

# CURRENT STATUS OF FACIAL ESTHETIC SURGERY

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## INTRODUCTION

Surgical correction of maxillomandibular deformities has become an important aspect of esthetic surgery in today's world of facial consciousness. In the Indian context these deformities present special problems as most adults, who seek treatment for their facial disproportions or abnormalities, have not had the benefit of any kind of orthodontic treatment (in simple terms one knows this form of treatment as correction of mal-alignment of Dento-alveolar complex by Wires and Braces). Earlier, either because of lack of awareness about it or due to lack of such kind of treatment facilities, many a times these kinds of cases present themselves so late that successful and effective orthodontic treatment become difficult, if not impossible. Surgical intervention, therefore, becomes unavoidable or mandatory in order to achieve satisfactory results.

In spite of so much advancement in the field and increase in awareness level, more often than not people consult an orthodontist about their maxillomandibular deformities and many orthodontists who still view surgical treatment as radical, dangerous and unpredictable do try to intervene also without realizing the fact that they can provide beautiful results to dento-alveolar deformities and it is almost next to impossible to achieve satisfactory result in cases where there is basal bone deformities.

The word "orthognathic" was coined by an oral/maxillofacial surgeon and means "straight jaws", just as orthodontics mean "straight teeth". Prior to that time, the term surgical orthodontics or "facial orthopedics" was used to describe the field. In technical or scientific terminology esthetic surgery of face and jaw bones are termed as orthognathic surgery (orthos-means straight and gnathos means jaws).

## NATURE OF FACIAL DEFORMITIES :

The common deformities in the upper and lower jaws and their clinical appearances are as follows;

### 1. Protruded Maxilla (upper jaw):

The upper jaw is protruded beyond the normal limits along with the teeth. The person cannot close his lips (lip incompetence) without effort. The teeth are always visible and in most cases the whole of the gums are visible on smiling (gummy smile). A gummy smile is mainly due to the vertical excess of the maxilla.

### 2. Retruded Maxilla:

This deformity is due to under development of the upper jaw mainly seen in people who have cleft lip or palate. After the surgical correction of the cleft lip or palate at a young age the growth of the maxilla is retarded along with displacement or destruction of the tooth bud. This result in a dish shaped face with a hooked or flaring nose

and irregularly aligned, rotated or missing teeth.

### 3. Protruded Mandible (lower jaw):

In some people there will be extra growth of the lower jaw resulting in long jaw. Their faces are very long with protrusion of the lower teeth and thick lips. Normally on biting the lower teeth will be inside the upper teeth while in people with long jaws usually the lower teeth will be outside the upper arch.

### 4. Retruded Mandible:

In some people due to developmental deformity or due to hereditary factors the lower jaw remains very small resulting in a "bird face". In this situation, there is no proper development of the chin.

### 5. Facial Asymmetry:

Sometimes a part of the face maybe overdeveloped or underdeveloped is causing one part of the face to be small or large. One side of the face is not in symmetry with the other side giving an unaesthetic appearance.

### 6. Akylosis of Temporomandibular Joint (TMJ):

Injury during birth or trauma or infection at a young age to the temporomandibular joint will result in restricted mouth opening and reduced growth of the mandible. It invariably gives a bird kind of appearance to the face in its most severe form.

### 7. Nasal Deformity:

Nasal deformities are often seen along with deformities of the jaw. It can be in the form of a deviated nasal septum, flared or constricted ala of the nose, saddle nose, hooked nose or even an asymmetrical nose, etc.

## WHO NEEDS ORTHOGNATHIC SURGERY

The following are some of the conditions that may indicate or necessitate the need for orthognathic surgery:

1. Difficulty in chewing or biting food
2. Difficulty in swallowing
3. Having speech problem
4. Complains of chronic jaw pain
5. Excessive wearing of teeth
6. Presence of open bite (space between upper and lower front or back teeth when mouth is closed)
7. Unbalanced facial appearance
8. Receding chin
9. Protruding jaw
10. Inability to make lips meet without effort (lip incompetency)
11. Chronic mouth breathing with dry mouth
12. Presence of sleep apnea (breathing problems when sleeping)

## NATURE OF SURGERY

Orthognathic surgery, depending on the type and extent of deformity, can be categorized either into an intermediate type or a major surgical procedure. It execution demands necessity of procedural execution under nasotracheal intubation and general anesthesia.

Limited degree of dento-alveolar correction can be accounted for as a simpler oral surgical procedure but certainly needs a similar degree of meticulous pre-surgical planning and post surgical care, like major oral surgical procedures. In any circumstance they prove to be at least 3-4 times more complicated a procedure than surgical extraction of impacted teeth.

The sub-apical surgeries of mandible and maxilla are in fact reflecting the true nature of an intermediate kind of surgical procedure demanding a regular general anesthetic protocol.

Body and ramus osteotomies of mandible, Le fort osteotomies of maxilla and the distraction osteogenesis procedures fall into genuine major surgical procedures.

Surgical procedure of either kind does demand expertise and regular respect to basic anatomical structures in and around the area of concern, any deviation from the standard surgical protocol can terminate into a fatality, if not managed within the time frame.

Anyone who is planning to undertake a case for orthognathic surgery should always bear in mind and, as far as possible, should try to avoid carrying out the surgery in those theatres where gynecological procedures are carried out, as these operation theatres are considered to be infected and unfit of any kind of bony surgeries.

## HOW SURGERY IS PERFORMED:

Orthognathic Surgery is carried out under general anesthesia. It involves a controlled break of the upper and/or lower jaws. Most of the surgery is carried out in the mouth so there is no facial scarring. Following basic surgery the jaws are then re-positioned in the predetermined position and fixed with stainless steel wire or titanium plates and screws. The patient is placed on a soft non-chew diet for at least six weeks while the jaws heal in their new position. The wires or plates and screws generally do not need to be removed, as they become part of the body and depending on the complexity of the case, the upper and lower jaw may be fixed together for four to six weeks using metal arch wires attached to both jaws. Before the surgery a course of orthodontic treatment may be undertaken so the teeth will be in correct position for the newly aligned jaws. Since Orthognathic Surgery is a major procedure and recovery may take up to 3 weeks. The primary bone healing will take at least 6 weeks. It would invariably take a minimum of 3 months for the muscle tone to return back to normal, meaning thereby an individual will be able to appreciate the final result only after this period. There is considerable swelling and numbness of the face after the procedure but this subsides after about 12

days. Meticulous oral hygiene must be carried out to prevent any infection occurring and time must be taken off work or school to recover.

## COMPLICATIONS OF ORTHOGNATHIC SURGERY

Complications, seen in any major surgery under general anesthesia, maybe seen in orthognathic surgery as well. Swelling, pain, nausea, vomiting, bleeding, infection, chest infections, etc are some of the potential risks of any major surgery under general anesthesia. Other complications specific to orthognathic surgery are

### 1. Nerve injury:

Loss of sensation resulting in numbness or tingling sensation of the chin, cheek, nose or tongue may occur after surgery. Sensation returns to the affected areas as the nerve fibers regenerate and mend themselves, after a few months of surgery. Rarely some individuals may experience permanent altered sensation.

### 2. Sinus complications:

Sinus complications such as sinusitis may occur after surgeries of the maxilla. This may not require any further treatment as it usually corrects it selves after a period of time.

### 3. Teeth Nonvitality:

Nonvitality of teeth near the osteotomy site are seen rarely. This may require root canal treatment of the involved tooth at a later date.

### 4. Relapse:

Relapse or unpredicted shifting of the new jaw position may occur, even though very uncommonly. If it does then further surgical intervention would be necessary.

### 5. Infection:

Periodontal infections around the teeth near the osteotomy site may cause mobility of the concerned teeth. This may be corrected by periodontal flap surgery and bone graft.

### 6. Necrosis of bone:

Necrosis of the bone is seen very very rarely. This could be due to reduced blood supply to the area and will require surgical removal of the infected bone. More common during mandibular surgery, especially with excessive periosteal stripping during the surgery.

### 7. Undesirable surgical outcome:

Unrealistic expectations by an individual would result in dissatisfaction of the "new" face. Some individuals imagine and attribute all their psychological problems to their facial deformity and will not be satisfied even if good results are achieved. After all, the surgeon is only a human being, he only tries to correct or repair what you already have, and every surgery has its own limitations. Individual satisfaction is very subjective and a positive attitude from the parents and their relatives are very essential.

CLINICAL PHOTOGRAPH (FOR ILLUSTRATION):

