



## Pathophysiology of the Hallux Valgus (Bunion)

**A bunion (also known as hallux valgus) is a misalignment of the knuckle of the big toe. This misalignment causes the big toe to turn toward the smaller toes.**

The pressure on the second toe commences and this aggravates the pressure from the shoe (bursitis). It also often creates a bump at the base of the big toe. Bunions are not always painful, and this deformity will generally increase over time.

### First Stage

Age: Pain usually starts at the age of **18 to 20** years of age when there is a family history, and **40 to 50** years of age in other cases. At first, pain is usually present after long periods of walking. There is some inflammation later as the bursitis progresses, sometimes becoming infected.

### Second Stage

Age: Pain usually starts at the age of **18 to 20 years** of age when there is a family history, and **40 to 50** years of age in other cases. At first, pain is usually present after long periods of walking. There is some inflammation later as the bursitis progresses, sometimes becoming infected.

### Third Stage

This stage is more complicated. The patient does not seek consultation for the first toe, where pain is sometimes absent, but for the second toe where there can be a corn present. The symptoms of the second toe are a direct consequence of the hallux valgus and it will therefore be necessary to treat both conditions.

## Causes

There are four common causes of the hallux valgus:

1. Congenital predisposition - The hallux valgus is not a hereditary malady which is automatically transmitted to descendants. However, one often finds a family tendency to the deformation of the big toe.
2. Female predisposition – 9 out of 10 bunions are found in women. This is a combination of laxity of the joints
3. Length of the big toe and its conflict with the shoe.
4. Feminine shoes with pointed toes and high heels which compress the toes.

## Consequences

The hallux valgus and its consequences represent **90%** of the pathology of the forefoot.

**Direct consequences:**  
Inflammation, bursitis

**Indirect consequences:**  
Hallux valgus is the principal cause of the claw toes.

**Bunion**



## What are the goals of bunion correction surgery?

Bunion correction surgery relieves pain by restoring the normal alignment of the first toe joint. The surgery consists of the realignment of the bones, soft tissue procedures and/or joint fusions.

### Specific Technique

It is essential not just to treat the symptoms but to treat the whole cause. For this it is necessary to:

#### 1. Bring the metatarsal towards the second toe using the following method

The first metatarsal is divided into two parts. The lower part contains the head and is brought towards the second metatarsal and the two parts are fixed by means of two tiny screws. These sit in the bone and will not be able to be felt by yourself after the procedure. They generally do not need to be removed and very rarely cause any trouble.

#### 2. To align the big toe along the metatarsal

This is brought about by straightening the proximal phalanx and re-aligning the great toe to the level of the first toe joint. This is held by a special, tiny staple. Once more the staple cannot be felt and will rarely cause symptoms.

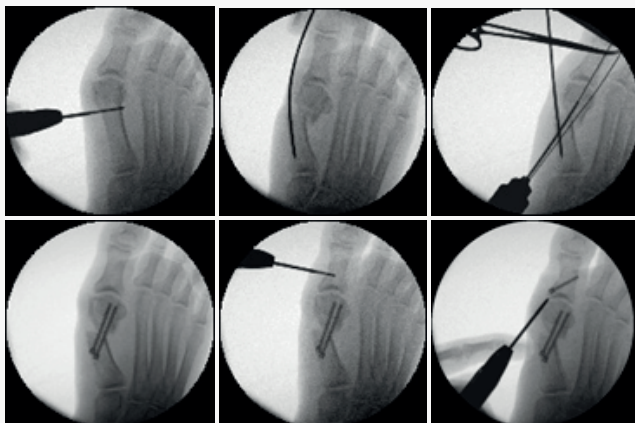


Pre-Operative



Post Operative

## During the Procedure



## Frequently Asked Questions

**Is it better to have my bunion fixed now, or should I wait?**

When the pain of a bunion interferes with daily activities or shoe modification options don't help you, it's time to discuss surgical options.





## Potential Complications

There are complications that relate to surgery in general. These include risks associated with anaesthesia, infection, damage to nerves and blood vessels, and bleeding or blood clots.

Potential complications with bunion corrections include the bone failing to heal or disruption of the blood supply to the cut bone. Surgically corrected bunions have the potential for recurrence, even when the procedure was performed correctly. Patients can help prevent this by following their doctor's post-operative instructions.

## What happens after surgery?

Post surgery you can weight bear immediately, as tolerated using a Type 1 shoe. This will minimize the weight exerted on the forefoot and redirect it to the heel. You can expect to wear the shoe for 6-8 weeks after surgery

You can expect some pain and swelling following surgery and may need to take oral pain medication for several days to assist with your pain. The foot will need to be kept elevated above your heart to assist with swelling and minimise you walking for the first week following your procedure. After this period, you can increase your walking however, must continue to elevate your foot/feet periodically.

You will likely be examined at two weeks, four weeks, eight weeks, three months, six months and 1 year post operatively. X-rays may be taken at each visit to evaluate the bone healing and the position of the big toe.

**You must keep your dressing dry and intact until your first post-operative appointment two weeks after surgery.**



Pre-Operative

Post Operative

## Rehabilitation

Movement and retraining are an integral part of your recovery. The following exercises are recommended.

- I) Sit cross legged, legs apart
- II) With your hand holding the foot, gently move the toes up and down
- III) With your index finger, successively push on the middle of each toe. Push slowly but firmly and hold for 3-5 seconds.

These movements should be done ten times per day for approximately **5-7 minutes** each session.

# Chronology of the post-operative treatment

## 1- 15 days

It is important to reduce the amount of swelling and inflammation during the initial rehabilitation period. Elevate your foot/feet above heart level for at least three hours per day. Remain in a sitting position for a maximum of four hours a day, including mealtimes. Icing your foot may assist in reducing swelling. Minimize you're walking during the first 15 days post operative.

## Day 15 - 30

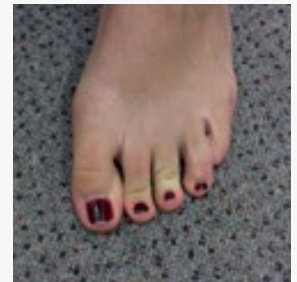
Continue to rest your feet, elevating as necessary. You can sit for longer periods and slowly increase your level of activity. However, if your feet begin to swell, you may need to elevate your feet more.

## Towards the 30th Day

The doctor will check your condition and may recommend massage or give further instructions. After this consultation the doctor will advise you if future consultations are required.

## From Day 30 - Exercise 1

Gently push your toes on the ground with the 'claws'. You should use the pads of your toes to do this. Ensure that you are not pressing down with only the tips of your toes as this incorrect form can encourage the development of claw toes.



## At Day 45 – Exercise 2

Exercise by rising on tiptoe



## 45 -60 Days

New X-rays will need to be taken and reviewed at a consultation with your surgeon. This is important as if stiffness is present then mobilization under general anesthesia may be recommended. This is like physiotherapy to increase movement. However, we must advise that if you have done your exercises well and subsequently experience few problems this will not be necessary. The manipulation is important at this stage to produce the desired suppleness of the foot.

## 60 – 365 Days

The oedema will be reabsorbed slowly then disappear, but you must continue your exercises. You will progressively return to wearing normal shoes. If a problem arises it is important that you contact the clinic.

## Consultation 1 year post surgery

It is imperative that you attend your consultation one year post surgery, even if you feel you have recovered well. This is because the stability and positioning of the osteotomies needs to be assessed. It is possible that further surgery for re-correction may be required at this time if there are signs of reoccurrence.