



Newsletter

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From Pain to Performance

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Evidence Based Integrated Musculoskeletal Care

Chiropractic Clinic Hours

Mon	9am - 1pm (M) 2pm - 6pm (P)
Tues	9am - 1pm (P) 2pm - 6pm (M)
Wed	9am - 6pm (M)
Thurs	9am - 1pm (M) 2pm - 6pm (P)
Fri	9am - 1pm (P) 2pm - 6pm (M)
Sat	9am - 1pm (M)

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(P) Dr P. Shwaluk

Massage clinic hours
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Barefoot is Best :
Going barefoot as much as possible is an essential part of the journey toward developing functional strong healthy feet. Let pain and the advice in this newsletter be your guide.

The advice in this newsletter is to be used in conjunction with chiropractic care and not as a substitute to professional care.

Three Steps to Strong Healthy Feet

As we age we lose strength in our feet and lower limbs first. This predisposes us to a higher incidence of foot, knee and hip pain, and falls, which lead to an increased incidence of hip and lumbar spine fractures. They are all things that we would like to do without, especially as we age. How we treat our feet as children and teenagers significantly determines the health and vitality of our feet as adults. The prescriptions we followed from health care practitioners further contributed to the problem.

There have been many trends in footwear and foot care. In the 80's I recall being advised to wear a double leather soled shoe with a steel shank and a strong heel counter. These shoes are hard to come by in Australia but many types of hiking and work boots are similar in that they are very rigid, restrict foot mobility and prevent natural foot movement patterns. In the short-term rigid footwear may reduce foot, shin and knee pain, however, in the long-term the constant wearers of these types of foot wear often end up with stiff and sore feet with poor motor control.

From the late 80's until now there has been a big trend towards prescribing orthotics to anyone that complains of foot, shin, knee or hip pain and does not have perfect feet. Most of the orthotics in the 80's were very rigid, like the shoes, which further blocked natural foot movement and created more problems. While softer more functional orthotics are more comfortable to wear they too are known to cause the wearer to develop a loss of strength and volume of the intrinsic foot muscles. Mechanically supporting the foot by an orthotic and/or a rigid shoe causes the foot to become weaker.

I have a couple of books on barefoot walking and running that were published in 2011 and 2013. The writers of those books found that a lot of their foot, knee, hip and back pain cleared up once they became proficient at walking and running barefoot. Since going barefoot solved their problems they suggested that all of us should throw away our shoes and go barefoot.

While barefoot walking and running is a blessing for many, unfortunately, it does not work for everyone. It did not work for me, initially. Until a couple of years ago I always wore shoes, even in the house, because of foot pain. Now I go barefoot as much as possible, especially at home.

If you suffer from foot, knee, hip or low back pain the cause may be weak and/or stiff feet. Depending on how chronic your condition is you may be able to restore your foot function and resolve your pain with exercises alone or you may benefit from some external support in your footwear, called orthotics. A pronated foot is a weak foot, **Figure 1, Before** image. The **After** image shows foot pronation corrected with an orthotic.



Figure 1: pronation without and with an orthotic

Until a few years ago, I frequently prescribed orthotics for pronation related foot, knee and hip related problems. I didn't believe it was possible to correct pronation with exercises alone. Now I'm convinced that it is possible to restore the arches of the foot in most cases of mild to moderate pronation with corrective and strengthening exercises. It is possible to take a pronated foot that looks like **Figure 1: Before** and make it look like **Figure 1: After** without the use of orthotics if you are willing to develop proprioceptive awareness and put in the effort to strengthen your feet. I am also convinced that all cases of pronation requiring orthotics would be better off if they strengthened their feet, slowly weaned themselves off their orthotics and started to go barefoot or to use minimalist shoes more often.



I grew up in an area of Canada where the ground is frozen for half of the year. We seldom went barefoot except at the beach for a couple of months in the summer. When I moved to central Queensland I was shocked to see so many people walking around barefoot. They played outdoor sport, walked on the pavement, through the shopping centres and came in for their chiropractic appointments barefoot. Apparently some children do not own a pair of shoes until they start school. A few Queenslanders never wear shoes. I once saw a man walk across broken glass on hot bitumen then across a patch of grass full of goats head burrs without blinking an eye. He had strong and calloused feet. I am not suggesting that we should throw away our shoes but there are benefits to walking barefoot, at least part of the time. Walking barefoot strengthens the feet and strengthening the feet is essential for recovering from some common foot, knee, hip and low back pain syndromes.

Plantar fasciitis is a common foot complaint thought to be due to too much pressure on the fascia on the bottom of the foot. The plantar fascia becomes inflamed, thickened and the inflammation causes heel pain and ankle/foot stiffness. When the plantar fascia is injured the brain tries to immobilise the area by splinting/tightening the muscles in the foot and calf. These chronic tight/tender bands of muscles are called trigger points.

A common prescription is to wear supportive shock absorbing footwear with orthotics for a couple of months, especially for those that walk barefoot on hard tile floors. Another part of the recovery involves stretching the fascia and muscles of the foot and calf. Fascia responds well to gentle long duration, 3 minute plus stretches.

Brain based trigger points, however, do not respond well to stretches. They tend to react by becoming tighter and more painful. Trigger points respond best to dry needling, which resets the trigger point, followed by gentle long duration stretches.

If your plantar fascia is not responding to supportive shoes and stretches, try adding dry needling to your plantar fascia recovery therapy program.

In most cases, just going barefoot is not a "good enough" strategy. You do not want to add strength to poor functional patterns of motion. It can make things worse. It is best to follow this three step program.

STEP ONE:
Start with flexibility stretches to restore mobility. Mobility exercises always come before stability exercises if you have rigid feet. Foot flexibility stretches are provided in our foot rehab newsletter which is available in the office, as an email or online.

STEP TWO:
After you stretch it is best to do proprioceptive motor control short foot/short toe exercises, **Figure 2**, to regain static foot stability.



Figure 2: Pronation vs Short foot

Notice that lifting the toes off of the ground lifts the medial arch of the foot, reduces pronation and places the foot into a healthy functional posture, known as the short foot position. In pronation foot posture relies on ligaments for support. In the short foot position the foot's posture is controlled by the foot and calf muscles. The short foot posture is the starting point for all of the foot exercises. If your medial arch does not pop up when you lift your toes up, you need to come and see me. The next step is being able to hold the **short 1st toe position** with your feet together, **Figure 3**.

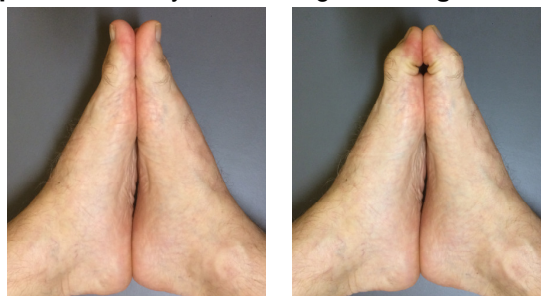


Figure 3: Long vs Short toe position

Then stand up and do the short foot and short toe postures at the same time, **Figure 4**. This is what a healthy stable strong foot looks like when standing.

The foot, knee, hip and low back are more stable when the arches and toes are engaged.



Figure 4: Short foot/short toe

STEP THREE:
Once you can hold the static short foot/short toe position you are ready to start dynamic strengthening exercises. These weight-bearing exercises expose you to various directions and degrees of dynamic foot and ankle motions. You always depart from and return to the short foot/short toe position.

1. Towel scrunches with the toes.
2. Weight shift from heel to forefoot and back.
3. Double leg calf raises with ball between the ankles, then maintain pattern without ball.
4. Heel raises with knees bent.
5. Walking on tip toes
6. Balance on one leg for 10 seconds, eyes open and eyes closed.
7. Single leg calf raises - slow motion
8. Squats with short foot/short toe.
9. Lunges with heel of the front foot held up.
10. 6 position carries in slow motion, pausing in mid stance. (see Carry Newsletter)
11. Progress to running while maintaining the short foot/short toe in mid-stance

How we weight-bear on our feet while we walk and run is essential for healthy feet. We should land on our heel, then weight bear on the lateral arch, before rolling to the ball of the foot and ending with toe off, **Figure 5**.

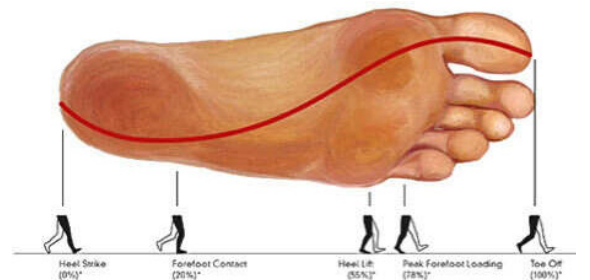


Figure 5:

There is a lot to think about and practice. Start with flexibility, then progress to short foot/short toe strengthening exercises. It could take three to six months to develop strong feet but the journey is worth it. Going barefoot as much as possible helps the journey.