



CLEFT LIP AND CLEFT PALATE

Cleft lip is a birth defect in which the parts of the face that form the upper lip remain split, instead of sealing together before birth. Similar splits can occur in the roof of the mouth or palate. Cleft lip and cleft palate can each occur alone or together in the same person (cleft lip and palate). Cleft lip and palate happen early in fetal development. The defect may be genetic or the result of maternal environmental exposures during pregnancy.¹

What is a Cleft Lip?

The lip forms between the fourth and seventh weeks of pregnancy. As a baby develops during pregnancy, body tissue and special cells from each side of the head grow toward the center of the face and join together to make the face. This joining of tissue forms the facial features such as the lips and mouth. A cleft lip happens if the tissue that makes up the lip does not join completely before birth. This results in an opening in the upper lip. The opening in the lip can be a small slit or it can be a large opening that goes through the lip into the nose. A cleft lip can be on one or both sides of the lip or in the middle of the lip, which occurs very rarely. Children with a cleft lip also can have a cleft palate.

What is Cleft Palate?

The roof of the mouth (palate) is formed between the sixth and ninth weeks of pregnancy. A cleft palate happens if the tissue that makes up the roof of the mouth does not join together completely during pregnancy. For some babies, both the front and back parts of the palate are open. For other babies, only part of the palate is open.

Children with a cleft lip with or without a cleft palate or a cleft palate alone often have problems with feeding and speaking clearly and can have ear infections. They also might have hearing problems and problems with their teeth.²



Images provided by the Centers for Disease Control and Prevention, National Center on Birth Defects and Developmental Disabilities

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Revised: 07/2020

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Along with affecting the appearance of the face, cleft lip and cleft palate can present a variety of difficulties, including:

- difficulty eating
- speech difficulties
- ear infections
- misaligned teeth

It is possible to correct both cleft lip and palate through surgery, usually performed between the ages of 3 to 6 months. Depending on the severity of the defect, more than one surgery may be necessary. Cleft lip and/or palate are normally diagnosed at birth, though minor clefting of the palate may be overlooked at first. Talk with your physician and dentist for a physical examination and more information about possible treatments if a cleft is suspected.

Causes and Risk Factors

The causes of orofacial clefts among most infants are unknown. Some children have a cleft lip or cleft palate because of changes in their genes. Cleft lip and cleft palate are thought to be caused by a combination of genes and other factors, such as things the mother comes into contact with, or what the mother eats or drinks, or certain medications she uses during pregnancy.

Recently, the Centers for Disease Control and Prevention (CDC) reported on important findings from research studies about some factors that increase the chance of having a baby with an orofacial cleft:

- **Smoking** – Women who smoke during pregnancy are more likely to have a baby with an orofacial cleft than women who do not smoke.
- **Diabetes** – Women with diabetes diagnosed before pregnancy have an increased risk of having a child with a cleft lip with or without cleft palate, compared to women who did not have diabetes.
- **Use of certain medicines** – Women who used certain medicines to treat epilepsy, such as topiramate or valproic acid, during the first trimester (the first three months) of pregnancy have an increased risk of having a baby with cleft lip with or without cleft palate, compared to women who did not take these medicines.



Diagnosis

Orofacial clefts, especially cleft lip with or without cleft palate, can be diagnosed during pregnancy by a routine ultrasound. They can also be diagnosed after the baby is born, especially cleft palate. However, sometimes certain types of cleft palate (for example, submucous cleft palate and bifid uvula) might not be diagnosed until later in life.

Management and Treatment

Services and treatment for children with orofacial clefts can vary depending on the severity of the cleft, the child's age and needs, and the presence of associated syndromes or other birth defects, or both.

Surgery to repair a cleft lip usually occurs in the first few months of life and is recommended within the first 12 months of life. Surgery to repair a cleft palate is recommended within the first 18 months of life or earlier if possible. Many children will need additional surgical procedures as they get older. Surgical repair can improve the look and appearance of a child's face and might also improve breathing, hearing, and speech and language development. Children born with orofacial clefts might need other types of treatments and services, such as special dental or orthodontic care or speech therapy.

With treatment, most children with orofacial clefts do well and lead a healthy life. Some children with orofacial clefts may have issues with self-esteem if they are concerned with visible differences between themselves and other children. Parent-to-parent support groups can prove to be useful for families of babies with birth defects of the head and face, such as orofacial clefts.

For more information, contact the Division of Public Health, Bureau of Oral Health and Dental Services, at 302-622-4540 and www.dhss.delaware.gov/dhss/dph/hsm/ohphome.html.

Resources

1. American Dental Association. 2020. *Cleft Lip and Cleft Palate*. Mouth Healthy. Retrieved July 15, 2020 from: <http://www.mouthhealthy.org/en/az-topics/c/cleft-lip-palate>.
2. Centers for Disease Control and Prevention 2020. Birth Defects. *Facts about Cleft Lip and Cleft Palate*. Centers for Disease Control and Prevention. Retrieved July 15, 2020 from: <http://www.cdc.gov/ncbddd/birthdefects/CleftLip.html>.