Corrective jaw surgery

When is corrective jaw surgery needed?

Corrective jaw surgery is done for different reasons:

- Your child's teeth or jaw may not line up correctly. This is called malocclusion.
- Your child's upper jaw, cheekbones, nose, and eye sockets may be underdeveloped. This is called mid-face hypoplasia. It is often seen with cleft palate.

Orthodontics may improve malocclusion, but may not be enough in severe cases. Your child's surgeon or orthodontist will help you decide on the best treatment.

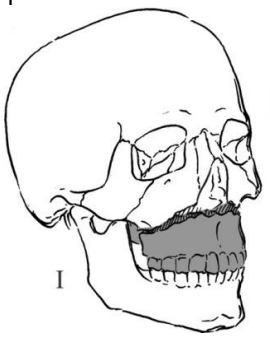
If surgery is needed, the timing is based on your child's age and stage of growth.

How is surgery done?

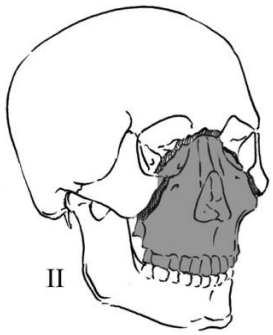
At least one cut in the bone will be made. This is called an osteotomy. The number of cuts needed is based on what your child's needs.

A **mandibular osteotomy** is a cut made in the lower jaw.

A **LeFort, or mid face osteotomy** is a cut made in the upper jaw. Parts of the face can then be repositioned. Normally they will be moved forward. There are 3 types of LeFort osteotomy patterns:

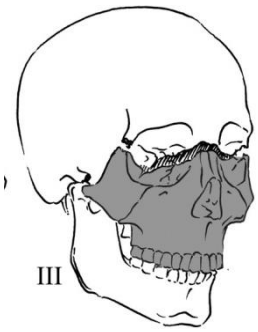


LeFort I osteotomy. Done to reposition the tooth-bearing part of the upper jaw.



LeFort II osteotomy. The tooth-bearing part of the upper jaw and nose are repositioned together.

LeFort III osteotomy. Done for mid-face problems. Sometimes this type of surgery is needed when a child's entire mid face does not grow as it should. The whole upper jaw, nose, cheek bones, and lower part of the eye sockets are repositioned.



Distraction osteogenesis may also be needed. This will depend on your child's age, stage of development, and the size of the gap.

What is distraction osteogenesis?

Distraction osteogenesis uses one or more surgeries to help make your child's jaw larger. The goal is to create new bone. A craniofacial orthodontist will work closely with your child's surgeon.

What is the process?

- Surgery is done to cut the bone of the jaw.
- A distractor device is placed.
- External device: Pins are put in each side of the cut. The device is attached to the pins.
- Internal device: This is put right on the bone on either side of the cut, and left under the skin.

The 3 phases

1. **Latency phase:** the distraction device is not turned for several days after surgery. The bone prepares for the next phase.
2. **Activation phase:** the stretching phase, when the device is turned each day.
   - Caregivers are taught how to turn the device. They will turn it at home.
   - Give pain medicine 30 minutes before turning the device. This may help with pain.
   - It is important to turn the device as instructed at the same time each day.
   - Your child will be checked weekly by the surgeon and orthodontist during this phase.
3. **Consolidation phase:** the distractor device is left in place after the activation phase is finished. It holds the bones in place until the newly formed bone matures and becomes solid. Consolidation time varies from weeks to months. (It depends on the part of the face distracted and the age of the patient.) The device is removed during a second surgery when consolidation is finished.

What happens after the surgery?

- Your child most likely will be in the hospital for 2 to 5 days.
- Your child most likely will have pain. Medicine may be needed.
- Monitors will be used to check your child's oxygen level, breathing, heart rate and blood pressure.
- Your child may need to go to the Pediatric Intensive Care Unit overnight for monitoring.

Diet

- Your child will have an IV in the hospital. This prevents dehydration, and allows for medicines to be given.
- Your child will be on a soft diet. High calorie and high protein foods and liquids are important.
- Your child will be asked to gently use the muscles of the jaw often by talking and chewing.

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Pin site care

You may need to clean the pin sites at home. Your child's health care provider will tell you how often to clean the pin sites at home.

1. Mix equal amounts of one-half (½) 3% Hydrogen Peroxide and ½ tap water.
2. Dip a cotton swab in the solution and gently moisten the skin around the pin.
3. Clean off any crusty material or drainage.
4. Dip a new cotton swab in tap water and moisten the area again.
5. Dry the area with another cotton swab.
6. Use a new cotton swab to put a very fine layer of double antibiotic ointment on the skin at the base of the pin.

Follow-up

- Your child will need to be seen in the Craniofacial Clinic 5 days after surgery to start to turn the device.
- The doctor will give you the device tool and tell you how much and how often to turn it.
  - Turning should be done at the same time each day.
  - If the turning hurts your child, give pain medicine about 30 minutes before you turn it.
- Your child will be seen once a week during the activation phase. Your child will then be seen monthly until the bone heals.
- Your child's surgeon will decide when to remove the device.

ALERT: Call your child's doctor, nurse, or clinic if you have any concerns or if your child:

- Has a hard time breathing.
- Has a hard time turning the device.
- Has severe pain that does not stop.
- Has a fever of 101°F (38.3°C) or higher.
- Is not able to drink enough liquids.
- Is vomiting often.
- Has redness or swelling around the eyes or along the pin sites.
- Is bleeding or has drainage from the incision line.
- Has special health care needs not covered by this information.

This sheet was created to help you care for your child or family member. It does not take the place of medical care. Talk with your healthcare provider for diagnosis, treatment and follow-up.

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