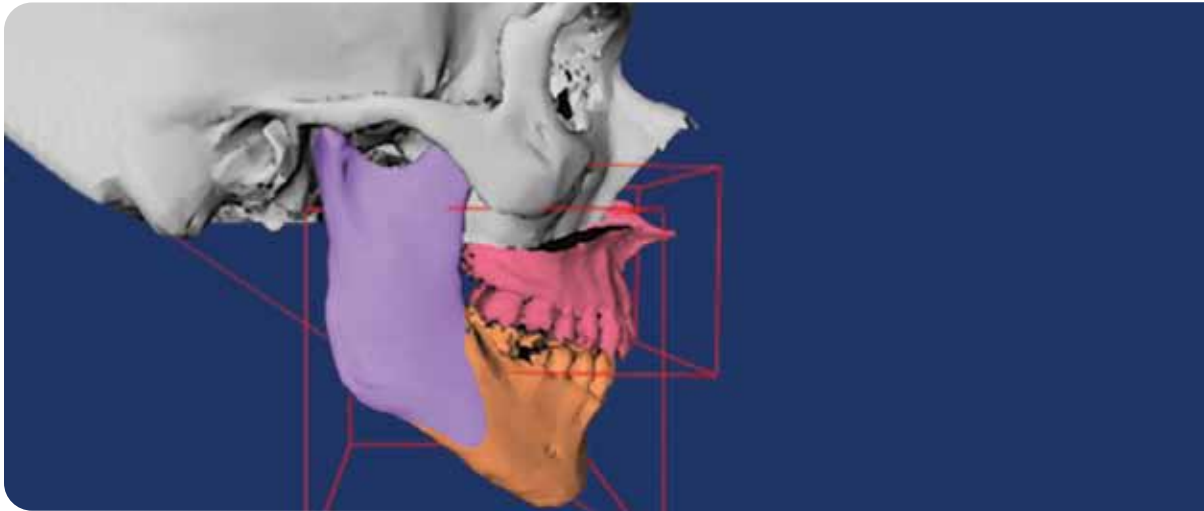


A Patient's Guide To Orthognathic Surgery



MICHAEL B. LEE D.D.S.

Diplomate American Board of Oral and Maxillofacial Surgery

Introduction to Jaw Surgery

In simple terms orthognathic surgery means surgery of the jawbones. The surgery will be necessary to properly align the maxilla or upper jaw and or the mandible or lower jaw to the other facial bones and the base of the skull. Proper alignment helps to insure the long-term success of the orthodontics, protects the teeth and tooth supporting structures, improves function of the jaws and also decreases the potential for overloading forces on the temporomandibular joints (jaw joint) and facial muscles.

As we have discussed orthognathic surgery is quite common today and

Dr. Lee performs it routinely. Whether your surgery is in the upper jaw or the lower jaw or both, most aspects of jaw surgery including recovery remain the same. Your surgery will involve a stay in the hospital of one or two days. After surgery you will be able to open and close your mouth, eat soft foods and talk normally within a few days of your surgery. This is possible because of the use of tiny bone plates and screws to hold the bones in their new position. This type of fixation is called "rigid fixation" and is accomplished with small plates and pins thereby eliminating the need to wire the

jaws together. To place the pins in the lower jaw a small incision is necessary along the bottom of the jaw line. This incision is approximately ¼ inch long and is closed with one or two sutures. It is not a long or visible incision and scarring is very unlikely. Infection in the incision line is also very unlikely. The pins are considered permanent and should not need to be removed. If they become infected, however, removal may be necessary. When performing upper jaw surgery, small bone plates are placed over the surgical cut made in the bone. These, as well, rarely require removal.

This technique is very successful at keeping the bones in their proper position. Surgical relapse or shifting of the bones is much less likely using this technique than older style fixation techniques which employed wires in the bone and wiring the jaws together. Because your jaws will not be wired together and because of the use of rigid fixation you will be able to open and close your jaws, speak and eat soft foods. Your diet will be modified, however. For approximately 4 weeks from the date of your surgery you will be restricted to very soft foods.

Foods such as mashed potatoes, spaghetti and meat sauce, macaroni and cheese, baked beans as well as shredded chicken and foods of similar consistency are all appropriate for your diet. A recipe booklet is available upon request.

A plastic template or bite splint may be used to help equalize your bite after your surgery. The bite splint is wired to the upper teeth and usually remains in place for two weeks. It will not interfere with speech or with your diet. (See Figure 1)



Figure 1

While healing, patients are encouraged to eliminate any strenuous athletic activities. Jogging, weight lifting, and contact sports are prohibited. Patients may however return to all other activities including school and work as soon as they feel capable. Non-contact sports such as golf, tennis, swimming and bicycle riding may be appropriate after two weeks of convalescence. Most patients return to work or school after 10 – 14 days. Most patients can expect to function at 50 – 70% of their normal capacity at that time. It takes another two weeks before most patient's feel

100% recovered. Rarely, do patients feel recovered enough to return to normal activity in less than 10 – 14 days.

Cosmetic Benefits of Jaw Surgery

Orthognathic surgery will sometimes alter the appearance of the patient. Any changes of an aesthetic nature are carefully planned to be positive ones. However, unplanned changes in the appearance can occur. These are occasionally seen as undesirable by the patient. Computer generated video imaging is available to estimate the cosmetic ramifications of your proposed jaw surgery. Dr. Lee has pioneered computer-generated video imaging in the Cincinnati area in order to allow his patients to see the anticipated aesthetic benefits of jaw reconstruction prior to undergoing the surgical procedure. Our system is unique to the area and is the most advanced orthognathic surgery video imaging system in the region.

The first photograph on the right (Figure 1), is a pre-operative profile of a patient. The patient underwent surgery to advance her lower jaw and chin. The middle image (Figure 2), is a computer generated, pre-surgical image of the estimated cosmetic change anticipated from the surgical procedure. The image to the far right (Figure 3), is an actual photograph taken of the patient several months following the surgery.



Figure 1



Figure 2



Figure 3

Orthognathic Surgery and TMJ

Jaw surgery has sometimes been recommended to aid in the treatment of temporomandibular joint (jaw joint) problems. Although it is true that bite problems aggravate temporomandibular joint problems, surgery to fix the bite does not always solve TMJ problems. This is especially true in patients who have jaw joint problems caused by displaced or worn disks in the jaw joint. In rare instances, joints, which were pain free prior to surgery, can become painful after surgery. This problem might require additional dental, orthodontic or surgical treatment to resolve. It has been our experience that patients with TMJ problems pre-operatively have fewer problems after their jaw surgery.

A growing body of evidence in the literature supports the conservative management of TMJ symptoms. Correction and stabilization of a normal bite through the use of orthognathic surgery is felt to be the foundation of good conservative TMJ therapy. Inefficient chewing and jaw muscle overloading from a bad bite often adds to TMJ symptoms. Patients inability to find a comfortable resting position for their lower jaw as a result of a bad bite stresses the joint itself. A bad bite may increase clenching and grinding of the teeth. Chronic clenching and grinding causes more joint overloading and symptoms. Long term, this process is thought to lead to joint degeneration in some patients.

Complications from Jaw Surgery

As with other forms of surgery there are potential risks. Your jaw surgery will be done in an operating room and will require a general anesthetic. There can be complications related to the anesthetic, however, serious complications are rare. The patient must weigh the benefits of the surgery against that remote chance of any anesthetic problem. If you have questions concerning this we can arrange to have you talk to an anesthesiologist. Teeth adjacent to the bone cuts can be damaged and may require dental treatment or extraction. The surgery is carefully planned and designed to avoid complications of this type. If the lower jaw is operated on, all patients will encounter numbness to the lower lip,

chin and teeth. This is not a paralysis and the lip is capable of functioning in a normal fashion. However, it will feel much the same as the sensation you encounter when the dentist uses a local anesthetic to numb the lower jaw. This degree of numbness lasts for several weeks, can last for several months and occasionally can be permanent. Numbness to the tongue has also been reported with lower jaw surgery but this, again, is an uncommon complication. When the upper jaw is operated on, the cheeks as well as the upper lip and the roof of the mouth will be numb. This often lasts only a few weeks.

Lower Jaw Surgery



Lower jaw surgery is accomplished by cutting the lower jaw in such a fashion as to allow it to slide on itself, much like a sliding glass door would slide open or closed. Through this technique the jaw can be advanced and lengthened or reduced and



shortened. The nerve that provides sensation to the lower lip courses through the lower jaw and must be moved in order to accomplish the surgery. The nerve is depicted in the photo by the red marker coursing through the jawbone.

Upper Jaw Surgery



Upper jaw surgery is accomplished through a small incision in the gum tissue above the teeth. Once a cut is made through the bone, the upper jaw and the bone that forms the roof of the mouth can be repositioned to



fix the bite. It can be moved forwards or backwards. It can also be moved up or down depending on the aesthetic needs of the patient. The upper jaw is held in its new location using tiny titanium metal plates.

If the position of the jaws is not acceptable after surgery or if the bones shift post-operatively, it may be necessary to repeat the operation and reset the jawbones. The surgery is carefully designed to minimize this complication, but all patients and parents need to understand that the jaws are surrounded by a complex muscle group called the muscles of mastication. These muscles place a great deal of stress and strain on the bones. In spite of "rigid fixation", the bones can shift especially in large individuals and patients who clench and grind their teeth. Additionally, most jaw problems are three dimensional and require bone movement not only front to back, but also side to side. Side to side moves are the most challenging

to stabilize, along with bite problems associated with TMJ problems. Growth of the jawbones after the surgery can also result in a compromised result. Growth is quite uncommon after jaw surgery and the orthodontist will assess your growth potential prior to referring you for orthognathic surgery. It is important that the jaw joints have completely formed prior to any jaw surgery. For this reason it is unusual that jaw surgery would be performed in young men or women prior to the age of 15. Certain types of jaw deformities cannot be operated on and fixed until a patient's skeleton completely matures. In women this may postpone jaw surgery until age 18 and in men until age 21.

Jaw Surgery & Medical Insurance

Orthognathic surgery is covered under the terms of many medical insurance carriers. Some insurance carriers limit their coverage to a percentage of the surgical fees. Others have flat payment schedules. Many medical insurance carriers require that the surgeon be a member of their panel in order for the patient to receive benefits. Almost all medical insurance carriers today provide some mechanism for patients to receive treatment for “out-of-network doctors”. Because of the extremely low reimbursement levels for these types of surgeries it is impossible for Dr. Lee

to participate in all medical insurance plans. Dr. Lee's Orthognathic Surgery Coordinator will submit a letter to your insurance company outlining the diagnosis and treatment required for your bite problem. The insurance company should predetermine your surgical coverage but will probably not assign a dollar amount they will pay for the surgery. Dr. Lee's Orthognathic Surgery Coordinator has extensive experience with insurance carriers and should be able to estimate your out-of-pocket expense.

Services not Covered by Medical Insurance

1. Surgery performed for cosmetic reasons or surgery deemed cosmetic by your medical insurance carrier.
2. Dental laboratory procedures to accurately and successfully treat your skeletal deformity and execute the surgical treatment plan outlined to correct your jaw malalignment. These laboratory procedures include the mounting of dental plaster models, model surgery and the fabrication of some surgical templates.
3. Computer video imaging to demonstrate the cosmetic changes from jaw surgery.
4. Three dimensional airway studies.

All surgery patients are seen periodically during orthodontic treatment. It is important to follow your progress during your orthodontic therapy so that we can reevaluate changes in your bite and facial appearance. Occasionally treatment plans change based upon orthodontic treatment. On occasion orthodontic treatment unmasks skeletal problems, jaw asymmetries and midline problems. Changes in the original surgical treatment plan can occur. Recognizing changes in the surgical treatment plan early allows us to resubmit the changed surgery plan to the insurance carrier and also allows us to properly prepare the patient for any changes in the postoperative phase of treatment. Having performed over 2,000 orthognathic surgery cases,

Dr. Lee and his staff have learned that these types of surgeries can be very stressful and trying for both patients and parents. It is our goal to help you understand the surgical portion of our treatment plan, to follow your progress during the orthodontic phase of therapy and finally to accomplish our surgical goals in order to obtain a successful result. Treating you to the standard of care is just the beginning of our job. Surpassing the standard of care is our goal.

7523 State Road Cincinnati, Ohio 45255
513.232.8989 www.cincinnatijawsurgery.com