

## Cleft Lip and Cleft Palate

### Cleft Lip:

Cleft lip is a condition where there is an opening or gap in the upper lip, which can occur on one or both sides of the lip.

### Cleft Palate:

Cleft palate is a condition where there is an opening or gap in the roof of the mouth, specifically in the palate.

Cleft lip can occur as an isolated condition or may be associated with a cleft palate.

## INCIDENCE

The incidence of Cleft Lip or Cleft Palate is 1:750 live births.

The most common craniofacial anomalies (2/3 of all craniofacial anomalies).

The incidence of cleft lip is two times that of cleft palate.

In cleft lip:

60% affect the left side

30% affect the right side

10% affect bilateral.

**Cleft lip** is more common in males, while **cleft palate** is more common in females.

Isolated cleft palate is associated with other syndromes in 30% of cases.

## **Embryological Development**

**Formation of the Lip:** The upper lip forms from the merging of two processes called the maxillary and medial nasal processes. If these processes do not fuse correctly, it can result in a cleft lip.

**Formation of the Palate:** forms from the fusion of the two palatal shelves, which grow from the sides and meet in the middle. If these shelves do not fuse properly, it leads to a cleft palate.

## **Types and Classification**

Clefts

Unilateral or Bilateral

Complete or incomplete

Veau classification:

**Class I** –incomplete cleft involving only the soft palate

**Class II** –cleft involving the hard and soft palate

**Class III** –complete unilateral cleft involving the lip and palate

**Class IV** –complete bilateral cleft

## **Types and Classification**

### **Cleft Lip Types:**

**Unilateral Cleft Lip:** A gap on one side of the upper lip.

**Bilateral Cleft Lip:** Gaps on both sides of the upper lip.

**Complete Cleft Lip:** The cleft extends through the entire lip and reach the nose and the alveolus.

**Incomplete Cleft Lip:** The cleft is not as extensive and not reach the nose.

### **Cleft Palate Types:**

**Soft Palate Cleft:** Involves only the back part of the palate.

**Hard Palate Cleft:** Involves the bony front part of the palate.

### **Etiology**

Not known. (combination of genetic and environmental factors  
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Vitamin deficiency in pregnancy (folic acid).

Drugs as steroids.

Gestational viral infections or irradiation.

Loss of amniotic fluids.

Maternal Smoking

Maternal alcohol consumption

### **Diagnosis**

Prenatal Screening

Clinical Evaluation After Birth

### **Complications and Associated Conditions**

Cleft lip and cleft palate can lead to several complications and associated conditions, including:

#### **Feeding:**

Babies have defective sucking but swallowing is normal.

Breast feeding is difficult but is not contra-indicated.

Solved simply by passive introduction of milk to the mouth by widening the opening of the bottle nipple.

Baby should be nursed in semi-sitting position, should be burped well and takes more time than normal babies.

### **Speech:**

Normal speech requires that air coming from the lungs, passing through the vocal cords, is collected in the oral cavity to create positive pressure, before passing through the lips to pronounce most consonants.

unable to create positive intra-oral pressure as air leaks through the nose, leading to nasal escape, or abnormal nasal speech.

### **Ear Infections and Hearing Loss:**

In cleft palate patients the tubes are not patent so fluid accumulates behind the eardrums, leading to secretory otitis media and recurrent bacterial otitis media, and if not managed, would result in hearing loss.

The ENT surgeon treats secretory otitis media (by drugs or Grommet tubes), and treating acute otitis media by suitable antibiotics.

### **Dental Issues:**

Maintaining good oral hygiene from an early age is essential to prevent dental problems. Use a soft cloth or infant toothbrush to clean the gums even before teeth appear.

Will have missing teeth, particularly in the line of the cleft. They may also have extra teeth, misshapen or malformed teeth

Orthodontic interventions aim to address issues like malocclusion, misalignment of teeth, and jaw discrepancies

**Psychosocial Impact:**

Early Education and Counseling

Support Groups

Encourage Positive Self-Image

Management

Surgical Procedures (Cleft Lip and Cleft Palate Repair)

Speech Therapy

Hearing Monitoring

Orthodontic and Dental Care

Psychosocial Support

Early intervention and ongoing care are crucial for the best outcomes. With comprehensive treatment, most individuals born with cleft lip and cleft palate can lead healthy, fulfilling lives