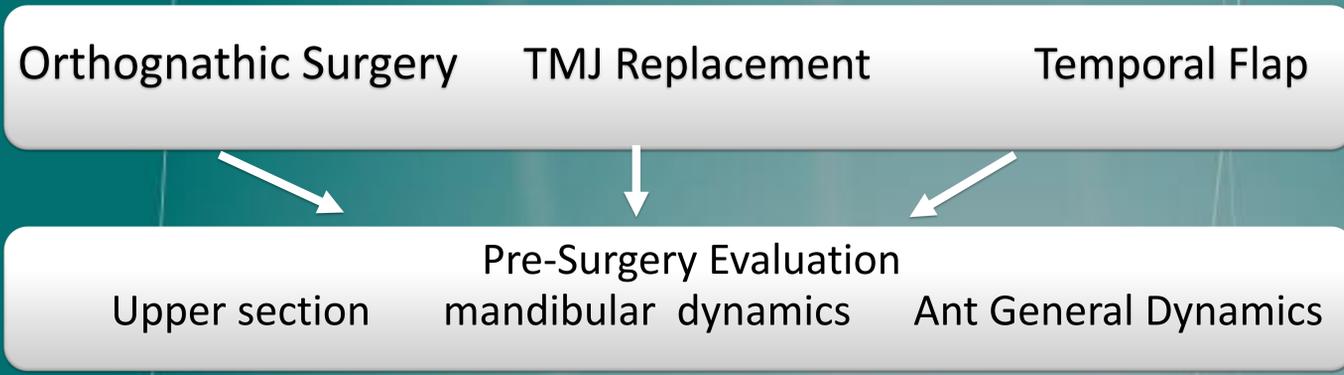


Physiotherapy management post-maxillofacial region reconstructive surgery

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The process of reconstruction in the maxillofacial region, is not just about restoring the anatomical structures needed, but also to restore function in an anatomical structure with new elements and new biomechanics.

Objective: To present a physiotherapy management protocol which was built with a detailed initial review of the movements at the degrees of mandibular dynamics and limitations of all patients who have undergone surgical reconstruction of the maxillofacial region.

Conclusions: The criteria such as degree of mobility limitation, pain and proprioception are taken into account to present each one of you an optimal patient protocol therapy for each case.

Orthognathic Surgery

Orthognathic Surgery

- Manual lymphatic drainage: From 1 day after surgery (Middle and lower third of the face), 2 times a day. Every day until patient discharge and then 3 times the first week which may decrease upon request
- Facial exercise: In order to activate the facial nerve (wrinkle your nose, smile and kiss), and also encourage lymphatic drainage throughout the day. It is done 6 times a day 10x3 series. Two weeks or until 80% of the edema has resolved, recovering the facial expression.
- Exercise joint: Its purpose is to restore joint mobility in the three directions of space. This is done with a frequency of 6 times a day 10x3 series. The first week does not require a specific amount of movement but it is important to perform the repetitions maximum range of movement without causing pain or discomfort. It must be a slow, leisure motion holding a couple of seconds at the end of the range. The second week it should achieve approximately 25 mm of aperture with 6 mm of lateral movement; the third week 30mm aperture and 7mm lateral opening, the fourth week 35 mm aperture and 8mm lateral opening, and the fifth week should achieve the full range of motion of the articulation, as long as the patient always maintains the same frequency of exercises. The use of elastic does not preclude the exercise performance and the patient should be removed to perform the sequence. The frequency and consistency in the exercises is witty in the recovery of total joint range. It is important to consider joint ranges prior to surgery for joints not on demand in case of limited ranges. It is always important to restore joint mobility in three dimensions and consider the condylar movements in both rotation and translation for non-articular tissues overtaxed and recover a good joint dynamics will be reflected in good joint ranges.

Lymphatic drainage

Facial exercise

Mandibular exercise

3D Exercise



TMJ Repacement

TMJ Replacement

It is very important to consider that every patient will present different mandibular dynamics. Peri-articular tissues present significant alterations as the case may also be in the presence of severe dysfunction and muscle shortening.

Lymphatic drainage

Facial exercise

Mandibular exercise

Elongation only

- Manual lymphatic drainage: The objective is to control edema and prevent complications the day after surgery.
- Face exercise: The same goals as orthognathic surgery.
- Articular exercise is performed in order to maintain the joint range that was achieved through the surgery. The exercises should be performed at least 6 times a day keeping initially the first 3 to 5 days the range achieved in surgery and installation must be maintained. The exercises are performed only in the sagittal plane (opening and closing) and in order to achieve elongation of the surrounding tissues and muscles, so they must be performed on or assisted by the patient or the physiotherapist. They consist of repetitions of keeping open for 10 to 15 seconds. At the end of the range maximum voltage must be achieved in the surrounding tissues to stretch the collagen fibers and prevent tissue fibrosis. The tension is to be achieved by applying an external force such as tongue depressors between arches or using one of the hands. The increased pressure to achieve an effective stretch will depend on the progress made. Exercise and control will continue for at least 6 months. It is essential to perform the exercises for a minimum of 6 months to 1 year to complete the scar tissue remodeling. The achieved opening will give the specifications of the prosthesis

Temporal Flap

Lymphatic drainage

Facial exercise

Medium Compression for 15 days

Education of proprioception

Elongation

Temporal Flap

- Manual lymphatic drainage: Mainly located in the temporal fossa
- Facial exercises: In order to promote drainage and activate the facial muscles.
- Exercise joint: If there is a limitation of joint range these exercises must be performed in order to increase mobility, taking into consideration that the cause of the limitation in this case may be due to pain and inflammation of the temporal tendon or surrounding areas, so therefore the inflammation must be treated as well. The main objective of the exercises in this type of surgery is the proprioception and innervation recuperation of the muscles involved. These exercises must become a repetitive learning process series, using visual cues (mirror) or tactile cues until there are adequate mandibular dynamics automatically. The frequency is at least 6 times a day for the period necessary to achieve optimal range necessary for the movement.

