

Orthognathic Surgery (Corrective Jaw Surgery)

Orthognathic surgery, also known as Corrective Jaw Surgery, is performed by Oral and Maxillofacial Surgeons to correct a wide range of minor and major skeletal and dental irregularities, including the misalignment of jaws and teeth. The word "orthognathic" is derived from two Greek words; "ortho" refers to straight, and "gnathic" refers to jaws. Orthognathic surgery may reposition all or part of the upper jaw, lower jaw and chin which, in turn, can improve chewing, speaking and breathing.. Other benefits may include the relief of facial pain, headaches, snoring and obstructive sleep disorders. While the patient's appearance may be dramatically enhanced as a result of their surgery, orthognathic surgery is performed to correct functional problems.

Conditions That May Indicate the Need for Orthognathic Surgery:

- Difficulty chewing or biting food
- Difficulty swallowing
- Chronic jaw or jaw joint (TMJ) pain and headache
- Excessive wear on the teeth
- Open bite (space between the upper and lower teeth when the mouth is closed)
- Unbalanced facial appearance from the front or side
- Facial injury or birth defects
- Receding chin
- Protruding jaw
- Inability to make one's lips meet without straining
- Chronic mouth breathing and dry mouth
- Sleep apnea (breathing problems when sleeping, including snoring)

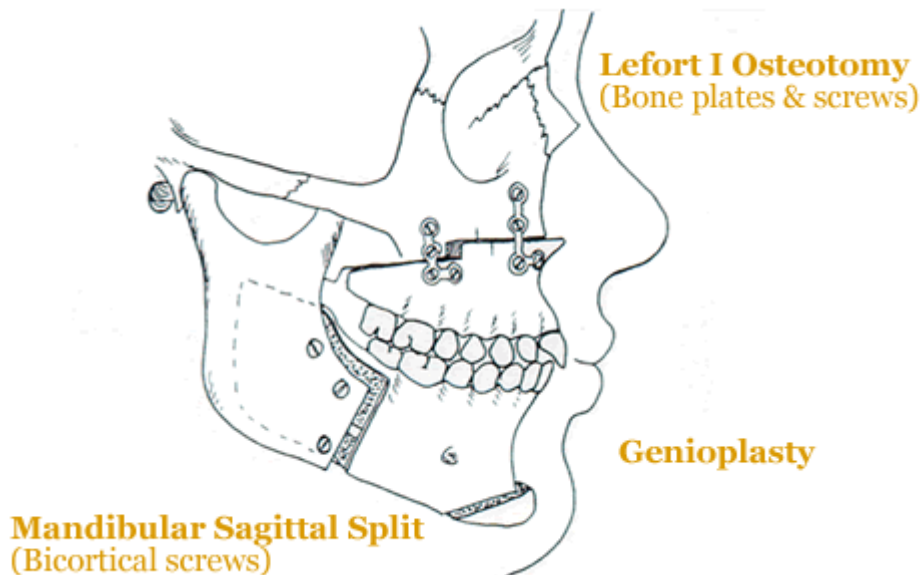
Who Needs Orthognathic Surgery?

People who benefit from orthognathic surgery are those whose misaligned teeth and jaws create in an improper bite. Jaw growth is a gradual process, and the upper and lower jaws may occasionally grow at different rates. This can cause functional problems including difficulty with chewing, speaking, breathing, sleeping and overall oral health

Jaw or head injuries and birth defects may also affect jaw alignment. Orthodontic braces usually correct bite problems caused by tooth misalignment, and orthognathic surgery corrects jaw misalignment.

Lower Jaw Surgery

Procedures involving the lower jaw usually require the separation of the rear portion of the jaw from the front portion that supports your teeth. This allows the surgeon to reposition the tooth-bearing part of your lower jaw forward or backward. (see drawing) The bony segments are then repositioned and are fastened with tiny surgical plates and screws.



Upper Jaw Surgery

In the upper jaw, the tooth-bearing portion of the jaw is separated from its base and then repositioned up, down, forward or backward. During surgery, Dr. Rea moves your jawbones according to your specific needs. Occasionally, bone is added, taken away or reshaped. Tiny surgical plates and screws are used to hold your jaws in their new positions.

Also, wires or rubber-bands may fasten your jaws together temporarily depending on the circumstances. Dr. Rea may also place a plastic bite splint or guide to help maintain a proper bite. Although incisions are usually made inside the mouth, it is sometimes necessary to make small incisions outside the mouth. Care is always taken to minimize scarring.


Distraction Osteogenesis and SARPE

Distraction osteogenesis refers to the progressive gradual stretching of the bone over time. Distraction osteogenesis is a surgical technique for reconstruction of bony deformities. Increased bone and soft tissue are created as a result of the gradual displacement or stretching of surgically created bony fractures. Distraction techniques generate not only new bone, but also soft tissue such as skin, mucosa, muscle, nerve and blood vessels. There is no need for bone grafting in these cases.

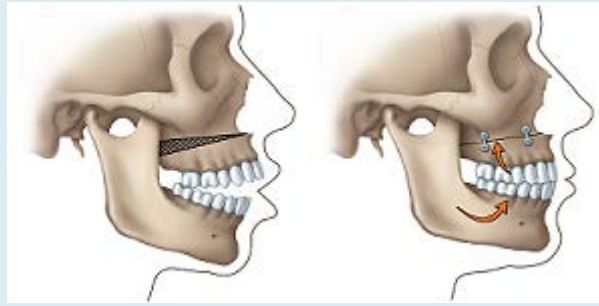
SARPE (Surgical Assisted Rapid Palatal Expansion)

Also called SARME (Surgical Assisted Rapid Maxillary Expansion)

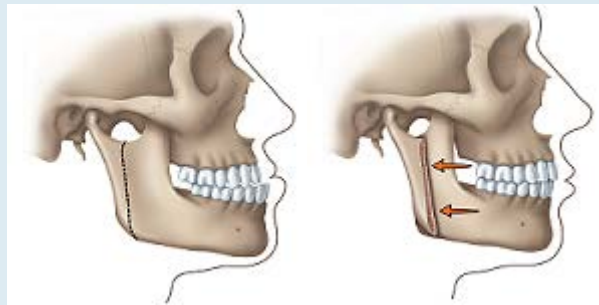
SARPE or SARME is primarily used to treat transverse discrepancy or very narrow upper jaw. In the case of a narrow upper jaw, the tooth-bearing portion of the jaw is separated from its base and then widened using an expander appliance (Hirax) placed by your orthodontist a few days before the operation. After the surgery, Dr. Rea will instruct you on daily activation of the expander appliance. After several days the upper jaw will be wider and the bones will mend in the new expanded position. Your orthodontist will then move the front teeth to close the space, while leaving the back teeth and upper jaw wider. This outpatient procedure is often performed as an initial treatment prior to orthodontics and several months before the major jaw surgery procedures.



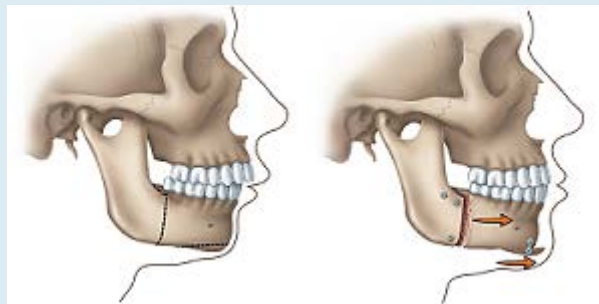
Correction of Common Dentofacial Deformities



Correcting an Open Bite: Some of the bone in the upper tooth-bearing portion of the jaw is removed. The upper jaw is then secured in position with plates and screws.



Correcting a Protruding Lower Jaw: The bone in the rear portion of the jaw is separated from the front portion and modified so that the tooth-bearing portion of the lower jaw can be moved back for proper alignment.



Correcting a Receding Lower Jaw or "Weak Chin": The bone in the lower portion of the jaw is separated from its base and modified. The tooth-bearing portion of the lower jaw and a portion of the chin are repositioned forward.