fused suture is removed as a wide strip, and small cuts (barrel-stave osteotomies) are made in the side walls of the skull to allow them to expand. The incisions are closed with dissolvable stitches.

Because a baby's brain grows very rapidly at this age, the released skull gradually widens and the head shape improves over the following months. A custom moulding helmet may be recommended after surgery to guide this growth; if so, it is fitted by an orthotist and worn for most of the day for several months.



FEASR: through two small incisions (dark lines), a strip of bone over the fused suture is released with the help of a flexible endoscope, and the side walls are gently freed with small cuts (dotted lines).

In Professor Labuschagne's published series of 18 babies, the average age at surgery was 3.4 months, operations took on average 75 minutes, blood loss was 5 to 30 ml, the average hospital stay was 2.6 days, no operation needed to be converted to open surgery and no child required a further operation during follow-up.

02 Alternatives to surgery

- **Open cranial vault remodelling.** A larger operation, usually at an older age (often six to twelve months or later), in which the skull bones are removed, reshaped and fixed in a new position through a zig-zag incision across the top of the head. The shape is corrected immediately, but blood loss, transfusion, operation time and hospital stay are greater. It is the main option when a baby is too old for minimally invasive surgery.
- **Other minimally invasive techniques**, such as endoscopic strip craniectomy with a rigid endoscope followed by helmet therapy, or spring-assisted cranioplasty, which requires a second operation to remove the springs.
- **Observation.** If the shape is mild and there are no signs of raised pressure, some families choose regular monitoring. The head shape will not correct itself, and pressure problems, although uncommon, can develop later.
- **Helmet therapy alone** does not treat a fused suture.

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.
- A blood test and a blood group check are done before surgery in case a transfusion is needed.

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.
- **Swelling** of the forehead and eyelids is common on the first and second days and may briefly close the eyes; it settles within a few days.
- **Blood count.** A blood test is usually repeated the day after surgery.
- **Going home.** Most babies go home after two to three days.

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

- Swelling and bruising of the scalp, forehead and eyelids.
- Mild fever, irritability and reduced feeding for a day or two.
- A soft area along the top of the head while the bone regrows; this is expected and hardens over months.

Less common

●●○

- **Blood transfusion.** Blood loss is usually small, but a transfusion is occasionally needed, as a baby's total blood volume is small.
- Infection of the wound.
- A tear in the covering of the brain (dura), repaired at the time, with a small risk of fluid leakage.
- Skin irritation or pressure marks from the helmet, if one is used.
- An incompletely corrected head shape, or the bone re-fusing, needing further treatment or open surgery.

Rare but serious

●○○

- Significant bleeding from a large vein (the sagittal sinus) lying beneath the suture, which may require transfusion or a change to open surgery.
- Air entering a vein during surgery (air embolism).
- Injury to the brain.
- Raised pressure inside the head developing later, needing further surgery.
- Serious complications of anaesthesia, or death. These are very rare.

05 After the operation: what is normal

- Two small wounds on the top of the head closed with dissolvable stitches.
- Swelling around the eyes that peaks on the second day and then settles.
- A soft, slightly sunken channel along the line of the released suture.
- Gradual widening of the head over weeks to months.

06 Recovery

- **Wounds.** Keep them clean and dry; gentle hair washing is usually possible after about a week.
- **Helmet,** if recommended: the orthotist fits it soon after surgery and adjusts it regularly as your baby grows. Check the skin daily for redness.
- **Handling.** Your baby can be held, fed and cuddled normally. Avoid pressure on the top of the head while it heals.
- **Follow-up.** In the rooms at about one to two weeks and six weeks, then periodically with head measurements, development and eye checks until head growth is complete.

07 When to contact the rooms

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: Flexible endoscope-assisted suture release (FEASR) with barrel-stave osteotomies

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.
- [ ] I understand that the final head shape develops gradually over months, and that a helmet and regular follow-up may be required.
- [ ] 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