Bunions / Toe Deformities

The foot is roughly divided into three sections: the hindfoot or heel, the midfoot and the forefoot & toes.

The function of the toes, especially the big toe, is to help us balance, and to propel us forward during walking or running. The 14 bones of the toes are among the smallest in the body, and, not surprisingly, things can and often do go wrong. Some problems begin in childhood and may go unnoticed. Others begin later on in life, perhaps as the result of injury or the added pressure of incorrect footwear.

What are bunions?

What most people call a bunion is actually known as *"Hallux valgus"*. Hallux valgus refers to the condition in which the big toe is angled excessively towards the second toe – and a bunion is a symptom of the deformity.

“In a normal foot, the big toe and the long bone that leads up to it (the first metatarsal) are in a straight line,” explains podiatric surgeon Trevor Prior. “However, Hallux valgus occurs when the long foot bone veers towards your other foot and your big toes drifts towards your second toe.”

A bunion actually refers to the bony prominence on the side of the big toe. This can also form a large sac of fluid, known as a bursa, which can then become inflamed and sore.

Is it serious?

“Some people have massive bunions that aren’t that painful but cause difficulties with shoes, while others have relatively small bunions that are very painful,” says Trevor. However, just because you have Hallux valgus doesn’t mean you’ll get the bursa.

Pressure from the big toe joint can lead to a deformity in the joint of the second toe, pushing it toward the third toe and so on. Likewise, if the second toe and big toe cross over, it can be difficult to walk.

“Once the big toe leans toward the second toe, the tendons no longer pull the toe in a straight line, so the problem tends to get progressively worse,” explains Trevor.

This condition can also encourage corns and calluses to develop.

Who gets them?

“Women tend to get bunions more than men,” says Trevor. “This could be due to the more restrictive footwear they wear, (such as high heels or narrow toe boxes which force the big toe towards the little toes) but women also tend to have looser ligaments, making them slightly more prone.” You’re also more likely to get bunions if your parents or grandparents have them.

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What causes bunions?

“No one single cause has been proven,” explains Trevor. “There are a number of causes, and though shoes can exacerbate the problem, bunions do occur in societies that don’t wear them.”

Michael Ratcliffe, a registered podiatrist who specialises in podiatric clinical biomechanics, explains that we walk on the same type of ground all the time, whereas the human foot was actually designed to adapt to varying terrains. In a sense, a bunion is a type of repetitive strain injury. And like repetitive strain injury, some people are more prone to it than others. One theory - though it remains unproven - is that bunions are caused by one or both of the following:

1) Because the foot wasn’t designed to constantly walk on a level surface, the ball of the big toe is slightly lower than the ball of the rest of your foot. When your foot meets the ground, the ball of the big toe is pushed up, and the big toe joint can’t bend as well as it was designed to. In order for the big toe joint to bend fully as you walk, your foot rolls slightly over to the side (this is also why people with hallux valgus often get hard skin).

2) Also, if you’re midtarsal joint tends to move from side to side more than it does up and down, the arch in your foot collapses as your foot rolls in. This also makes you more prone to developing bunions.

Such problems can be exacerbated by tight footwear. “Slip-on shoes can make matters worse,” says Trevor. “Because they have to be tighter to stay on your feet, you automatically have less room for your toes. And with nothing to hold your foot in place, your toes often slide to the end where they’re exposed to lots of pressure. Likewise, high heels throw more weight onto the ball of the foot, putting your toes under further pressure.”

If you haven’t got a bunion by adulthood and you later develop one, there could be some underlying arthritis.

What can I do?

One of the best things you can do is to go for wider, deeper shoes. Trevor Prior says there should be a centimetre between the end of your longest toe and end of shoe. You should also choose shoes with an adjustable strap or lace.

Podiatrists often recommend exercises to strengthen your muscles and tendons around the big toe. Here’s one you can try yourself. Put your feet side by side, and try to move your big toes towards each other. Do this three or four times a day, while you’re in the bath or in bed.

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What can a podiatrist do?

Your podiatrist can recommend exercises, orthoses (special devices inserted into shoes), shoe alterations or night splints (which hold toes straight over night) which may slow the progression of bunions in children. According to Trevor Prior, 'conservative' measures such as these may help relieve symptoms, though there is no evidence they can correct the underlying deformity.

"Orthoses are designed to prevent the problem getting worse by decreasing any biomechanical causes of bunions," says Michael. In other words, if the biomechanical theory is correct (i.e. if your bunions are caused by the way you walk), orthoses may help you walk in a way that doesn't exacerbate the problem.

"But it won't change the already established shape of your foot," explains Michael. For that, you need surgery.

What can a podiatric surgeon do?

Your podiatrist can refer you to a podiatric surgeon who will evaluate the extent of the deformity. A podiatric surgeon can remove the bunion and realign the toe joint in an operation generally referred to as a bunionectomy. However, there are actually around 130 different operations that fall under this title - so don't presume you'll need the same type of surgery as that friend of a friend who couldn't walk for 3 months!

The aim of surgery is to correct the cause of the bunion and prevent it growing back. Which type of surgery your podiatric surgeon recommends will depend on the severity of your bunion. Because there are risks and complications with any type of surgery, it's not usually advised unless your bunions are causing pain – or if it is starting to deform your other toes.

Silvers procedure – this is the simplest procedure that involves removing the prominent bump on the inside of the foot. But because it doesn't cure the underlying deformity, it will only be used in people with mild deformities or in older people. This is a short procedure and recovery is quick.

Austin (Chevron)/Reverdin - green osteotomies – these involve cutting the bone toward the end of the first metatarsal (the long bone leading up to the big toe), before fixing it back into a straighter position. You'll need to rest the foot for two to four days. You'll be able to do limited walking and on average, be able to get back into shoe 2-6 weeks after the operation. You'll walk normally around three months after the operation

Scarf osteotomy – This is similar to the above technique but because more bone is cut, it allows for slightly more correction. Recovery is the same as for the above procedure.

Base wedge osteotomy – This is for more serious deformities. A small wedge of bone can be removed from the base of the metatarsal. Recovery is longer. You'll need to wear a non-weight bearing cast for 4-6 weeks (ie you can't walk on it) and possibly a weight-bearing cast for 2-4 weeks.

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Lapidus – This is very good for people that have a mobile metatarsal. By removing the bone in a wedge shape from either side of the joint at the base of the metatarsal, this allows the surgeon to correct the position of the metatarsal while fusing the joint, making it more stable. Recovery is similar to that of the base wedge.

Akin osteotomy - In many deformities, you need to straighten the big toe as well as the position of the first metatarsal. A small wedge of bone can be removed from the base of the big toe. This is usually done in conjunction with one of the above procedures and doesn't lengthen the recovery period.

Keller arthoplasty – this involves removing the bone at the base of the big toe and essentially removing half of the big toe joint. However, this can leave the big toe a little bit unstable and is mainly used for older people with arthritis. Recovery is slightly quicker to that of the Austin procedure.

"Although the vast majority of patients have an excellent outcome," says Trevor, "surgery cannot guarantee a pain-free toe or that deformity won't recur again."

Other Big Toe deformities

A complaint which is more common among men than women is *"Hallux rigidus"*, where, instead of bending normally, the big toe stiffens and forms a bump at the top of the joint, making the 'pushing-off' motion in walking difficult. This often results from stubbing or injury to the toe, perhaps during sport. Women often suffer from "Hallux rigidus" as a result of persistent trauma to the joints from slip-on or shoes that are too tight.

Wearing shoes with low heels and firm soles will act as a supporting splint. Registered podiatrists will be able to provide pads or strapping to stabilise the joint, or appliances (orthotics) to modify the way you walk. In severe cases, footwear may be modified or surgery may be indicated.

Smaller Toes

Another common complaint is *"Hammer Toes"*. The toe most usually affected is the second, which becomes bent up in an inverted "V" shape and can't straighten out during walking. Corns develop where it rubs against the shoe. Some people are born with clawing of the lesser toes, which might be due to muscle imbalance, and can lead to hammer toes. Too-tight shoes and socks make the condition worse.

You can help by investing in shoes that are "foot shaped" - with a straight inside edge, rounded toe and a toe box deep enough to remove pressure on the joints. Registered podiatrists will be able to prescribe treatment, appliances which straighten the toes, or, when necessary, may advise surgery to provide permanent correction.

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Curly Orretracted Toes

Many babies are born with toes that don't lie flat, or are retracted. The problem generally clears up, especially if the toes are not too restricted in the early stages by tight shoes and socks. If the problem continues, muscle strengthening exercises may help, or silicone orthoses may be needed to correct the complaint. Take a look at our section on children's feet for more details.

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