

Orthognathic Surgery Brochure

Dear sir / madam:

You have been referred by your orthodontist or have come by yourself for our opinion regarding surgical correction of your facial profile and/or malocclusion .

This booklet will inform you in a clear manner the basics about the surgery, the departments surgical protocol and the postoperative care for home. Our team will be happy to explain as well everything after surgery. Please do not hesitate to ask the surgeon any additional questions you might have.

Why shall I have orthognathic surgery (OGS)?

If you have been offered OGS the facial disproportions and/or dental malocclusions you have cannot be properly addressed only with orthodontic treatment. Another reason you may need to have this surgery can be a breathing problem called obstructive sleep apnea syndrome.

The goal of a combined surgical-orthodontic treatment is to obtain a stable, functional occlusion with an attractive harmonious facial profile.

Cooperation between surgeons, orthodontists and sometimes prosthodontists is crucial for an optimal results.

Usually the first consultation takes place before the orthodontic treatment is started. If agreed for OGS, the general plan is discussed based on dental models, X-rays (and when having facial asymmetries cone beam computed tomography (CBCTs) is also requested), and any other particular needs the patient may have. Also a detailed explanation about the planning and timing (usually between 6 -12 months) should be done by the orthodontist.



Four months before surgery appointment will be given to check the orthodontic progress and five appointments dates are fixed: work-up, surgery, 1 and 3 weeks post-operative check-up, and a final 6 months appointment for a photo session to compare results.

During the work-up, two weeks before surgery, radiographs of your face will be taken, to make a study of your facial proportions, as well as dental models, a wax bite (it is a specific dental registration of your occlusion) and clinical preoperative pictures. You will also be given appointment for the first sessions of lymphatic drainage therapy according to the Vodder method. On this website, <u>www.mldv.be</u>, you will find a list of therapists who practice this technique.

Two weeks before the work-up, the orthodontist will leave a passive wire over the brackets. This ensures that no teeth displacements occurs in these two weeks. He will place small hooks over the brackets so your occlusion can be managed easier during surgery.

What is fast-track surgery (FTS) or enhanced recovery program (ERP)?

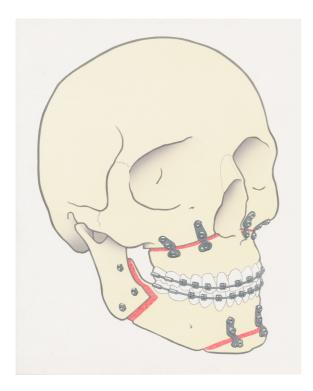
FTS represents a global package of perioperative multidisciplinary care pathways that encompass pre-, intra- and postoperative techniques oriented to improve patient perception, reduce hospital stay and minimize morbidities returning the patient to normal activities as quickly as possible. You will be informed of every step you are going through, so your level of anxiety for surgery will be low. The day of surgery you will be given a specific synergic drug combination for anxiolytic, anesthetic and analgesic control. The anesthetist will avoid most of the drugs that can make you nauseous after surgery (opioids doses are minimized or avoided altogether). During surgery you will have long lasting local anesthesia given to the sensitive facial nerves that will minimize any pain after surgery. The anesthesia dose is individually titrated controlled by a Bispectral Index (BIS) monitor that studies your brain level of sedation. Your body temperature is kept optimal at all times with warm blankets and IV fluids. After surgery your head will be above your heart level and cold packs will surround your face. Everything is done for a reason!

You must register in the hospital according to your preferences the day before or the same day of surgery



at 6h45 in the morning, if the surgery will be done later during the day you will be notified by telephone.

Brief Description of the procedure



Depending on the specific treatment plan, you will undergo one or a combination of the following procedures. These happen all in the same surgery.

Maxillary osteotomy / Le Fort I osteotomy

The osteotomy is performed through the mouth by an incision behind the upper lip. The upper jaw is carefully osteotomized and repositioned according to the planned movements. It is fixed to its new position with titanium plates and screws. The incision is sutured with absorbable thread, which will disappear after 3 weeks.

Mandibular osteotomy / Bilateral sagittal split osteotomy (BSSO)

The mandible osteotomy is also performed through the mouth. Via an incision next to the lower molars, similar to the one done for the removal of wisdom teeth, the lower jaw is sectioned and moved to the



appropriate position, generally fixed with two or three screws. The incision is sutured as well with absorbable thread.

Chin osteotomy / Genioplasty

The chin osteotomy is as well performed through the mouth. The incision is done behind the lower lip, the chin is exposed and a horizontal osteotomy is done. The chin is fixed in the correct position with titanium plates and screws. The incision is sutured with absorbable thread.

Aftercare

Hospital care

After surgery you will be taken to the recovery room. When you are awake and fully conscious, you will go back to your room.

You will have cream in your lips, two bags of ice on your cheeks and elastics on your brackets.

The lip cream (Elocom) protects your lips to keep them moisted.

You will also get a Vichy mouth spray. It sprays mineral water and avoids having a dry mouth.

If you have had a maxillary osteotomy you also get a Sterimar nasal spray (saline water). The spray will avoid a blocked nose. Please remember that it is forbidden to blow your nose for three weeks. With the spray you will be able to breathe almost normally from the beginning. Use them all as much as you need.

An antiseptic mouthwash will be available on your nightstand. To prevent wound infection is recommended to start the day after the surgery with normal oral hygiene (toothbrush, toothpaste, interdental brushes, etc.). The mouthwash is added after brushing.

Before you go home, you will visit our clinic downstairs. Here your condition will be evaluated and additional explanations will be given about the wound care (with the necessary instructions for home). Depending on the surgery you have (and how you feel) we will discharge you the same or the next day.

Elastics

The elastics will support the maxillo-mandibular complex in their new occlusion. They will be checked before you leave the hospital. The purpose of them is to avoid that the jaws shift your occlusion to the



presurgical position by muscular force.

This elastics should be kept undisturbed until your first check-up. The surgeon will show you how to replace them when necessary. Try to keep them on at all times. If this is not possible or you do not remember how to put them, kindly contact our department for help.

During the first control appointment, the surgeon will evaluate your occlusion, and if necessary, he will adjust the position of the elastics. From then on, you can remove the rubber bands to eat and to brush your teeth, then place them back in the correct position.

Home

Pain relief

After surgery, when anesthesia wears you may feel some discomfort in the surgical area. For this, the following medication is prescribed.

- Ibuprofen 400 mgs.
- Anti-inflammatory and pain reliever (and swelling)
- Take with meals 3 to 4 times a day for no longer than 5 days.
- Acetaminophen 1g.
- Pain reliever and fever control, 3 to 4 tablets per day.

Antibiotics are given during surgery, and usually are not rewuired afterwards.

Hygiene

It is essential proper oral hygiene to avoid any complications and guarantee a fast wound healing. Gently brush your teeth and brackets at least four times a day. You may use your regular toothpaste.

You will also get a chlorhexidine mouthwash (Perio-aid). Rinse your mouth after every meal. This will complement the tooth brushing.

IMPORTANT: This product may cause temporary discoloration of the teeth and the tongue when used longer than 14 days. Also, taste loss is then reported.



Food

During the first week you will only drink liquids and pureed food (avoid hot meals the first 24 hours). Examples are soups, puddings, smoothies, milk-shakes..

Afterwards you will have for 3 weeks soft food like soft fish, pasta, meatballs, pudding, ice cream.

Exercises

Moderate physical exercises can start one week after surgery. Contact sport can be resumed after three months.

For the temporomandibular joint we recommend you to start after three weeks with mouth opening and lateral movement exercises to obtain a normal range of motion of the jaw joint. We will explain them in the clinic.

Postoperative control

When planning your surgery, you will get all three control appointments, one week, 3 weeks and 6 months post-operatively.

Orthodontics

The orthodontist will only start teeth movements 6 weeks after surgery. Starting orthodontic treatment before can cause adverse effects on bone healing and unintentional movements of the jaws.

Possible complications

Bleeding

After a maxillary osteotomy you may have sometimes minor nasal bleeding. This is because during surgery fluids (blood and rinsing solution) may remain in the maxillary sinus during the operation and will drain through the nostrils in the next couple of hours.

Bleeding from the mandibular and chin osteotomy is usually minimal and you do not have to be concerned.



Infection

Like in any surgical procedure, there is a risk of infection. We reduce it as much as possible by working in sterile conditions and prescribing antibiotics during surgery. Stopping smoking as early as possible before the surgery and good oral hygiene have proven to minimize the risks.

In case of severe pain which does not improve after taking ibuprofen and paracetamol, an increase in swelling after 3 to 4 days, fever or tenderness, you should contact our department for a closer checkup.

Sensory disorders

When performing a mandibular osteotomy we encounter a sensitive nerve (third branch of the trigeminal nerve) that goes in between the mandible. We handle this nerve with extreme care but even then it is not uncommon to have some numbress in the lower lip and chin. Almost always normal sensation comes back, but sometimes it may take several weeks or months.

In the upper maxillary osteotomy the gum and the teeth may also present some numbress for 4 to 6 months.

When should I contact the maxillo-facial surgeon on call?

- 1- If there is moderate to severe bleeding.
- 2- If you notice swelling, fever, pain, redness or bad taste in the mouth after the 3rd day of surgery.