Orthognathic surgery

What is orthognathic surgery?

Orthognathic surgery is a specialist branch of oral and maxillofacial surgery and is usually part of orthodontic treatment. It involves the modification of the jaws in order to change their alignment and position to improve both the function and appearance of the mouth and sometimes airway (how you breathe).

For the best results, orthodontics and orthognathic surgery should be planned together. Choosing this type of treatment requires a considerable commitment from you because the alteration of the positions of both your jaw and teeth is not a speedy process.

What does orthognathic surgery involve?

Your orthodontists and maxillofacial surgeons will explain the details of what you should expect because this will depend on the actual surgery being performed.

This type of surgery is carried out while you are asleep under a general anaesthetic. Usually, you will be admitted to the ward the day before the operation.

Before the surgery, you will require a period during which you will need to wear fixed appliances/braces.

What do you do during the orthognathic surgery operation?

The details of the surgery performed will depend on what you are having done and will be explained to you by your oral and maxillofacial surgeon.

Surgery might aim to reposition part or all of the top and/or lower jaw(s).

The surgeon (usually) gains access to the bones inside the mouth via the gums. Once the areas of bone have been revealed and loosened they are moved into a new position and fixed in position with small metal plates and screws, which usually remain in the bone. Sometimes these plates will be removed later, which will mean another operation. The jaw position is also maintained using a thin, clear plastic splint (or wafer), which sometimes
remains secured to the lower teeth for some weeks. We use dissolving stitches to neatly close up the gums.

Will I have scars after the orthognathic surgery?

The majority of orthognathic surgery is performed within the mouth so the only scars will be tiny white lines along your gum line.

What will I feel like after the orthognathic surgery?

When you wake up from your anaesthetic, you will feel sleepy, swollen and sore around the mouth and face.

During the surgery, we take great care to protect the nerves that run through the jaws, however, immediately after your surgery some areas of your face might feel numb. This usually recovers with time (see below).

When you first wake up, you will be able to open your mouth. From the next day, however, some gentle elastic bands are used with the braces on the upper and lower teeth, to guide your teeth into position.

For the first few days, your face will be swollen and you might have some bruising especially under your chin and sometimes on your neck due to resolving bruising from your jaws.

You should be up and about within a day or two and back to a normal routine within a month (see below).

When will I see the difference in the appearance of my face?

For the first few days your face will be swollen and you might have some multicoloured bruising. As the swelling goes down and the bruising fades, you will start to see the improvement in your face.

How long will I need to stay in hospital after the orthognathic surgery?

After the surgery, you might spend three to seven days in hospital. During this period, you will recover after the operation with expert supervision by our maxillofacial team.

What will I need to do after I leave hospital?

After surgery, it is very important that you keep your mouth and braces clean to prevent infection. You will be shown by the dental hygienist or dental health educator how to do this.

The elastics that hold your teeth in their new alignment will need to be replaced with fresh ones once the elastic bands lose their flexibility. We will do this at first and will then show you
how to do it for yourself at home.

Your mouth will feel a bit 'new and fragile' at first and for the first few months you will only be able to eat small amounts. The dietitian will advise you on how to prepare liquid and soft diets that are also nutritious.

A good diet is essential for good healing and recovery. You will need a blender to prepare easy to eat food.

**How long will I need to take off work/study to recover after orthognathic surgery?**

After you have left hospital after orthognathic surgery, you are advised to arrange a month off work or school/college.

**How often will I need to return to the clinic for checkups after orthognathic surgery?**

During the month after your orthognathic surgery, you will be reviewed weekly so we can monitor and assess your progress. After this first month, we will see you every three months for six months.

You will also have orthodontic appointments during this time for adjusting your 'braces'.

**How long will it take for my jaws to heal?**

The length of time it takes for people to heal depends on how old and fit they are but in general the jaw bones are almost healed after two to three months.

**Will some areas of my face and mouth feel numb after orthognathic surgery?**

During the surgery, we take great care to protect the nerves that run through the jaws, however, immediately after your surgery some areas of your face might feel numb. This usually recovers with time.

If we have moved your upper jaw, the numb feeling is (usually) only in the cheeks, upper lip and teeth. If we moved your lower jaw, you might have some numbness of the lower lip, chin and teeth, and possibly the tongue.

**Why do some people get numbness after orthognathic surgery?**
Numbness, which we call paraesthesia, is a reduction in the sensation of the area served by particular sensory nerves and their nerve endings.

During surgery, it is relatively easy to protect from direct damage the (larger) nerves that run through the upper and lower jaws. These nerves divide in the jaws and tissues into thinner branches and tiny nerve endings, which can’t be easily seen and protected. Some of them are likely to be cut or bruised during the surgery, but individual branches will only serve smaller areas of skin and tissue so the area affected will be limited.

Nerves can repair themselves if they are just bruised and if the cut ends lie closely can mend on their own. This means that most numbness after orthognathic surgery will return to normal over the weeks or months after the operation.

You also have nerves that control the movement of your facial muscles and jaws. Happily these do not run in the areas of the face and jaws that are routinely operated on during orthognathic surgery and so the movement of the face and lips should not be affected by this surgery.

**Might I have long-term numbness after orthognathic surgery?**

Very rarely after orthognathic surgery, you will be left with an area of permanently dulled or altered sensation.

**What sort of orthodontics will I need after orthognathic surgery?**

Your oral and maxillofacial surgeon and orthodontist will have worked closely to plan your surgery and the orthodontic treatment before and afterwards.

Most people require at least some orthodontic treatment after the surgery to fine-tune the tooth alignment and obtain the best fit of the upper and lower teeth in the new position of the jaws. This can take from three to twelve months, after which the fixed braces are removed.

After fixed appliances are removed, there is usually a period of settling in of the teeth. During this time, fixed or removable retainers are used to control unwanted tooth movement. In the upper jaw a removable retainer is usually used, which can be removed for cleaning. In the lower jaw, a discreet fixed retainer is usually glued behind the lower front teeth and can be used for up to 12 months.