Corrective Jaw Surgery

What is corrective jaw surgery?
Corrective jaw surgery known as “orthognathic surgery” is performed to change the position of your jaws when they don’t meet correctly or your teeth don’t appear to fit with your jaws. Your surgeon will work closely with your orthodontist who will straighten your teeth during the process. The words, “orthognathic” and “orthodontic” both come from Greek, and mean “straight jaws” and “straight” teeth respectively.

Who needs corrective jaw surgery?
If your jaws are not correctly positioned or you have an incorrect bite you may be a candidate for this surgery. This can occur during growth, when, in some cases your upper and lower jaws grow at different rates. You may have had this condition since birth or as a result of an accident. This can give rise to functional problems such as difficulty chewing and speaking. You may feel that your face is out of balance and may not be happy with your appearance. For example, many patients present complaining of a prominent lower jaw and chin or conversely, a small jaw and chin, both of which may contribute to an unpleasing profile. Patients may also complain of a gummy smile which reflects an excessive downward or forward growth of the upper jaw. Many of these conditions can be improved through corrective jaw surgery to give the patient a more balanced look.

Before
An additional example of an imbalance of the forward growth of the lower jaw relative to the upper jaw. In this case the patient has a prominent lower and an underdeveloped upper jaw.

Simulation
Some surgeons use video prediction computer software to perform a mock-surgery on the patient’s image to plan the surgical movements of the jaws and to allow the patient to get an idea of how their facial profile can be improved with surgery.

After
This is a photo of the patient after surgery. Note the improved balance of the patient’s profile. This patient had an upper jaw advancement and a slight reduction of the chin area.
Computer software allows your surgeon to match the patient’s profile photo with a profile X-ray that allows a look at the skeleton of the upper and lower jaw. The surgical movements of the jaw are performed on the X-ray and the computer generates a prediction of the patient’s new appearance by changing the position of the soft tissues of the face. The X-ray examination allows for precise measurement of bone landmarks that are used to plan for the surgical movement of jaws. The before and after views of a patient who underwent upper and lower jaw surgery as well as of the chin region allow the improvements in the overall balance of facial proportions to be seen. Your surgeon should assess your need for corrective jaw surgery if you have difficulty chewing or swallowing, breathing or pronouncing certain sounds.

What is involved in planning for my corrective jaw surgery?

Your orthodontist will evaluate the position of your teeth and how braces will move them to fit with the position of your jaw after surgery.

- The orthodontist and your surgeon will use a systematic process to analyze the horizontal and vertical proportions of your face. The teeth and jaw bones provide the underlying support to the soft tissues of the face. Planning for appropriate positioning of the teeth and jaw bones is essential to ensure the long-term health of your teeth and a harmonious facial profile.

- Your orthodontist will fit you with braces for a period of 6-18 months, depending on how long it takes for your teeth to shift into the required position. The new position of your teeth must be finalized with braces, before you have your jaw surgery.

- Your surgeon will assess how the bones of your jaw can be moved to best improve your bite.

- He or she will want to know about your medical conditions and past surgeries to better understand how your condition occurred. Any future plans for dental procedures or cosmetic surgery should be discussed.

- You will undergo a complete examination of your head and neck area including: the nose, eyes, jaws, jaw joint Temporomandibular Joint (TMJ) and mouth.

- Your surgeon will review your dental record from your orthodontist and you may need to have additional X-rays or photographs taken.

- Your surgeon will use state-of the art computer techniques and three-dimensional models to help explain how the procedure will be done and demonstrate how your bite will be improved to give you an impression of how your appearance will change.

Preparing for corrective jaw surgery

- Most surgeons prefer to remove your wisdom teeth, if still present, 6-12 months prior to the date of your jaw surgery.

- You will visit your oral surgeon approximately 6 months prior to the date of your surgery so that he can monitor your progress and begin the planning process.

- As the surgery time approaches, he or she may perform on or more “mock” surgeries on casts of your mouth to better plan for the actual procedure.

- As an important part of your preparation, your surgeon will review with you the nature of the surgical procedure, the expected side effects, and the potential risks and benefits associated with jaw surgery.

How much time does this process take?

The entire process can take two years or more with many visits to your surgeon and orthodontist. As this is a major commitment, you need to consider how this will affect your daily life and activities.
How is the corrective jaw surgery procedure done?

Jaw surgery is generally performed in a hospital setting under general anesthesia. In preparation for your surgery, you will undergo a physical examination and blood tests to ensure that you are in good health. The soft tissue incisions for jaw surgery are usually placed entirely inside the mouth. With the use of specialized instruments, your surgeon will make bony cuts in your jaw so that it can be moved in the necessary direction (either forward or backwards). Both upper and lower jaws can be moved in this way. In the upper jaw it is sometimes necessary to adjust the width as well as the vertical position of the jaw.

If a patient shows too much gum it is possible to remove a portion of the bone, to allow the jaw to be moved in an upward direction. Once the jaw is in the desired position, the upper and lower jaws are temporarily wired together and the bony cuts are repaired with the use of small bone plates and screws. With the advent of these new techniques, most patients are no longer required to have their jaws wired shut for the traditional 4-6 weeks. The incisions, which are carefully sutured, tend to heal well and are normally not visible in the mouth.

What can go wrong with this procedure?

Before undertaking any surgical procedure the surgeon will discuss the risks versus the benefits with the patient. This will include a detailed description of the possible complications that can arise during or as a result of corrective jaw surgery. Ideally this exchange of information should occur on a one-on-one basis with the patient’s spouse or parents present.

How long is the recovery period and what can I expect?

You may notice some swelling and facial bruising and feel groggy when you wake up from the surgery. You will be given pain medication to ease any discomfort. Your bite and gums will feel different and you may sense that your gums and lips are numb. These are normal and temporary changes.

It is extremely important that you practice good oral hygiene to keep the wound clean and prevent infection. You should start as soon as you are able following your surgery to:

- Rinse your mouth with warm salt water (1 teaspoon/glass).
- Loosen any food particles from your teeth, using a child-size soft toothbrush.
- Rinse again with salt water. Two weeks following your surgery you may add mouthwash to the salt water mixture.
- A Water Pik is recommended to help you maintain your oral hygiene at home.
You are encouraged to get out of bed and walk around as soon as possible. This will help reduce the swelling and stimulate your circulation. You can expect to be off of school or work for a period of at least 2 weeks. You need to drink fluids to keep yourself well hydrated and begin a “non-chew” diet that can be prepared in a blender. It is better to eat small meals more frequently. Foods such as milkshakes and protein supplements can be added to make your meals more interesting.

Your surgeon will guide you in the timing of your progression from a liquid to a soft and then to a normal diet. Your surgeon may recommend physical therapy to learn facial exercises that can increase the range of motion of your jaw and accelerate your recovery. You may notice significant changes in your appearance during the initial phase of you healing period and friends and family may find this disconcerting. You should talk to them about these expected changes you are experiencing. You can resume your daily activities slowly and can expect to be fully active within about two months.

**How will corrective jaw surgery affect my life?**

Many patients report that the discomfort during the recovery period is less than they expected. Following the surgery you can expect a significant improvement in the function of your jaws and the appearance of your face. This can sometimes be a life-altering event that boosts your self-confidence and enhances your quality of life.