

# Intracranial dermoid cysts

**This information sheet from Great Ormond Street Hospital (GOSH) explains the causes, symptoms and treatment of intracranial dermoid cysts and where to get help.**

## What is an intracranial dermoid cyst?

A dermoid cyst is a sac-like growth that is present at birth, containing structures such as hair, fluid, teeth or skin glands. Intracranial dermoid cysts are located inside the skull and can have a tract that leads from the skin to the coverings of the brain. They can develop anywhere inside the skull but tend to be more common in the middle of the facial/skull bones at the bridge of the nose. Dermoid cysts that only affect the skin over the bridge of the nose are called nasal dermoid cysts – further information about these is available in a separate information sheet.

## What causes intracranial dermoid cysts?

They develop early in pregnancy, when skin and skin structures become trapped while the baby is developing in the womb. Intracranial dermoid cysts cannot be prevented. Nothing you did or did not do during pregnancy could have caused them.

## What are the signs and symptoms of an intracranial dermoid cyst?

Often dermoid cysts have no symptoms and may be discovered by chance when imaging of the brain is carried out for other reasons. When dermoid cysts grow, they tend to grow slowly but in time, could press on the brain and nearby structures. This will cause varying neurological symptoms such as headaches. For instance, if the cyst is pressing on the optic nerve, vision will be affected.

Occasionally, dermoid cysts can become infected or rupture. There is an increased risk of meningitis because they are near the brain.

## How are intracranial dermoid cysts diagnosed?

CT and MRI scanning are helpful in making the correct diagnosis and planning appropriate treatment.

## How are intracranial dermoid cysts treated?

If the cyst is not causing any symptoms, monitoring with regular imaging may be all that is needed. When a cyst is causing symptoms, surgical removal is recommended. Depending on the location of the cyst, it may be able to be removed completely or as much as possible without damaging nearby structures.

## What happens before the operation?

### Pre-admission clinic

Preparing for a planned operation, test or procedure before coming in to hospital avoids delays and reduces the risk of cancellation. The results of any tests and investigations are available in plenty of time and can also be re-checked if they are not within the normal range. Your child may need various blood tests before the operation – this depends on your child's medical condition and the nature of the surgery that is planned.

The doctors and/or nurses will meet you and your child to take down their medical history and any other information needed before your child is admitted to hospital. The nurses will explain about

 

any care your child will need before and after the operation. If your child has any medical problems, particularly allergies, please tell the doctors about these. Please also bring in any medicines your child is currently taking.

You may be seen by one of the team carrying out your child's operation and be asked to give permission for the procedure by signing a consent form. If you give your consent at the pre-admission appointment, you will need to confirm that you still agree to the procedure on the day of admission.

One of the team will explain about the types of anaesthesia that are used at the hospital, and also about options for pain relief after the operation, test or procedure. If there any questions or concerns about your child's anaesthesia, an anaesthetist may come to see your child in the pre-admission clinic.

### The night before surgery

You will be asked to give your child a bath or shower and hairwash before surgery.

It is important that your child does not eat or drink anything for a few hours before the operation. This is called 'fasting' or 'nil by mouth'. Fasting reduces the risk of stomach contents entering the lungs during and after the procedure.

You will be informed the night before the procedure of the time that your child should be 'nil by mouth' – in other words, have nothing to eat or drink before the anaesthetic. In broad terms, this is six hours for food (including milk), four hours for breast feeding and two hours for clear fluids before the procedure.

It is equally important to keep giving your child food and drink until those times to ensure they remain well-hydrated and get adequate nutrition. This may involve waking your child in the night to give them a drink which we recommend.

### On the day of surgery

Please come to Woodpecker Ward at the time stated in your admission letter. One of the nurses will check that your child is well enough for the operation, complete some paperwork with you and take some baseline observations of their temperature, heart rate and breathing. They will also put an identification wristband on your child.

If you did not give your consent for the operation at the pre-admission appointment, a member of the surgical team will visit you to explain about the operation and ask you to sign a consent form. The site of the operation will be marked with a marker pen. All children are seen by the anaesthetist on the day of the operation.

## What anaesthetic is given?

Your child will be given a general anaesthetic by an anaesthetist who specialises in giving anaesthetics to babies and children. Both parents will be able to go with your child to the anaesthetic room and stay until they are asleep. This usually involves your child breathing some anaesthetic gas. Later, a tube is passed into the airway (trachea) to safeguard breathing. A cannula (thin, plastic tube) is put in a vein and usually left in place for a short time after the operation. Fluids can be given to your child through this tube during the operation and afterwards if necessary.

## What does the operation involve?

Removal of an intracranial dermoid cyst is carried out while your child is under general anaesthetic. When your child is under general anaesthetic, the surgeon will clip your child's hair just over the incision site and fix the rest of their hair out of the way. They will make an incision over the top of your child's head from ear to ear, between the coronal sutures and the hair line. They will then pull the skin and soft tissues over the forehead downwards to expose the skull.

The surgeon will remove a 'window' of skull bone around the cyst to access the cyst and the tract through to the brain covering. They will remove as much of the cyst as possible without damaging nearby structures. Once the surgeon is happy with the result, the bone is fixed in position with strong stitches that will dissolve over the next few months as the bone heals. The skin is then closed over the incision site and held in place with dissolvable stitches.

Some children have a drain inserted which will be left in place to drain off any fluid that collects after surgery – this will be removed a day or two later when no longer needed. Finally, the surgeon will put a head bandage over the operation site. Your child will then be taken to the Recovery area to start to wake from the anaesthetic.

## Are there any risks?

Healthy children usually cope well with the anaesthetic, but the risk increases if your child has other problems.

All surgery carries a small risk of infection or bleeding. To reduce the risk of infection, your child will be given an initial dose of antibiotics during the operation. This will continue as an infusion into a vein (intravenously) for 24 hours after surgery. Very rarely, the cerebro-spinal fluid (CSF), which is

 

a watery liquid that surrounds the brain and spinal cord acting as a 'cushion', also becomes infected, causing meningitis. This will need additional treatment with intravenous antibiotics.

Your child will be monitored very closely during and after the operation to identify any blood loss. A blood transfusion is sometimes required but the surgeon will have ensured that donated blood of the correct type is available if needed.

Your child's head and face may look swollen and bruised after the operation. This particularly affects the eyes so the nurses will clean them carefully in the days following the operation. Swelling tends to get worse for the first two to three days and then start to improve. The nurses will check your child's head bandage every few hours and re-apply it if it is getting tight.

The incision site will start to heal and will eventually fade until it can hardly be seen. The hair will also start to re-grow in the days following surgery.

## What happens after the operation?

Once your child has started to recover from the anaesthetic, they will be brought back to Koala Ward to continue recovering. At the end of the day, the doctors will visit you to talk about the operation.

They will spend the first night in the High Dependency Area on the ward, where a nurse will monitor them closely to watch for any signs of bleeding and fluid imbalance. They will carry out regular observations of their breathing, heart rate and temperature throughout the rest of the day and night. Your child may feel sick after the operation, but the doctors will give them medicines to reduce this. The sickness should pass within a couple of days. Your child will be able to start eating and drinking as soon as they feel like it.

The nurses will also assess your child's pain and give them regular pain relief for the first few days – intravenously to start with and then by mouth when they are eating and drinking. The intravenous infusion of antibiotics will continue for the first 24 hours.

Your child's eyes will be very swollen after the operation so the nurses will clean them gently to make them more comfortable. Your child should sit and lie in as upright position as possible to reduce any swelling. The swelling is temporary and will start to improve in a few days. The nurses will remove the head bandage and drains when they are no longer needed.

Over the next few days, your child will be able to start moving around. Your child is likely to be in hospital for around two to three days.

## Going home

When your child is recovering well and eating and drinking as normal, you and your child will be able to go home. On the day of discharge, the nurses will wash your child's hair gently with a mild shampoo and show you how to do it safely at home. They will also give you a copy of our discharge information which explains how to look after your child and what signs to look out for over the next few weeks.

## Follow up appointments

Your child will have a series of appointments after the operation – we will give you details before you go home.

## What is the outlook for children who have had an intracranial dermoid cyst removed?

The outlook is good with only a small chance of the cyst coming back – this is slightly increased if the surgeon was unable to remove it all in the operation. Children are monitored regularly using imaging scans such as MRI and surgery can be repeated if the cyst grows back. The majority of children recover fully with no long lasting effects.

## Further information and support

**Headlines** – the Craniofacial Support Group – is the main support organisation in the UK for families of children and young people affected by a craniofacial disorder. Visit their website at www.headlines.org.uk.

**If you have any questions, please telephone the Craniofacial Clinical Nurse Specialists on 020 7405 9200 ext 0674 or 5908**

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