

# ORTHODONTICS AND ORTHOGNATHIC (JAW) SURGERY

## What is Orthognathic Surgery?

Orthognathic Surgery or Corrective Jaw Surgery (Greek "orthos" means straight and "gnathos" means jaw) involves an operation to one or both of the jaws to alter their position and/or shape. It is usually performed to correct a major discrepancy of the size or position of the jaws in non-growing individuals. Orthognathic Surgery will improve facial appearance and smile aesthetics as well as improve a person's ability to chew and bite food properly.

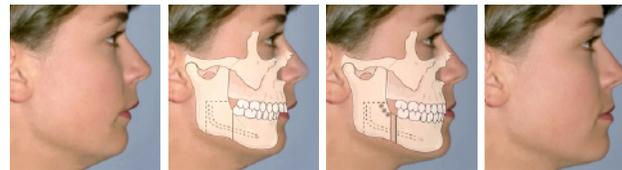


## Who Needs Orthognathic Surgery?

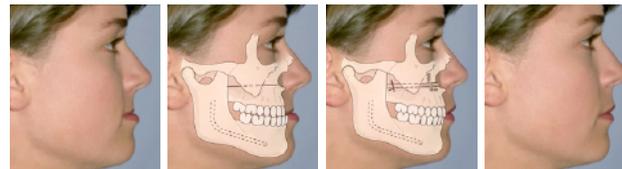
Orthognathic Surgery is generally restricted to healthy adults where all major skeletal growth has ceased. Patients from ages 18 to 45 years of age are the best candidates. Orthognathic Surgery is usually recommended when there has been a significant jaw growth imbalance resulting in a considerable malocclusion or "bad bite". In these situations, simple alignment of dental arches with orthodontic appliances alone cannot produce a satisfactory aesthetic or functional outcome. This is primarily because the orthodontic appliances such as braces will only move the teeth and have very little effect on irregular jaw positions.

The most common situations where a patient may require Orthognathic Surgery are:

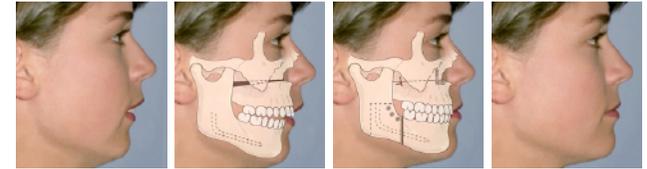
1. The lower jaw is too small and is set too far back resulting in a severe "overbite" and recessive chin. Surgery is usually performed to bring the lower jaw forward by increasing its length.



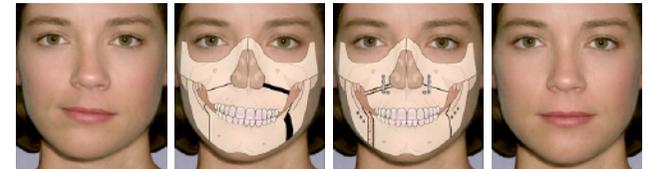
2. The lower jaw is too big and is set too far forward and the upper jaw is too small resulting in an "underbite". In these cases surgery is often required to reduce the prominence of the lower jaw and advance the position of the upper jaw.



3. The lower jaw is diverging from the upper jaw resulting in an openbite or lack of vertical overlap of the front teeth. Surgery is usually performed on the upper and lower jaw to allow the lower jaw to fully close against the upper.



4. Facial asymmetry or deformities resulting from genetic, developmental and traumatic influences.



## Who Performs the Surgery?

The surgery is performed by an Oral and Maxillofacial Surgeon. These specialist practitioners have training in dentistry, medicine, general surgery and head and neck surgery. You will be referred to an experienced surgeon who works in close collaboration with your orthodontist.

## What Happens First?

The Orthodontist is usually the first person in the dental team to recognise the need for Orthognathic Surgery. After collecting facial and dental x-rays, dental casts and photographs, your orthodontist, usually with the aid of computer imaging/morphing technology, will evaluate the type and amount of jaw repositioning required. After liaising with an Oral and Maxillofacial Surgeon, a definitive treatment plan is agreed upon.

A referral will be arranged for you to meet with the surgeon to discuss your surgical plan and obtain informed consent before any actual treatment is commenced. It is of vital importance that the patient makes a resolute decision about having orthognathic treatment, for once started, the treatment is extremely difficult to reverse.

### Do you need Braces as well as Surgery?

Yes – Orthodontic treatment with upper and lower braces is always required in conjunction with the surgery. Surgery is performed with the braces in place. A varying period of orthodontic treatment before the surgery (9-18months), is required to get the teeth into ideal positions so that immediately following surgery the teeth fit together as close as possible. A six-month continuation of the braces treatment is required following the surgery to make final adjustments to the tooth alignments and bite so that an ideal final result can be established.

### What is Involved with the Surgery?

The surgery is performed under general anaesthetic in a private hospital. This operation can take anywhere from 2 hours for a lower jaw procedure to in excess of four hours for a complicated two-jaw operation. The surgeon carefully makes small cuts in the bone and then moves the jaw(s) as required. All incisions are made inside the mouth so there are no facial scars. The jaws are stabilized in their new position with titanium plates and screws at the time of surgery, eliminating the need for the two jaws to be wired together. Initially the jaws are supported by a thin plastic splint attached to the top teeth and small elastic bands between the upper and lower teeth. Following surgery, most patients spend a one to three nights in hospital, with a further 2 weeks to recover prior to returning to work. It may take several months before contact sports can be recommenced.

### Are there any risks with Orthognathic Surgery?

As with any surgical procedure, there are associated risks with jaw surgery that have been well documented. Fortunately, in most cases few, if any, complications are encountered. Generally, Orthognathic Surgery is a safe and predictable type of operation.

Post-operative swelling, bruising, inflammation, and discomfort are to be expected after all jaw surgery procedures. Most patients will also have restricted jaw opening for a short period after the surgery. The severity of these normal post-operative side-effects varies greatly between different patients and the type of surgery performed.

Approximately 80% of all patients undergoing jaw surgery will experience altered sensation (pins and needles) or numbness of their lips, chin, tongue or face for a period of time after the surgery.

This is due to unavoidable trauma and stretching of nerves during the surgical procedure. In most cases these sensory alterations will have dissipated or completely disappeared within 6 months of the surgery. In very rare cases there maybe a permanent loss of sensation to some of the above mentioned areas.



### What Facial Changes can be Expected?

As Orthognathic surgery is performed to correct large differences between jaw position and/or jaw size, there can also be significant, but positive, changes in facial appearance at the completion of treatment. The nature of the facial profile changes are dependent upon the type of surgery undertaken and the amount of jaw correction required. Any expected facial changes are discussed prior to surgery and patient input is encouraged in this regard. In some patients professional psychological counseling may also be an important part of the pre-treatment process.

### I don't want surgery - do I have any other options?

If your jaw discrepancy is mild-moderate in severity, it may be possible to “camouflage” the skeletal problem by extracting certain teeth and doing orthodontic (braces) treatment only. Camouflage treatment has significant limitations and compromises in terms of the final cosmetic outcome, the facial profile, functionality and long-term stability. In some cases, this type of treatment may be worse than no treatment at all and therefore offers no benefit to you. This type of non-surgical treatment is not suitable for people with severe jaw problems.



**Carousel Orthodontic Centre**

Dr Howard D. Holmes MDSc

Suites 3 & 4, 7-9 Pattie Street  
Cannington WA 6107

Phone: (08) 9258 8440

[www.carouselorthodontics.com.au](http://www.carouselorthodontics.com.au)  
[info@carouselorthodontics.com.au](mailto:info@carouselorthodontics.com.au)