

CRANIOFACIAL SURGERY

AT CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC, we believe parents and guardians can contribute to the success of this surgery and invite you to participate. Please read the following information to learn about the surgery and how you can help.

Fast Facts About Craniofacial Surgery

- Craniofacial surgery is an operation to fix congenital (*con-JEN-it-ool*) defects of the skull, meaning problems that were present at birth, or injuries to the soft tissue and bone in the head and neck.
- Your child's craniofacial surgery will be done under general anesthesia (*an-es-THEEZ-ya*), which means that he or she will be sound asleep during the surgery.
- When general anesthesia is needed, there are important rules for eating and drinking that must be followed in the hours before the surgery.
- This surgery usually takes about 8 hours, depending on the type and severity of your child's reconstruction.
- Your child will stay in the hospital for at least 3 days after the surgery.

What Is Craniofacial Surgery?

Craniofacial surgery is a type of plastic surgery that deals with the correction and reconstruction of malformations or problems of the skull. One of the most common conditions treated with craniofacial surgery is craniostenosis (*CRAY-nee-oh-SIN-oh-STO-sis*), the early closing of the spaces between the bones of the skull, resulting in abnormal skull growth. The particular surgery to correct craniostenosis is called a cranial vault remodeling.

A plan for craniofacial surgery may be put in place as early as 8 or 9 months of age, or as soon as the problem is recognized. Patients who are referred to the Cleft-Craniofacial Center of Children's Hospital of Pittsburgh of UPMC first receive a physical exam, followed by CT scans to confirm the diagnosis. An eye exam by a pediatric ophthalmologist (eye surgeon) should follow, in addition to a consultation with a pediatric neurosurgeon (brain surgeon). This team of doctors, along with the craniofacial surgeon, will map out the plan for your child's reconstructive craniofacial surgery.

Before the Surgery

About 6 weeks before your child's surgery, your child may begin blood enrichment therapy to build up the quality of his or her blood using medication. Once a week for 6 weeks, your child may receive an injection (shot) of erythropoietin (Procrit™) to increase the number of red blood cells in his or her bloodstream. Your child also will be given iron supplements to help his or her body produce red blood cells. This blood therapy will



reduce the need for blood transfusions during surgery and will help your child heal and recover faster after surgery.

In the 6 weeks leading up to the surgery, while your child is on the blood enrichment medication, your child will need to have a blood count done at 3 different points in the therapy process: at the start of the medication therapy, halfway through the therapy, and then at the end of therapy, prior to surgery. The blood test will determine your child's blood type, a cross-matching blood type and a red blood cell count. In case your child needs a blood transfusion during the surgery, matching blood from the blood bank will be made available, or you and/or other family members may choose to donate matching blood instead. A cell-saver machine also will be used during your child's surgery to minimize the need for a blood transfusion. The cell saver collects blood lost during the surgery, then cleans and returns it to your child's body.

Several weeks before surgery you will meet again with your surgeon for a preoperative history and physical and to discuss the surgery.

Home Preparation on the Day of Surgery

When general anesthesia is needed, there are important rules for eating and drinking that must be followed in the hours before the surgery. One business day before your child's surgery, you will receive a phone call from a nurse between the hours of 1 and 9 p.m. (Nurses do not make these calls on weekends or holidays.) Please have paper and a pen ready to write down these important instructions.

- The nurse will give you specific eating and drinking instructions for your child based on your child's age. Following are the **usual** instructions given for eating and drinking. No matter what age your child is, you should follow the specific instructions given to you on the phone by the nurse.

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For children older than 12 months:

- After midnight the night before the surgery, do not give any solid food or non-clear liquids. That includes milk, formula, juices with pulp, and chewing gum or candy.

For infants under 12 months:

- Up to 6 hours before the **scheduled arrival time**, formula-fed babies may be given formula.
- Up to 4 hours before the **scheduled arrival time**, breastfed babies may nurse.

For all children:

- Up to 2 hours before the **scheduled arrival time**, give only clear liquids. Clear liquids include water, Pedialyte®, Kool-Aid® and juices you can see through, such as apple or white grape juice.
- In the 2 hours before the **scheduled arrival time**, give nothing to eat or drink.
- You may bring along a “comfort” item—such as a favorite stuffed animal or “blankie”—for your child to hold during the surgery.
- You should bring a long-sleeve T-shirt, slightly larger than your child’s usual size, to the hospital on the day of surgery. It will help make your child more comfortable on the day you take your child home from the hospital.

Day Of Surgery

Your child will come to the Same Day Surgery Center of Children’s Hospital of Pittsburgh of UPMC the morning of the surgery. When you have checked in at the Same Day Surgery Center, you and your child will be called to an examination room where your child’s health history will be taken and vital signs will be checked.

You will meet with one of the doctors on your child’s surgical team to go over the surgery. He or she will answer any last-minute questions you might have at this time. A member of the anesthesia staff also will meet with you and your child to review his or her medical information and decide which kind of sleep medication he or she should get. As the parent or legal guardian, you will be asked to sign a consent form before the anesthesia is given.

When it is time for your child to go the operating room, you will be asked to wait in the surgical family waiting area.

- If your child is very scared or upset, the doctor may give a special medication to help him or her relax. This medication is flavored and takes effect in 10 to 15 minutes.
- If relaxation medicine is needed, you may stay with your child as he or she becomes drowsy; you will be asked to wait in the surgical waiting area when your child is ready to move to the operating room.

- Young children get their sleep medication through a “space mask” that will carry air mixed with medication. Your child may choose a favorite scent to flavor the air flowing through the mask. There are no shots or needles used while your child is still awake.
- Once your child is asleep, an intravenous (*in-tra-VEE-nuss*) or IV line will be inserted into a vein in your child’s hand or arm so that medication can be given to keep him or her sleeping throughout the surgery. Your child will have no pain during the surgery and no memory of it afterward.

To complete the craniofacial surgery, the surgeon must make an incision (*in-SIZZ-yun*) or cut in your child’s scalp to get to the skull bones. This incision will run from ear to ear, and will be a zig-zag rather than a straight incision. The zig-zag incision will allow your child’s hair to grow over the scar and make it less noticeable as it heals.

Your child will have sutures (*SOO-chers*) or stitches in his or her scalp to close the zig-zag incision. All of the sutures will be dissolvable, meaning that they will not need to be removed. As the skin heals, the parts of the sutures that are under the skin will dissolve on their own and will be absorbed into the skin. Any part of the suture that you can see on the top of the skin’s surface will dry up and fall off.



A Parent’s/Guardian’s Role

The most important role of a parent or guardian is to help your child stay calm and relaxed before the surgery. The best way to help your child stay calm is for you to stay calm.

During the surgery, at least one parent or guardian should remain in the surgical family waiting area at all times, in case the family needs to be reached.

While Asleep

While your child is asleep, his or her heart rate, blood pressure, temperature and blood oxygen level will be checked continuously. To keep your child asleep during the surgery, he or she may be given anesthesia medication by mask, through the IV or both. When the surgery is over, the medications will be stopped and your child will begin to wake up.

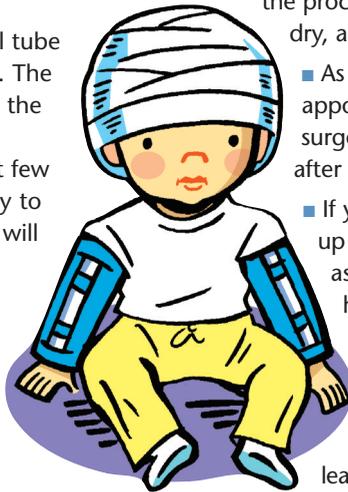
Waking Up

When your child is moved to the recovery room, you will be called so that you can be there as he or she wakes up.

- Your child will need to stay in the recovery room to be watched until he or she is alert and vital signs are stable. The length of time your child will spend in the recovery room will vary because some children take longer than others to wake up after anesthesia.
- Your child will still have the IV in. A nurse will remove it before your child leaves the hospital, when he or she drinking well.

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- Children coming out of anesthesia may react in different ways. Your child may cry, be fussy or confused, feel sick to his or her stomach, or vomit. These reactions are normal and will go away as the anesthesia wears off.
- Your child will have a gauze dressing wrapped around his or her entire head like a helmet.
- Under the dressing, your child will have a small tube that will be pinned to his or her hospital gown. The tube will suction out the bloody drainage from the incision and collect it in a small container. The amount of drainage will decrease over the next few days, and the drainage will change from bloody to light pink. The dressing and the drainage tube will stay in place for at least 3 days. A surgeon will remove the drainage tube.
- Your child may have set of padded arm restraints called “no-no’s” placed on his or her arms to prevent them from bending at the elbow. These no-no’s will need to stay in place until the drain tube is removed.
- Your child’s face will be swollen and his or her eyes might be swollen shut. **Although it is hard for parents to see their child’s face so swollen, this swelling is completely normal and is not painful.** Sometimes, the swelling gets worse on the second or third day after surgery. By the time your child returns for his or her first post-surgical follow-up visit, usually 1 week after surgery, much of the swelling will have gone down.
- Your child can be given pain medication every 4 to 6 hours, as needed, when he or she wakes up.
- When your child is alert, he or she will be moved to the Pediatric Intensive Care Unit (PICU) for the first night so the nursing staff can monitor his or her condition closely. He or she will be moved to a regular hospital room when the doctor feels your child is ready, usually sometime the next day after surgery.
- When your child is drinking well and urinating normally, the IV will be removed by a nurse.



soap and water, followed by a coating of bacitracin antibiotic ointment. No additional dressings are needed.

- Your child will have no special restrictions on activities once he or she is discharged from the hospital, but you should use the same sort of care you would use for any kind of cut that is in the process of healing, such as keeping the scar clean and dry, and preventing your child from picking at the scabs.
- As soon as you get home, you should call to make an appointment for your child to be checked 1 week after surgery. An appointment for the 3-week follow-up visit after surgery can also be made at that time.
- If you must travel for more than 2 hours to the follow-up visits and need overnight accommodations, please ask to speak with a clinical social worker who will help make those arrangements.

At-Home Care

A complete list of instructions for taking care of your child at home will be given to you before you leave the hospital. The main things to remember are:

- If you notice any of the following changes in your child, **call the surgeon right away:**
 - Fever higher than 101.4°F
 - Trouble breathing or skin color changes (pale, blue or gray)
 - Bleeding or foul-smelling drainage from the scar
 - Unusual redness or swelling
 - Any unusual changes in the look of the skull

Special Needs

If your child has any special needs or health issues you feel the doctor needs to know about, or if you have any questions, please call 412-692-8650 **before** the surgery and ask to speak with the nurse practitioner or cleft clinic coordinator. It is important to notify us **in advance** about any special needs your child might have.

To contact your child’s surgeon, call 412-692-7949. If you are unable to reach the surgeon, or it is after hours, call the Children’s Hospital operator at 412-692-5325 and ask to page the doctor who is on-call for your child’s surgeon.

Cleft-Craniofacial Center
Division of Pediatric Plastic Surgery
Children’s Hospital of Pittsburgh of UPMC
One Children’s Hospital Drive
4401 Penn Ave.
Pittsburgh, PA 15224
412-692-7949

Going Home

- Your child will stay in the hospital until the doctor feels he or she is ready to go home, which usually is about 3 to 4 days after surgery.
- Your child may be given Tylenol® with Codeine prescription medication for pain relief when he or she leaves the hospital. Over-the-counter Motrin® can be combined with the Tylenol with Codeine if your child is still having pain, but most children only need over-the-counter Tylenol once they get home. **DO NOT give your child any over-the-counter Tylenol while he or she is still on Tylenol with Codeine.**
- When your child is discharged from the hospital, the gauze dressing “helmet” will be removed. A nurse will give you instructions on cleaning the scar, which usually is just light

To see the list of all available patient procedures descriptions, please visit www.chp.edu/procedures.