

Cleft lip and palate



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A cleft lip and palate is an abnormal gap in the upper lip and the roof of the mouth that occurs when some parts fail to join together during early pregnancy. The lip and palate develop separately, so it is possible for a baby to be born with only a cleft lip, only a cleft palate, or a combination of both.

Clefts of the lip and palate can present in a number of ways:

A complete cleft of the lip is where there is a split or opening extending from the lip all the way up to the nostril. Sometimes a band of tissue remains below the nostril, leaving a part of the lip joined below the nose – this is called an incomplete cleft lip.

The palate is made up of two main parts – a bony component called the hard palate; and a muscular component called the soft palate. There can be a cleft of the soft palate alone, or a cleft of both the soft and hard palate.

Clefts that occur on only one side are called unilateral clefts. When the cleft affects both sides, it is referred to as a bilateral cleft.

Infant with left unilateral cleft lip and palate





1. Normal lip



2. Left unilateral cleft



3. Bilateral cleft



4. Normal palate



5. Left unilateral cleft lip and palate



6. Bilateral cleft lip and palate

Surgery

A number of surgeries are required to repair a cleft lip and palate. A plastic surgeon who specialises in cleft care should do the surgery.

Prior to cleft lip repair surgery your plastic surgeon may want to mould the cleft into a better position for surgery. There are several ways to achieve this and your surgeon will discuss this with you if it is relevant.

Clefts of the lip are generally repaired from between 3–6 months of age, depending upon the preferred technique of your plastic surgeon, and the health of the child. Lip repair surgery usually takes around 2–5 hours (depending upon the procedure) and generally requires at least an overnight stay in hospital, sometimes longer. One parent is encouraged to stay overnight in hospital with the child. Dissolving stitches are usually used, and there may be some tape applied over the lip. When your baby is feeding well and comfortable you can take them home.

Some surgeons use soft silicone nasal stents, inserted at this first operation to mould the nostrils into shape. These are usually removed 2 weeks later under a brief anaesthetic and the stent is replaced with a removable retaining stent which you may be encouraged to use for the next 6–12 weeks if possible.

They may have to wear arm splints for several weeks after surgery to stop them from putting their hands near their lips during healing.

Deformity of the nose is often associated with a cleft lip. The nose is usually corrected at the time of lip surgery, however further surgery is often needed to improve the appearance of the nose. This is sometimes done during the primary school years, but preferably should be done after the face has finished growing in adolescence.

Palate repair is usually scheduled for between 9–18 months of age. Your surgeon will discuss timing with you. Cleft palate surgery usually takes 2–3 hours. Dissolving stitches are used. Following surgery, the average length of stay in hospital is 2–3 nights. As with cleft lip repair, one parent will be encouraged to stay with the child in hospital. When your child is comfortable and feeding well they can be discharged. Your child will need to eat a soft diet for 10 days after palate surgery, and may have to wear arm splints during healing.

How a cleft lip and palate affects children

Your child may be affected in a number of ways by a cleft lip and palate and there are a number of important areas to consider in their care, including feeding, hearing, speech and teeth.

Feeding

In babies, the palate is important in generating suction when feeding. Babies with an unrepaired cleft palate will typically have difficulties creating enough suction to get sufficient milk from the breast or teat. In addition, they may also have difficulty compressing a nipple or teat if there is not enough gum or palate to compress against. This can make feeding a long and tiring process, and the baby may not get enough milk for adequate growth. Help is available to manage these feeding concerns either through your cleft coordinator or speech pathologist.

Hearing

Children affected by cleft palate are prone to hearing difficulties. Hearing problems associated with cleft palate are usually related to fluid in the middle ear. Every baby with a cleft palate needs to have their hearing monitored closely by an audiologist – a hearing assessment should generally be arranged for when the baby is around 4 weeks old, and repeated again at around 12 weeks of age. After the second hearing test, a review appointment with an ear, nose and throat (ENT) surgeon is required. At this time a decision will be made regarding the need for small tubes

(grommets) to be inserted into the eardrums. This can usually be done at the same time as the palate is repaired. Tubes usually stay in the eardrums for around 6–9 months. Some children will need more tubes if hearing problems continue. Annual hearing tests are recommended during early childhood for children with a history of cleft palate.

Speech

The palate is very important in speech. In the closed position the palate usually shuts off tightly against the back and sides of the throat to make a seal which stops air from entering the nose. This is very important for a large number of consonants (p, b, t, d, k, g, f, v, s, z, sh, ch) and for the tone of speech. If the palate does not do its job, air escapes into the nose and may prevent development of consonants as well as cause an excessively nasal sounding voice. Some children also develop a range of sounds not usually heard in their native language. This makes them difficult to understand and is frustrating to the child. Speech therapy is usually helpful in eliminating these sounds and developing the sounds found in the child's native language.

Teeth

Many children born with a cleft of the lip and palate will have missing teeth, particularly in the line of the cleft. They may also have extra teeth, misshapen or malformed teeth. Because of this, their teeth can be crowded, tilted or rotated. It is important that your child's teeth are looked after carefully. Your child may want to have braces and other dental treatment in the future to improve their appearance, and healthy teeth are essential for this.

Children with a cleft should be seen by a dentist shortly after their first teeth come through. At The Royal Children's Hospital this is generally scheduled for around 18–24 months of age. It is important to see a dentist experienced in the care of people with clefts.

Maxillary cleft

The alveolus (gum) is the bony part of the upper jaw (maxilla) through which teeth erupt. If the cleft affects the maxilla then the bony part of the alveolus will need to be joined together with a bone graft.

Soft bone is usually taken from the hip and is put into the alveolus to provide a stable base for the adult eye (canine) teeth to grow through. This surgery is timed to take place when the adult eye teeth are growing.

The upper jaw is often narrow and an orthodontist will assess the need for expansion of the upper jaw with an orthodontic appliance before the bone graft.

The expansion and bone graft is usually done around 8–12 years of age and requires 1–2 days in hospital.

After the surgery there will be some swelling of the upper cheek and lip for around a week. A soft diet is necessary for 10–14 days and careful cleaning of the mouth is essential during healing.

The upper jaw does not grow forward proportionally in 50% or more of children who have had a cleft palate repair. The lower jaw usually grows normally. This leads to a poor bite with the lower front teeth sitting in front of the upper front teeth. This can cause difficulties with chewing and affects the appearance of the face.

Surgery to move the upper jaw forward can be done after growth has finished – usually around 16–17 years for females, 18–19 years for males. This procedure will be done by a maxillofacial surgeon following orthodontic preparation. Orthodontic preparation with braces can begin up to two years prior to jaw surgery.

In summary

- Cleft lip and palate affects infant feeding, hearing, speech and teeth.
- A child born with cleft lip and palate will require several surgeries to repair the cleft.
- Further surgeries may be necessary during childhood, adolescence and early adulthood.

Recommendations

- Your child should be seen by a plastic surgeon shortly after birth.

- Feeding support can be provided by your cleft coordinator or speech pathologist.

- Other members of a feeding team (e.g. paediatrician, lactation consultant, dietitian) may need to be consulted for more complex problems.

- Your child should have a hearing test (ABR) at around 4 weeks of age and again at 12 weeks.

- Your child should be reviewed by an ear, nose and throat (ENT) surgeon prior to palate repair to determine if tubes will be needed.

- Hearing should be monitored closely during early childhood.

- Your child should be monitored regularly by a dentist experienced in the care of clefts.

- Your child should be seen by an orthodontist at about 7–8 years old.

- Your child's speech sounds and language development (words and sentences) should be monitored by a speech pathologist experienced in cleft care.

- Your child should be reviewed at a multidisciplinary Cleft Clinic on a regular basis (usually at 18–24 months, 3, 5, 8, 12 and 16–18 years of age).

- Your cleft coordinator can provide ongoing advice and support as necessary.

