**What is Orthognathic Surgery?**

Orthognathic surgery (also referred to as Corrective Jaw Surgery) is performed in order to correct congenital skeletal and dental asymmetries. Orthognathic surgery includes a wide variety of procedures performed in order to place the teeth, jaw bones, and other associated hard and soft tissue structures into a more ideal anatomical relationship. Patients requiring orthognathic surgery commonly have significant facial and dental deformities including severe malocclusion (teeth do not fit together correctly), anterior open bite, posterior open bite, excessive gummy smile, difficulty chewing, lips do not touch unless the patient is straining, dry mouth, receded chin, prominent chin, nasal asymmetries, difficulty breathing, mouth breathing, asymmetries from one side of the face to the other, lack of cheekbones, long face syndrome and TMJ pain and headaches.

Orthognathic surgery involves moving either the lower jaw, the upper jaw or both in order to correct the specific facial and dental deformity of the patient. These procedures are performed in either an outpatient or a hospital setting and are performed after full skeletal maturity of the patient. Adjunctive procedures such as dental implant placement, genioplasty (chin implant or reduction), rhinoplasty/septoplasty and cheekbone augmentation may be performed in order to correct congenitally missing teeth and/or facial asymmetries.

Potential orthognathic surgery patients are typically evaluated by both an Orthodontist and an Oral and Maxillofacial Surgeon. An orthodontist will place braces on the upper and lower teeth in order to move the teeth into their best position prior to orthognathic surgery. Orthognathic surgery is then necessary to correct the position of the upper jaw or the lower jaw or both jaws. After the jaws have been repositioned surgically, your orthodontist is then able to properly align your teeth and correct your bite abnormality.

A patient will ALWAYS require orthodontic treatment (braces) both before and after orthognathic surgery. A patient will typically have braces for 12 to 36 months prior to orthognathic surgery and 6 to 18 months following surgery. However, all cases are unique and are tailored to the patient’s specific needs.

**Why Have Surgery?**

There are several reasons why the correction of a jaw abnormality through orthodontics and surgery may be beneficial. Some of the reasons are listed below:

1. **When orthodontic treatment alone cannot correct a problem.** There are times when congenital abnormalities, growth disturbances, or previous trauma has resulted in jaw positions that prevent conventional orthodontics from achieving a satisfactory functional and esthetic result.

2. **To improve jaw function.** Correcting a significant bite abnormality will often lead to improvement in jaw and muscle function and can allow for more efficient chewing. Correction of abnormal occlusion (teeth position) will allow individuals to eat foods that they were previously unable to eat.

3. **To enhance the long-term orthodontic result (stability).** In some cases, orthodontic treatment alone can produce a good bite relationship during and immediately after orthodontic treatment. However, when an underlying jaw abnormality is responsible for the bite problem, orthodontic movement must sometimes be done in such a way that makes it difficult to maintain the position of the teeth over time once the braces have been removed. Surgery can often improve the long-term results in these cases.

4. **Change in facial appearance.** The placement of the jaws in the proper position often results in a more pleasing facial appearance. Orthognathic surgery can help to reduce facial asymmetries, gummy smiles, receded or overly prominent chins, lip incompetence and long face syndrome.

5. **Improving breathing.** When surgery is performed on the upper jaw, the ability to breath is frequently improved. This type of surgery may help to alleviate problems associated with mouth breathing, obstructed nasal breathing, sleep apnea and snoring.

6. **Improved speech.** Correction of poorly positioned jaws and teeth may have a positive effect on abnormal speech. Jaw surgery may need to be combined with speech therapy to correct speech abnormalities.

7. **Improvement in jaw pain, headaches and TMJ discomfort.** Patients who have jaw pain, pain in their jaw muscles, headaches and TMJ discomfort may experience some improvement after a correction in jaw position. While this pain reduction occurs for many patients, there is no absolute guarantee that correction of jaw position will be able to totally eliminate or reduce pain.

**Evaluation and Treatment Sequencing**

1. **Initial Evaluation.** During this appointment, we will discuss your concerns and goals for orthodontic and surgical treatment. We will perform a thorough history and physical examination and obtain the necessary records for complete treatment planning. These records include:
   - Photographs of your face and bite
   - Special radiographs (x-rays) designed for evaluation of facial bones
   - Dental impressions of your teeth

2. **Treatment Planning Consultation.** During this appointment, the results of our evaluation and treatment recommendations will be presented to you and any family or friends which you feel should be involved in this process. We will use your photographs, radiographs and dental impressions to show you what type of treatment will be necessary. We will answer all of your questions regarding the surgical procedure, discuss instructions for before and after your procedure and explain potential complications. However, if questions arise in the future, please do not hesitate to call our office to make another appointment to discuss your surgery again in person.

3. **Insurance Predetermination (if applicable):** Some insurance companies require that orthognathic surgery if it is determined (by the insurance company) to be medically necessary. Over recent years, the criteria used by most insurance companies has become increasingly strict and many insurance plans no longer cover orthognathic surgery, even in the most extreme cases. Our office will provide you with a letter stating your specific diagnosis, treatment plan and associated insurance codes. This letter will aid you in obtaining a predetermination regarding your insurance coverage on your anticipated surgical treatment plan.

**Treatment Sequence**

1. **Preoperative Period**
   - From now and until a few weeks prior to your surgery. Prior to the time jaw surgery is completed, your orthodontist will place orthodontic appliances (braces) on your teeth. If it is necessary to remove any teeth to help with this proper teeth alignment, it will be done at this time. If wisdom teeth are present, they will be removed 6 to 12 months prior to surgery. Your orthodontist will attempt to align the upper teeth properly in the upper jaw and the lower teeth in the lower jaw prior to surgery. During this period, your bite may appear to get worse. Please remember that your orthodontist is aligning your teeth in the appropriate position for AFTER your surgery.

2. **Immediate Presurgical Period**
   - A few weeks prior to surgery. During this time your orthodontist will place special "surgical wires and/or hooks" on your upper and lower braces. These wires/ hooks will be used to help place your teeth into the proper position during surgery and to help hold small orthodontic elastics or wires after surgery.

One week prior to surgery.
   - One week prior to your surgery, we will complete a final discussion regarding the details of your surgery and answer any remaining questions pertaining to your specific post-operative instructions and recovery period. All consents will be gone over and signed and new records will be taken in order to formulate the final details of your treatment plan. New records will include:
   - New photographs
   - New dental impressions
   - New dental and skeletal measurements
   - New radiographs
   - A physical examination
   - A review of your health history
1. Normal post-operative sequela. The following are not important for you to understand that the risks associated outweigh any risks associated with surgery. However, it is to you if we did not feel strongly that the benefits far potential benefits. We would not recommend an operation be considered and these should be weighed against the

As with any type of surgical treatment, certain risks must be considered and these should be weighed against the potential benefits. We would not recommend an operation to you if we did not feel strongly that the benefits far outweigh any risks associated with surgery. However, it is important for you to understand that the risks associated with orthognathic surgery may include the following:

- Normal post-operative sequela. The following are not risks or complications, but are expected effects associated with your surgical procedure and with the healing process:
  - Discomfort/post-operative pain due to the surgery itself
  - Swelling, which typically peaks at post-operative day number four
  - Bleeding, which is usually minor and may last for several days
  - Limited mouth opening caused by normal swelling of the jaw muscles
  - Numbness, which is temporary in most instances

2. Infections with jaw surgery are rare, generally easy to treat, and usually resolve quickly. However, infections may result in more severe consequences such as improper healing and the need for additional surgery.

3. Damage to normal structures such as gum tissue, bone or teeth. This type of problem is extremely rare.

4. Numbness or decreased sensation after surgery. Facial swelling, manipulation of the jaws and bruising/stretching of the nerves at the time of surgery will result in decreased sensation (numbness) to certain parts of the face. In the case of upper jaw surgery, this numbness is most noticeable around the nose, upper lip and the upper teeth and gums. In lower jaw surgery, this numbness occurs around the chin, lower lip and the lower teeth and gums. While this may feel strange in the immediate post-operative period, this numbness also helps decrease the amount of pain that you will feel after surgery. This decreased feeling is usually temporary. However, in a few patients, there may be some permanent loss of feeling.

5. Risks associated with anesthesia. General anesthesia is very safe, particularly in elective surgery cases such as orthognathic surgery. The anesthesiologist will discuss all aspects of your anesthesia care with you prior to your surgery.

Physical Activity

1. You should limit your physical activity after your surgery. This usually means relaxing at home with minimal to light activity and no physical straining.

2. At about one week after surgery, you may be able to return to some limited activity such as restricted work activity, some school activity, and easy leisure activity. For some patients, this may be delayed for up to two weeks depending on the type of surgery and how quickly you recover after surgery.