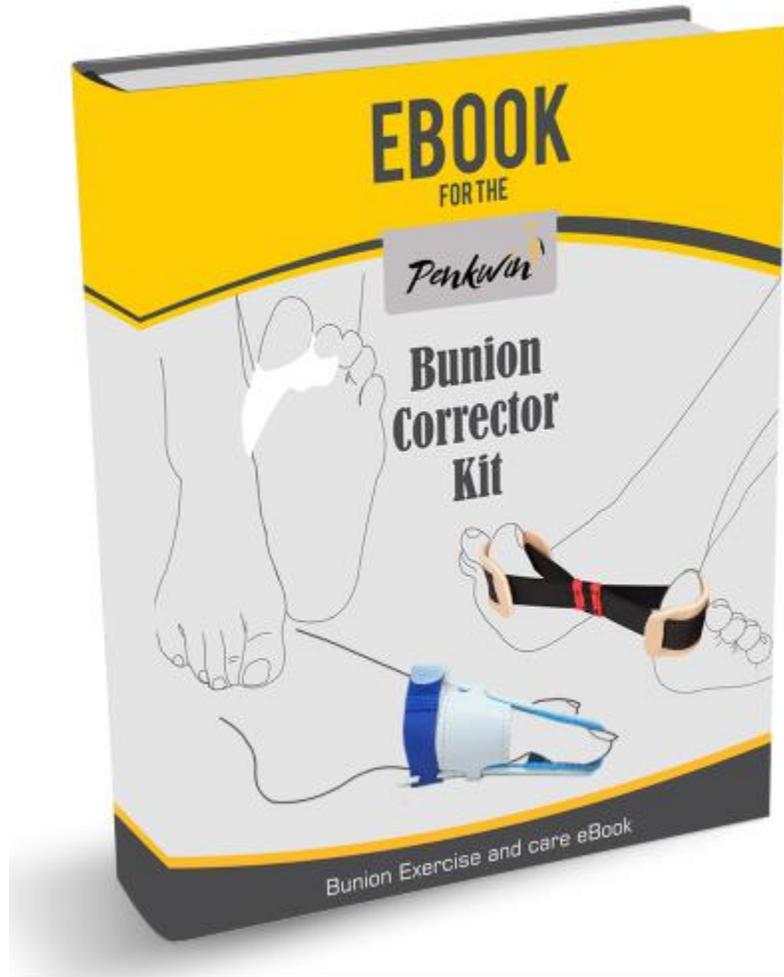


Tips to Treat Bunions and avoid Surgery

eBook for the Penkwin Bunion Correction Set



Important Legal Disclaimer

Please consult with a physician before using any Penkwin products to be sure they are appropriate for you.

Penkwin offers no warranty and accepts no responsibility for any loss or damages of any kind that may be incurred by the reader as a result of actions arising from the use of the contents in this guide.

The reader assumes all responsibility for the use of the information in this guide.

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1. Introduction

A **bunion** or **hallux valgus** deformity involves medial deviation of the first metatarsal, a lateral deviation and or rotation of the hallux (the joint at the big toe) and prominence with or without medial soft tissue enlargement of the first metatarsal head.

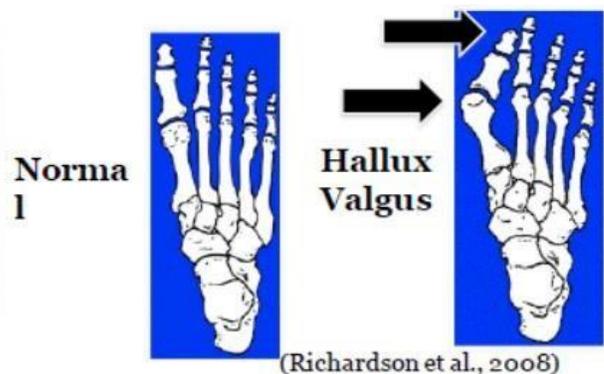


Medical professionals have many theories about the causes of bunions. Many think they are caused by wearing shoes for long periods of time especially if the shoes are tight with pointed toes, others believe it is primarily genetic and only aggravated by shoe use.

Bunions occur when too much pressure is put on the side of the hallux (big toe). This forces it inwards towards the other toes, and sometimes overlapping can occur.

When pressure is applied to the joint the tissue become swollen and tender.

- **Hallux valgus (HV)**
 - Abnormal angulation of the great toe
 - Medial deviation of the distal part of the first metatarsal
 - Lateral deviation of the distal hallux



2. Primary Causes of Bunions?

- Tight uncomfortable shoes



High heels and narrow, tight shoes can put pressure on the joint and cause bunion. **Bunions are fifteen times less common in barefoot populations!** **It is highly recommended to use your toe separator in all shoes, especially high heels and tight shoes.**

Hallux valgus almost exclusively affects people who wear shoes, it only occasionally affects those who do not – in a study by Lam Sim-Fook and Hodgson 33% of people who wore shoes were affected and only 1.9% of people who didn't wear shoes. (1)

- **Excessive exercise**



Exercises and especially running can intensify the pressure applied to the joint further aggravating the bunion and tissues that cause bunions. **There can be further damage to the bunion with each new step so It is highly recommended to use your toe separator during any exercise.**

- **Walking on uneven surfaces**



It is very important to have the proper footwear when walking on uneven surfaces, not just for bunions but for general foot, ankle and knee health.

- **Age**



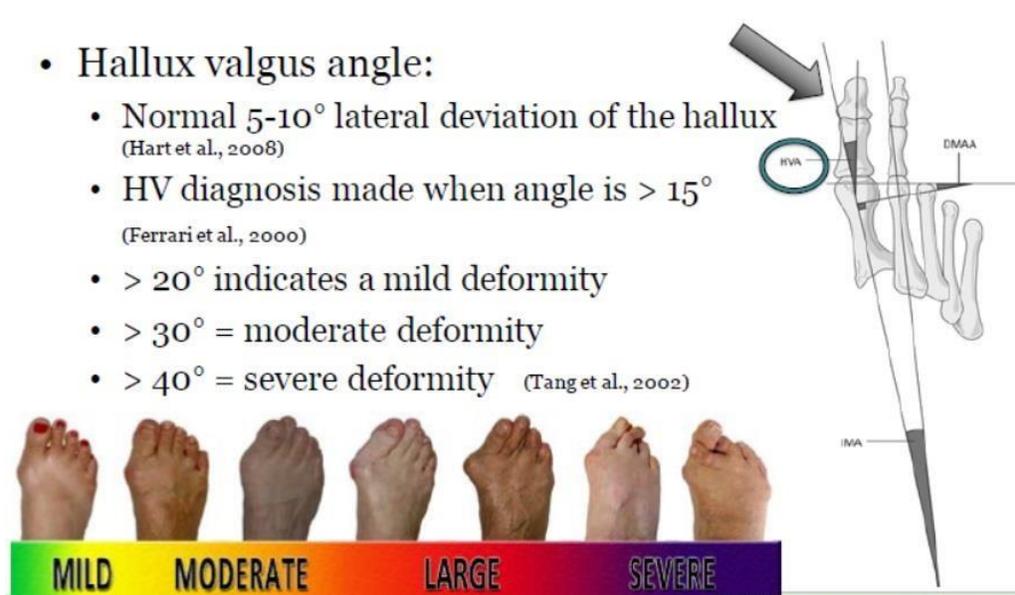
Bunions tend to increase with old age so you must make sure you are protecting your feet, wearing the correct shoes and having your feet protected using the Penkwin bunion correction kit.

3. Prominent Bunion Signs and Symptoms

There are many symptoms of bunions which include skin irritation around the bunion, pain when walking, joint redness, inflammation and pain, and possible overlap or angulation of the big toe toward the other toes. Blisters are a common occurrence and tend to form more easily around the site of bunions.

- **Hallux valgus angle:**

- Normal 5-10° lateral deviation of the hallux (Hart et al., 2008)
- HV diagnosis made when angle is > 15° (Ferrari et al., 2000)
- > 20° indicates a mild deformity
- > 30° = moderate deformity
- > 40° = severe deformity (Tang et al., 2002)



Bunions cause a slight deformity of the joint due to angulation and joint swelling therefore making finding proper fitting shoes more difficult. They can force people to buy shoes larger in order to accommodate the size of the bunion and if bunion deformity becomes severe enough, pains can occur in different areas of the foot even when free from the constriction of shoes. This additional pain is due to the forefoot developing mechanical function problems when the bunions are severe and there is major foot deformity.

4. Pathophysiology

As discussed above, physicians think bunions are mainly caused by shoes but can sometimes be genetic and consist of certain tendons, ligaments and supportive structures of the first metatarsal that are positioned differently.

If it is genetic and only aggravated by shoes due to this bio-mechanical anomaly, it is even more important to take care and use the exercise strap and exercises in this eBook as the anomaly is thought to be the cause of a few different afflictions intrinsic to the structure of the foot – such as flat foot, excessive ligament flexibility and abnormal bone structure.

5. Treatment

Bunions can be treated at home conservatively by changes in footwear, different orthotics like this Penkwin Bunion Corrector kit & our Bunion Spacer Kits.

Some people suggest short term relief from icing the bunion.

Treatment without orthotics or surgery usually only addresses the symptoms and to limit any further damage rather than correct the actual deformity of the joint.

If discomfort and pain is severe enough, or when desired, an orthopedic or podiatric surgeon can operate.

5.1 Orthotics

Orthotics are items such as bunion splints, gel toe spacers and exercisers are designed to be effective in preventing worsening of bunions and can even go a long way in helping correct damage already done by exercising the tendons, ligaments and supportive structures of the foot.



5.2 Surgery

Sometimes if the pain and discomfort is severe enough surgery is an option. There are various procedures which are designed and specifically chosen to correct many pathologies of bunions. The person's age health and lifestyle play a part in which procedure is undertaken also.



Bunion surgery can be performed under local, spinal or general anesthetic.

You can generally expect the recuperation period to last between 6 and 8 weeks with the use of crutches. Orthopedic casts, which used to be the norm are very rarely used after bunion surgery. Newer, more stable procedures and far better forms of fixation are used e.g screws and hardware to stabilize the bones, some of which get absorbed by the body when their function is complete.

6. Penkwin Bunion Correction Set

Penkwin have chosen the best bunion correction products available to make this set of high quality bunion correction products.

All the pieces should be comfortable to put on your feet and each piece has specific usage in your daily life, both when you are wearing shoes or when you are barefoot.

6.1 Using your Penkwin Bunion Correction Set

The Penkwin Bunion Correction Set is made from high quality medical grade materials.

Follow the instructions and wear them as shown in the pictures provided in this guide.

If you do however have any allergic reaction or severe pain, please stop using immediately.

The set doesn't fit all feet the same, most people can use the items for long periods of time as long you don't feel any tightness or discomfort. If you feel any discomfort, tightness, pressure or feeling of loss of circulation due to using the items do not wear for long periods of time.

If these symptoms arise after only a few minutes of wearing the set please stop using immediately and contact us at happiness@penkwin.co.uk

6.2 Basic care tips

- Store the products away from direct sunlight in a dry place and ensure they are not twisted.
- Hand wash gently with mild soap or shampoo and warm water.
- Dry thoroughly before wearing.
- If tackiness/stickiness does occur hand wash gently and rub with talcum powder.

6.3 When and how to use

The entire purpose of the Bunion Pain relief and correction products are to ensure normal spacing and angle of the big toe where the bunion has insisted on pushing the toe inwards.

The parts of the kit and descriptions are listed below:

6.3.1 - Toe splint



The splint is an innovative, fascinating piece of technology.

On your foot it should be comfortable and non-constraining.

This means it is perfect for wearing at night without any discomfort or pain while still correcting and supporting your bunion.

Although some people find it comfortable to wear during the day, it is perfect for lying down or sitting with your feet up as when walking, some find it can dig into the bottom of the foot (this varies by foot size and shape).

The support is designed to reduce and relieve strain on the 2nd, 3rd and 4th toe joints. This optimizes pressure distribution while also stabilizing your metatarsal arch meaning your toes will spread comfortably.

The curved strap creates a perfect fit for you, it is very important to not tighten the strap too much to make sure you do not affect the circulation in your foot, just secure it comfortably.

You can wear this in some wide fitting shoes but it is usually more comfortable and beneficial to wear these without shoes.

There is a big difference between toe separators and toe splints. Toe separators main use is for bunion relief which has immediate effect but they have little effect on actual bunion correction (Except to usually prevent worsening when wearing shoes) whereas bunion splints and exercisers are used to correct bunions along with pain relief.

We recommend using your bunion splint every night in order to see the best results.

Bunion correcting using this methods takes a long time it is not immediate, only surgery is.

PLEASE NOTE: IMAGES ON NEXT PAGE

<u>Step 1)</u> Ensure you are using the correct splint for the correct foot, they have an 'R' and an 'L' to signify which foot each splint goes on.	
<u>Step 2)</u> Lower the correct splint on your big toe.	
<u>Step 3)</u> Push your big toe into the cushioned top area – this is intentionally tight so it firmly holds your toe in place, if have large toes, you can manually, gently pull the cushioned area further apart in order to snugly get your toe in.	
<u>Step 4)</u> Ensure the leather strap is in a comfortable position, it can be slid up and down the rails to ensure a comfortable fit.	
<u>Step 5)</u> With the blue strap under your foot, gently wrap it around the outside of your foot towards the manual loop clasp.	

<p>Step 6) Slide the blue strap into the manual loop clasp.</p>	
<p>Step 7) Tighten to your preferred tightness!</p>	



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6.3.2 - Toe Exercising Strap

The big toe strap is used to strengthen the muscles which are responsible for keeping your big toe straight. It is used by placing a toe in each loop, heels touching and pushing the toes away from each other as shown in the picture above.

Once in position, slowly pull the toes apart with the exerciser until you feel a nice stretch in the toes (make sure it's NOT painful, if you experience any pain please stop).

Once you feel a nice stretch with the exerciser, hold for a few seconds and slowly release the exerciser into the un-stretched position.

Do this around 12 times in succession then take a break for about 30 seconds then repeat for 12 times, and so on.

You can repeat this for up to 5 minutes straight twice per day.



6.3.2 - Toe Spacer and Bunion Guard



The Penkwin toe separators are made from medical grade silicone.

This specific toe separator has a bunion guard to aid in pain relief and discomfort when wearing shoes. You can use this toe separator without shoes but we recommend wearing socks if you are not wearing these with shoes (as general dirt can stick to the silicone)

You can wear this toe separator everywhere and for long periods of time, even whilst sleeping.

The shield portion is very effective at protecting anything that would irritate the bunion.

7. Eight additional daily exercise to prevent surgery (alongside the exercises provided above)

Non-surgical strategies, such as physical therapy exercises, can help to slow the progression of your bunion. "You always want to start out with conservative therapy," notes Dr. Khan. "You never want to jump into surgery."

Foot exercises and toe stretches for bunions can help keep the joint between your big toe and the rest of your foot mobile, maintaining flexibility and strengthening the muscles that control your big toe.

Here are exercises that may benefit people with bunions (alongside exerciser use):

- **Toe stretches.** Stretching out your toes can help keep them limber and offset foot pain. To stretch your toes, point your toes straight ahead for 5 seconds and then curl them under for 5 seconds. Repeat these stretches 10 times. These exercises can be especially beneficial if you also have [hammertoes](#), or chronically bent toes, in addition to a bunion.
- **Toe flexing and contracting.** Khan also recommends pressing your toes against a hard surface such as a wall, to flex and stretch them; hold the position for 10 seconds and repeat three to four times. Then flex your toes in the opposite direction; hold the position for 10 seconds and repeat three to four times.
- **Resistance exercises.** Khan additionally recommends resistance exercises for your big toe. Wrap either a towel or belt around your big toe and use it to pull your big toe toward you while simultaneously pushing forward, against the towel, with your big toe.
- **Ball roll.** To massage the bottom of your foot, sit down, place a golf ball on the floor under your foot, and roll it around under your foot for two minutes. This can help relieve foot strain and cramping.
- **Towel curls.** You can strengthen your toes by spreading out a small towel on the floor, curling your toes around it, and pulling it toward you. Repeat five times. Khan says that gripping objects with your toes like this can help keep your foot flexible.
- **Picking up marbles.** Another gripping exercise you can perform to keep your foot flexible is picking up marbles with your toes. Do this by placing 20 marbles on the floor in front of you and use your foot to pick the marbles up one by one and place them in a bowl.
- **Walking along the beach.** Whenever possible, spend time walking on sand. This can give you a gentle foot massage and also help strengthen your toes. Khan notes that this is especially beneficial for people who have arthritis associated with their bunions.

Khan advises his patients to perform foot exercises for their bunions every day, ideally in the morning *and* at night. He suggests doing the exercises at a convenient time for you, such as during commercial breaks while you are watching television. Once you get into the habit, it will be easy to do them on a regular basis.

8. Bibliography

1. Center., F. H. (n.d.). Retrieved from every day health: <http://www.everydayhealth.com/foot-health/8-foot-exercises-for-bunions.aspx>
2. MANN, ROGER A. M.D.; COUGHLIN, MICHAEL J. M.D. (1981) 'Hallux Valgus-Etiology, Anatomy, Treatment and Surgical Considerations.', *Clinical Orthopaedics & Related Research*, 157(), pp. 31-
http://journals.lww.com/corr/citation/1981/06000/hallux_valgus_etiology_anatomy_treatment_a

[nd.8.aspxhttp://journals.lww.com/corr/citation/1981/06000/hallux_valgus_etiology_anatomy_treatment_and.8.aspx](http://journals.lww.com/corr/citation/1981/06000/hallux_valgus_etiology_anatomy_treatment_and.8.aspx)

3. <http://www.clinorthop.org>
4. *American Orthopaedic Foot & Ankle Society*