

**NAT Pro Series:**

# **Detailed Foot Massage For Lower Body Release**

Course Notes

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## Foot Massage

When we think about our feet – they work pretty hard – they weight bear all day long, they are an integral part of our balance process that keeps us upright – sending constant feedback to the brain about where on the ground we are.

The feet are also shock absorbers, they absorb and redistribute shock around the body on a constant basis every time we walk or run. Our feet flex so that we can change the direction or the gradient of our travel. They can move softly when we creep into a room to check if a child is asleep or we can use them to express purpose and importance by the way we walk into a business meeting.



If you watch world leaders greeting each other they will often stride importantly towards someone and then to show how the two countries get on will then stroll together – and our feet just respond to these changes the brain signals in how to move.

We also give our feet quite a lot of grief. We can squeeze them into pointy shoes and high heels and still expect our feet to work in such an un-natural way. We can don safety boots which means that we limit the amount of feedback our feet can receive about the ground below us. Watch a ballet dancer on tip toe, a runner speeding along, a climber using their feet to grip to a piece of rock – and we should rightly be impressed by our feet.

But we do also tend to neglect them. Most of us look after the skin on our hands more than the skin on our feet – you will know as a practitioner just how neglected feet can be – I've seen some fairly stinky, neglected, abused feet in my time and I'm sure you will have too. Hats off to our podiatrist and chiropract colleagues who deal with the nitty gritty foot problems. But feet are also something we need to pay a good deal of attention to in massage.

We know of course that the feet can map the whole of the body and you can do many a specialist course in reflexology. We're not going to look at any detail at reflexology in this course, instead we are looking at how the feet connect to the rest of the body structurally through connective tissue and muscle. But for completeness we will spend just a few minutes looking at the reflexology points so that you can see how a reflexologist will map the body and work to treat the whole body through the feet. While we are not giving a reflexology

treatment we are of course treating the whole foot so it's useful to have that perspective and we will come back to that shortly.

Unless you are having a reflexology treatment then the foot massage you receive when you go for a treatment can be fairly limited, usually some general stroking, perhaps some pressure along the outer edge of the foot on into the sole of the foot – but it's usually a very short part of the treatment, most massage tends to not spend a great deal of time or detail here. What we are addressing on this course is how to treat the feet in great detail, and by doing that, how we start to release tension held further up into the legs, the hips and the lower back.

I certainly find in my work that detailed foot massage can be the key to releasing tension elsewhere in the lower body. If you have a client who has tight legs, restriction in their hips or lower back pain - then detailed foot work can make a big difference to how their body will be able to release that tension. If you have a client whose calves are too tender for you to work on and whose hip pain is not resolving or whose problems return soon after getting off the massage couch – then this detailed foot work might be a really useful tool in helping you get longer lasting and quicker results.

Sometimes a client's health or injury history might mean you can't work directly where you would normally work to release their tension – and foot massage can again come into its own.

You might, for example, have a client who has bad varicose veins and at the same time has really tight calves that give them pain or causes cramping.



Ideally you would work on the calves to release the tension held there but the varicose veins mean that massage to that area is contraindicated – this can leave us with limited treatment options – so instead this detailed footwork can help. For clients with lower back ache which is resulting from hours stuck behind a desk or sitting, often tense, driving for long distances – this detailed foot work is key in releasing that generalised lower body tightness and the resulting lower back ache.

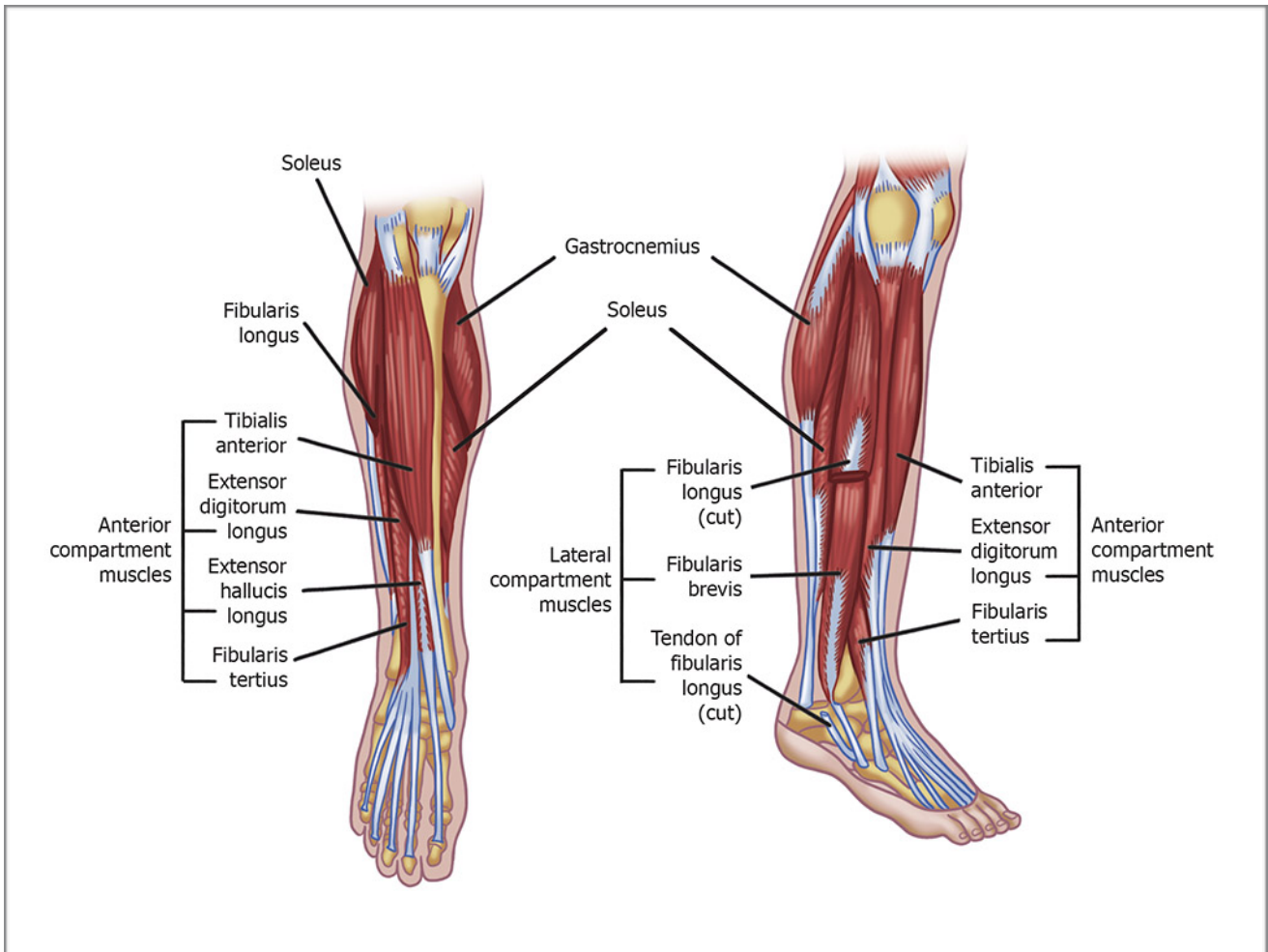
I often find that for clients who are suffering from a muscular based sciatica – it's starting a treatment with the detailed footwork, even down to the very detailed toe work on the little and next toe which are key to getting long term relief from their symptoms.

So this detailed foot work becomes an important tool to have, if you unlock the tension held in the feet, you will begin to unlock the tension in the whole of the lower body.

The foot is a very complex structure so we are now going to spend a bit of time looking at the anatomy of the foot.

## The anatomy of the foot and ankle

The foot and ankle is a really complex structures, there are 26 bones, 33 joints and more than 100 muscles, tendons and ligaments and the foot has more than 200,000 nerve endings – which explains why standing on those tiny lego bricks is so painful!

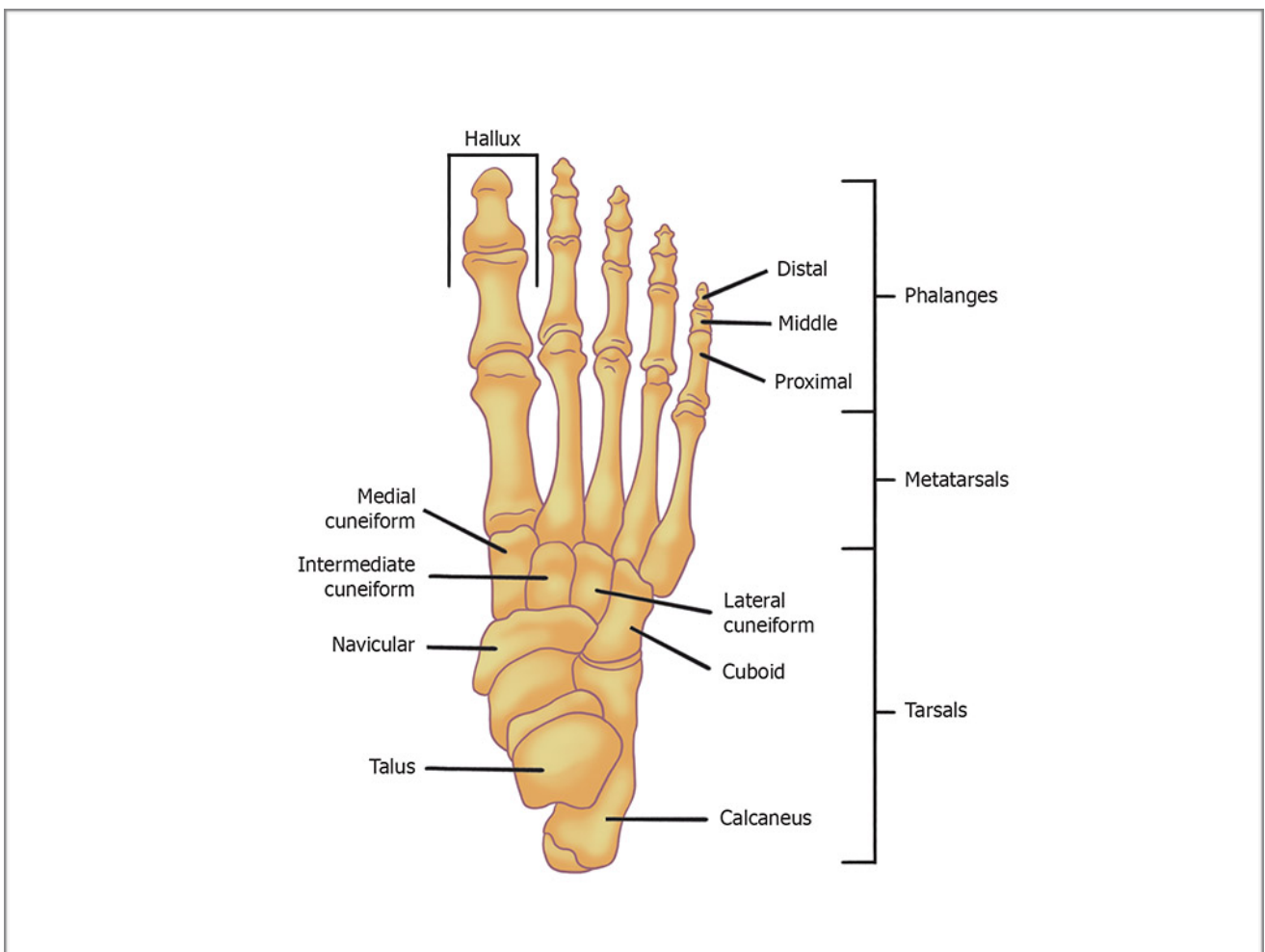


The foot & lower leg is home to three major muscles: the gastrocnemius, the soleus and the quadratus plantae. The bigger muscle in the calf is the gastrocnemius. The smaller muscle in the calf is the soleus. The quadratus plantae are the muscles in the sole of the foot. Tendons are essential for the movement of the feet. In comparison to their size, tendons provide a ton of energy. Four tendons extend from the knee to the foot.

One of those is the Achilles tendon, which is the strongest tendon in the body. Two more tendons run from the inside of the ankle, along the bottom of the foot's arch, to the tip of the toes. The posterior tibialis tendon supports the arch of the foot. The flexor digitorum and flexor hallucis make your toes curl. You may have heard of the plantar fascia, which connects the ball of the foot to the heel.

## **Bones**

The 26 bones of the foot consist of eight distinct types – rather than me just list them here you will find a full description and diagram in your course notes. You'll see when you look at the skeleton of the foot – it is similar in many ways to the hand but with shorter toes than fingers and a longer base – it also has less movement because its key function is shock absorption, balance and propulsion rather than the fine motor work we need to be able to use our hands for.



Starting at the tip of the foot we have the phalanges which make up the toes. Each toe consists of three separate bones and two joints, except for the big toe, which – similar to the thumb in the hand - has only two bones.

Moving up the foot there are then five metatarsal bones which create the body of the foot and then the seven tarsal bones comprising the rest of the foot and the ankle. They then link to the tibia and fibula, the two bones of the lower leg.

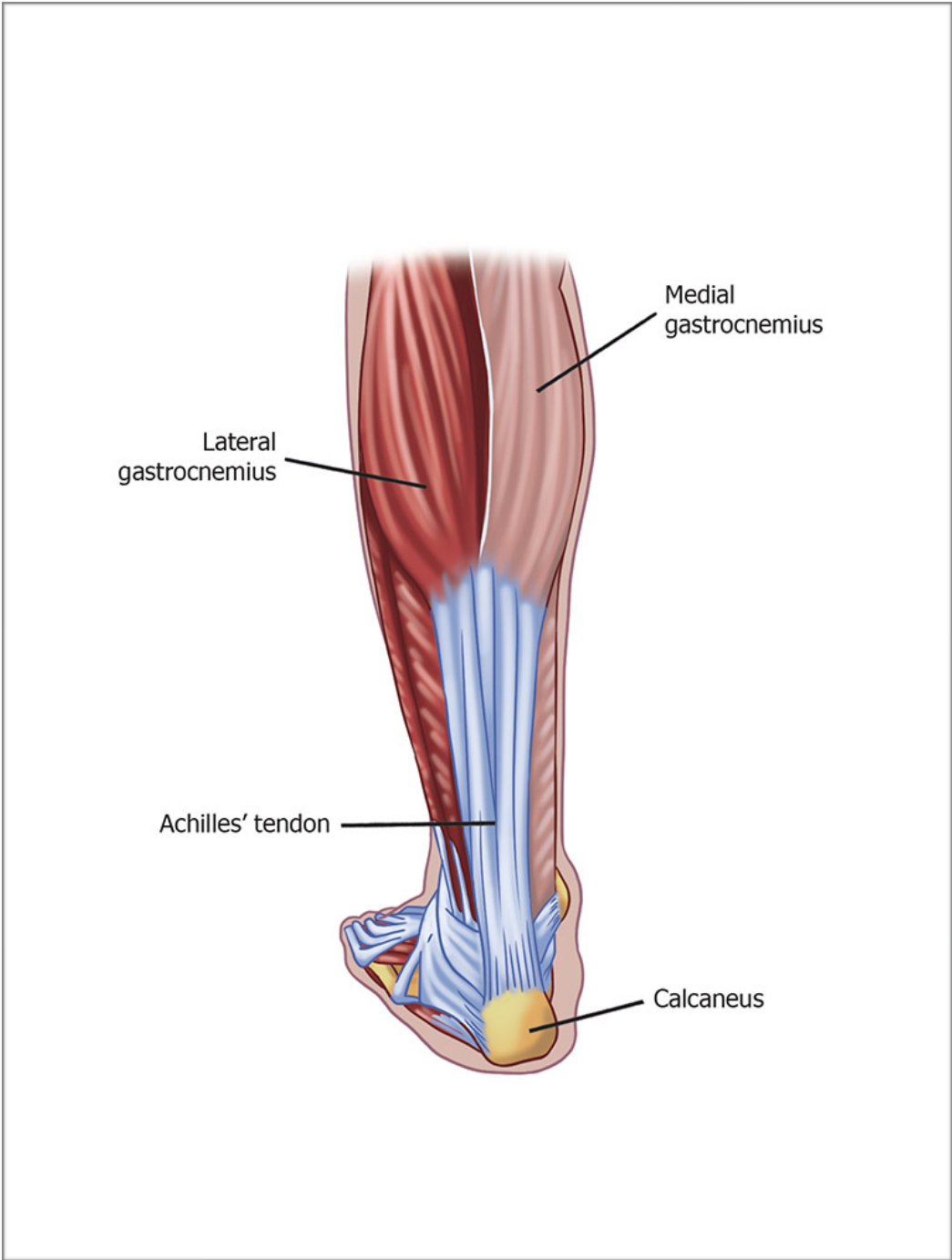
### ***Tendons and ligaments***

There is a complex structure of tendons and ligaments in the foot and leg. The tendons connect muscle to bone and the ligaments connect bone to bone – all providing strength and stability to the foot and leg. Tendonitis, or inflammation of the tendons can be extremely painful and restrict this movement and ligaments can be torn due to injury or continued improper use of the foot.

Tendons and ligaments along with bones and muscles in the foot support the foot; which in turn supports the whole body.

One tendon to single out for special mention is the Achilles tendon. This is thickest tendon in the body and is very strong and flexible. The Achilles tendon connects the heel to the calf muscles. Contracting the calf muscles pulls the Achilles tendon, which pushes the foot downward. This contraction enables: standing on the toes, walking, running, and jumping.

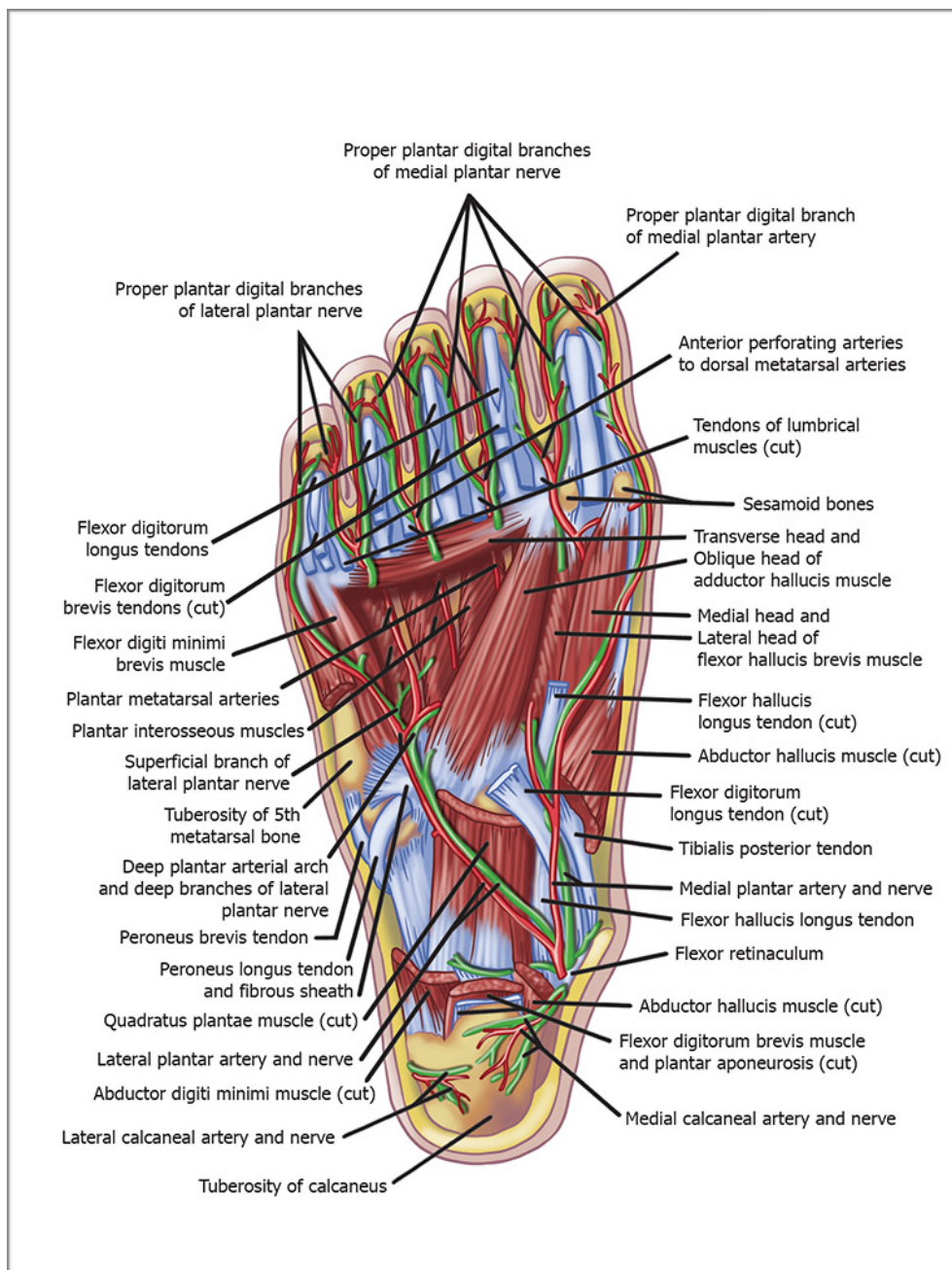
The Achilles tendon is subject to a person's entire body weight with every single step. Depending on the individual's speed, stride, the terrain they are walking on and any additional weight being carried or pushed, each Achilles tendon can be subject to up to 3-12 times a person's body weight when you first start a movement – that is an incredible amount of pressure through one tendon.





## The anatomy of the foot

The muscles of the foot divide into two groups. The Intrinsic, these are muscles that originate in the foot itself and the extrinsic which originate in the front and back of the lower leg and then attach into the foot. You can see the detail of all of these muscles in the diagrams in the accompanying course notes. The foot has an incredibly complex system of muscles – perhaps one of the most intricate in the body, do take your time to look at the muscle charts given in these course notes and refresh yourself at how complex and amazing these muscles are.



Now of course we know that Muscles work in pairs, simultaneously contracting (shortening) and relaxing (lengthening) to allow controlled movement. They are arranged in layers and are responsible for maintaining the correct shape of the foot for example the foot arches. So massaging the foot can be incredibly important in keeping not just the foot, but the whole leg and upwards into the hips and lower back functioning correctly.

Restriction in the foot can have a huge knock on effect further up the body into the larger muscles. This is why, if I am doing lower body work, once I have done some general warm up work, I invariably start my work by detailed massage work to the feet. It just makes sense.

The pain and restriction someone is feeling in their hip area might well be held right down at the foot. I have had some remarkable results in clearing sciatica by working on the feet and in particular on the little and adjacent toe – when we start to look at the body beyond the main muscle groups that traditional anatomy teaches – then this makes perfect sense.

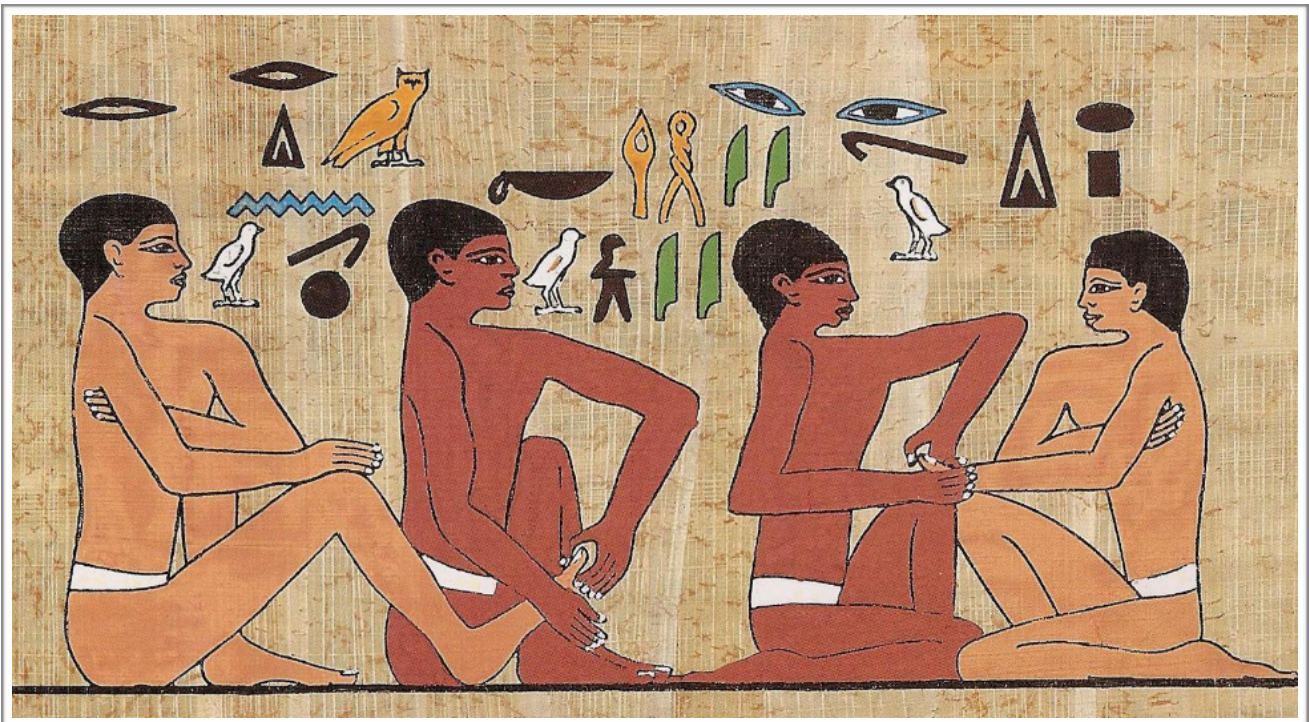
Of course many would argue that we are not solely working on the physical structure of the body, we are also working on the energetic structure – reflexology, acupuncture and acupressure all work on this basis. By releasing an energetic blockage we also allow the body to function as it should. Whether this is your standpoint or not doesn't matter too much. When you work from one perspective you are generally freeing up blockages from the other perspective too. So if you explain things to your clients from an Eastern perspective, you are still working on the Western Anatomy & Physiology and if you explain things from a Western anatomical point of view – you are still accessing meridians and energy points. The meridians of the stomach, gall bladder, bladder, liver, kidneys and spleen all go through the feet or ankles so there are some powerful points to access.

## Reflexology points

When we are working on the feet we need to be aware of another key area of work in this area, that of reflexology – this is not a reflexology training course but we are going to look at some of the ideas behind it and the main mapping for it. You will see in your course notes the reflexology charts that give the detail of how the body maps to the feet.

Historically we can find evidence of reflexology in Egypt, India and China – and these mixed roots also reflect in different understandings of reflexology today and you will find differences in reflexology charts and in reflexology practice depending on where the influence originated from.

The older documented evidence we have is from a physician's tomb in Saqqara, near Cairo, which depicts patients having reflexology treatments on their hands and feet. The hieroglyphics that accompany the pictures read "Please do not hurt me" with the doctor's reply being "I shall act so you praise me". These inscriptions are estimated to date back to about 2330 BCE – so we are talking about a well-established healing modality.



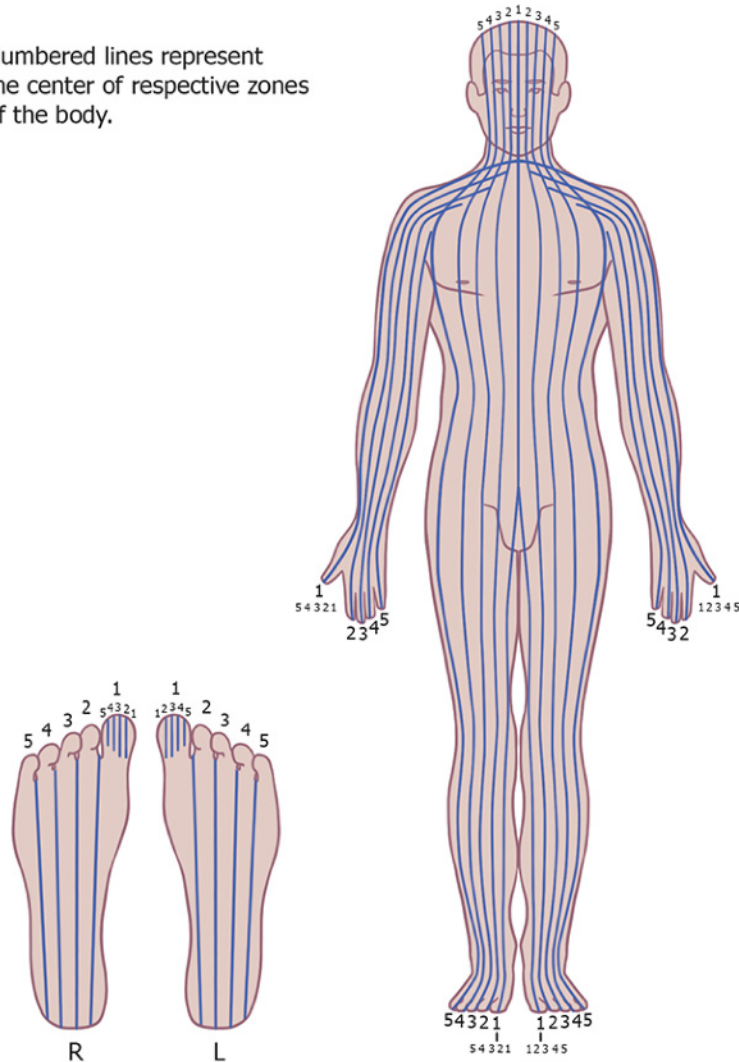
There are some arguments in the reflexology world about whether India or China was the origin of that branch of reflexology, in truth we will probably never know. While the main silk routes between the two were not established until the Han Dynasty around 130 BCE we do know that the trading of goods and the exchanging of knowledge took place well before that. As early as 700 BCE there was a University established at Takshashila in India and medicine was one of the 68 subjects taught there – alongside astronomy, languages, politics, music and dance – sounds like an impressive University! So this exchange of knowledge between civilisations is not a new thing.

There is then a gap in our knowledge but modern reflexology came mainly from two primary sources:

Dr William Fitzgerald , an ear, nose and throat surgeon (1872-1942) was the founder of Zone Therapy, which was an earlier form of reflexology. He discovered that exerting pressure on the tips of the toes or fingers caused corresponding parts of the body to become anaesthetised. From this, He divided the body into ten equal zones, which ran from the top of the head to the ends of the toes. Zone 1 would be the section from the big toe straight up the body into the head. Any area of the body that is compressed within this zone will affect every other area within the zone. Although it started off in the medical world, and even in theatre where Dr Fitzgerald would do minor ops using Zone Therapy as anaesthetic – it was soon sidelined into complimentary therapy as most of the evidence was anecdotal rather than in controlled medical trials.

## ZONE THERAPY

Numbered lines represent the center of respective zones of the body.



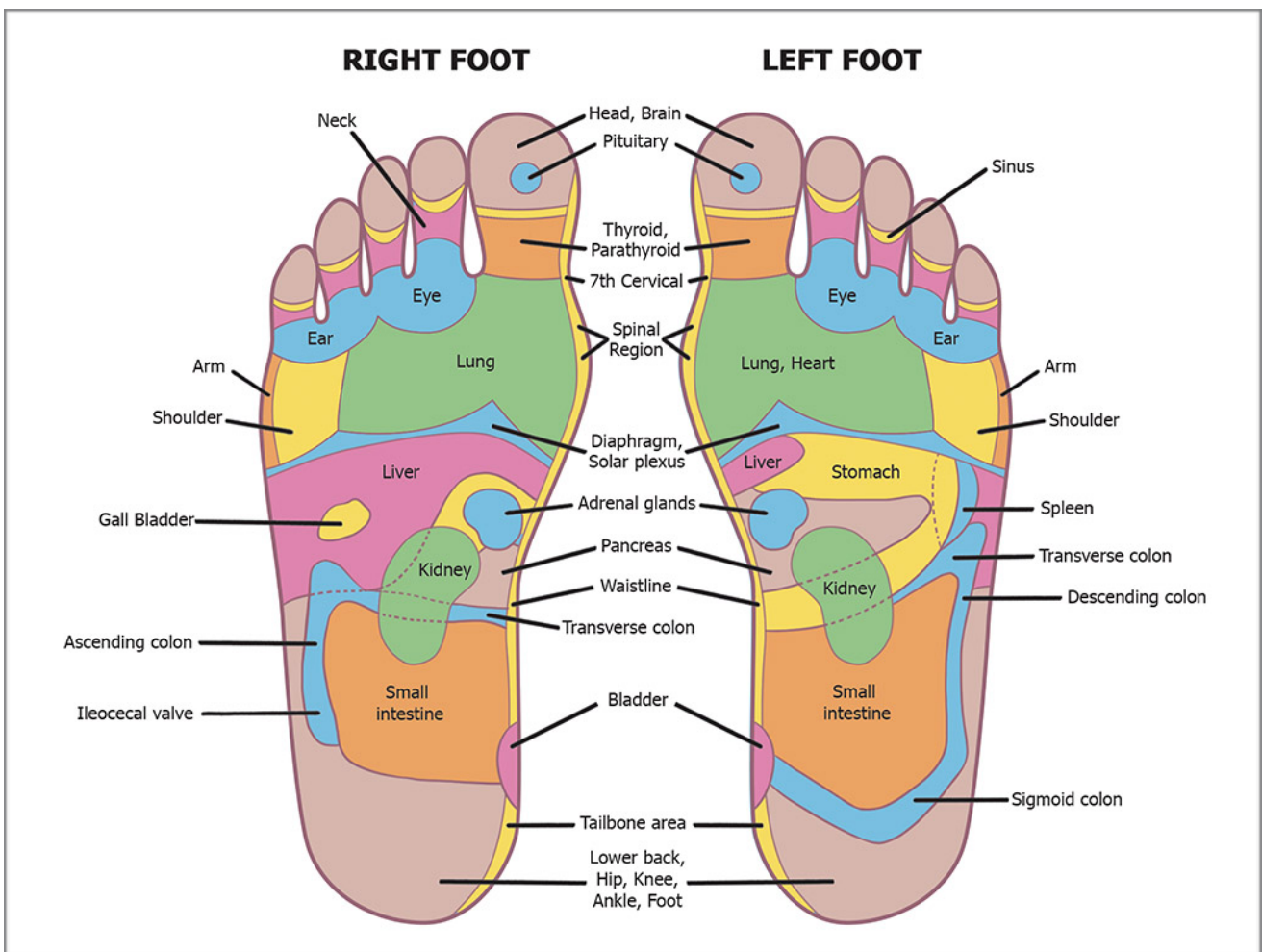
Eunice Ingham (1889 - 1974) was a physiotherapist working in the surgery of a doctor who used Zone Therapy and she concluded that it would be more effective to be practised on the feet rather than the hands. After extensive research, she developed the map of the entire body on the feet - where one point on the foot corresponds to a certain part of the body and it is largely her foot and hand charts we see today. She is also credited with the modern name 'reflexology'.

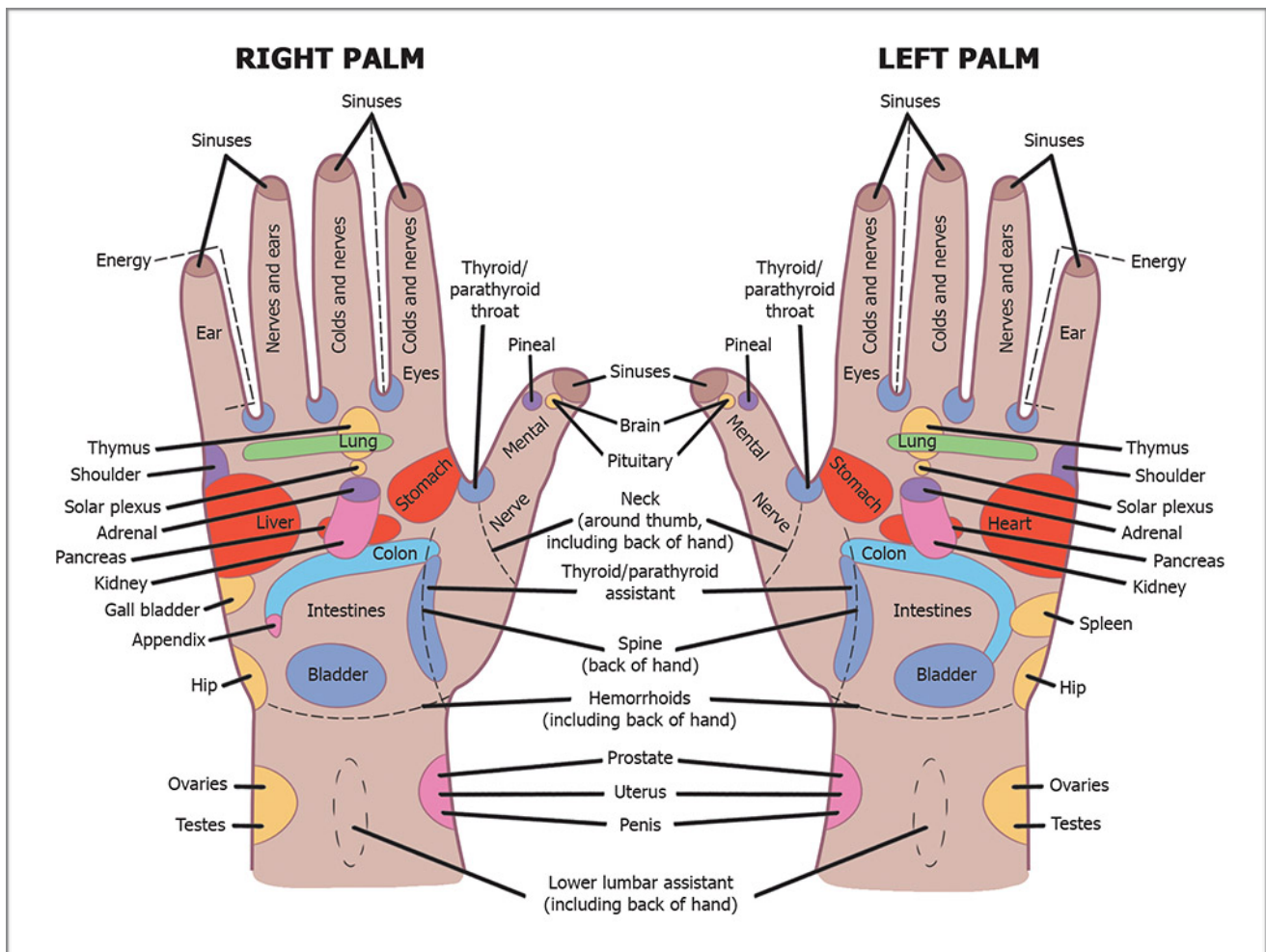
## So how does reflexology work?

Again we can take Western and Eastern perspectives on this. Very simply put - the Western idea is that it stimulates your parasympathetic nervous system to heal itself and the Eastern is that it will rebalance Qi - your energy or life force.

Whatever your philosophical stance, the effect of it should be to relieve stress and tension, improve nerve, blood and lymphatic supply and promote the unblocking of nerve impulses. To persuade the body to biologically correct itself and to allow the body to reach homeostasis.

It's worth pausing now to look at the reflexology charts, we have given them for both the feet and the hands - and see how the body is mapped.





Even if you are not giving a reflexology treatment, you should be aware of this practice when you are doing this foot work, if you come across a very tender spot on the foot its worth bearing in mind what its corresponding organ is.

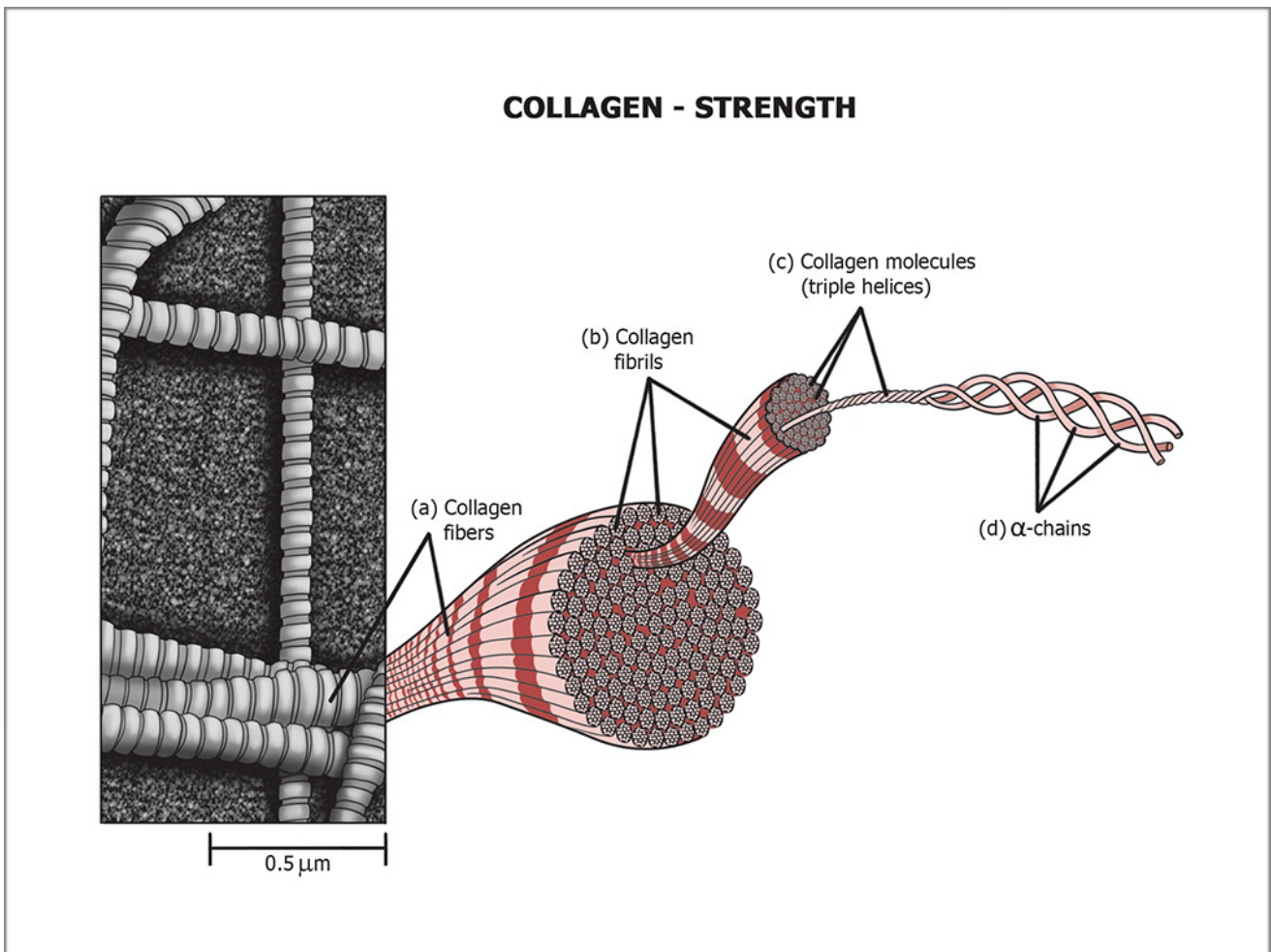
There is an important caveat here – you might press on a particularly tender point, look at a map and see it’s a kidney point – but you *cannot* jump to conclusions from this that it means the client has a kidney problem – you might simply be stimulating the lateral branch of the lateral plantar nerve or be pressing too hard on the oblique head of adductor hallucis muscle – we are talking about the coming together of Western and Eastern ideas. If we are stimulating a reflex point, we are also stimulating and muscle, nerve or piece of connective tissue - and vice versa.

## The importance of fascial connections

Now that is where foot anatomy used to finish, you could of course go into much more detail about any of these structures, you could spend a long time just studying the complex anatomy of the foot or a long time training as a reflexologist – but there is still more.

Then there is deep fascia. Our understanding of fascia has developed significantly in the last couple of decades. Fascia is defined as a sheet or band of fibrous connective tissue enveloping, separating or holding together muscles, organs, and other tissues of the body. Fascia is connective tissue, but NOT all connective tissue is fascia. I'm not talking here of the adipose layer, or the superficial fascia which is a great holding point for fat, obviously for most people the amount of fat in our feet is fairly minimum. There is then what US anatomist and dissector, Gil Hedley, refers to as "Filmy fascia" and then there is deep fascia.

This deep fascia, is collagen based as is much connective tissue – collagen is one of the most common proteins in the body. Collagen fibre is a spiralled, triple helix that doesn't form straight lines, but instead creates multi-directional layers that allow movement in lots of different directions.





Collagen is a strong material, ounce for ounce it is stronger than steel. As we age we produce less collagen – which can often first show in our bodies on our faces.

As we are starting to understand more about fascia, and especially about deep fascia we can gain more insight into its power and strength. The current understanding is that deep fascia is a continuous and integrated whole. It wraps around pretty much everything within the human body. It helps give strength and integrity to muscles, creates separation from different parts of the body, allows us to flow in our movements – it is an amazing interconnected and integral part of our body.

We might then ask why we massage the toes when they don't really have any muscle in them – well it's because of this interconnectivity. Of course, we can't massage bone – but we can work on connective tissue – not the same as we do muscle, but we can start to get things moving higher up in the body, in the rest of the foot, the calf, the thigh, the hips and into the lower back - by working on this connective tissue in the toes and then the muscle – and of course the connective tissue - in the feet. It's not something as yet we might fully understand – and medical science is still discovering more about this. But – from a Western perspective we are working on a whole range of tissue – and from an Eastern perspective we are working on the meridians through which our energy flows (or gets blocked) – so whichever perspective you come from – we need to be massaging those feet and in much greater detail than many of us will have been taught in school.

## Contraindications

**Plantar fasciitis:** Inflammation in the plantar fascia ligament along the bottom of the foot. Pain in the heel and arch, worst in the morning, are symptoms. We can massage but must avoid the heel area.

**Osteoarthritis of the feet:** Age and wear and tear cause the cartilage in the feet to wear out. Pain, swelling, and deformity in the feet are symptoms of osteoarthritis. Need to work very gently to avoid aggravating and inflammation or causing pain.

**Gout:** An inflammatory condition in which crystals periodically deposit in joints, causing severe pain and swelling. The big toe is often affected by gout. If someone has gout there is no way they are going to let you touch their toes – it will be incredibly painful. This is a form of inflammation so massage to that area is contraindicated.



**Athlete's foot:** A fungal infection of the feet, causing dry, flaking, red, and irritated skin. Daily washing and keeping the feet dry can prevent athlete's foot. You can of course massage someone with Athlete's foot but you need to be careful not to pick up this fungal infection and extra cleaning of the massage area and linens would be needed. Can opt to work with gloves on or through the client's socks – if working through socks still be extra careful with you own and your linen's hygiene.



**Rheumatoid arthritis:** An autoimmune form of arthritis that causes inflammation and joint damage. Joints in the feet, ankle, and toes may be affected by rheumatoid arthritis. Massage over an area with rheumatoid arthritis is contraindicated all but for the lighted touch.

**Bunions (hallux valgus):** A bony prominence next to the base of the big toe that may cause the big toe to turn inward. Bunions may occur in anyone, but are often caused by heredity or ill-fitting footwear. You can massage around a bunion, its likely to be tender to the touch so again you would need to be gentle on that area with deep work contraindicated.

**Achilles tendon injury:** Pain in the back of the heel may suggest a problem with the Achilles tendon. The injury can be sudden or a nagging daily pain (tendinitis). Again this is an inflammatory issue so only very light massage.

**Diabetic foot infection:** People with diabetes are vulnerable to infections of the feet, which can be more severe than they appear. People with diabetes should examine their feet daily for any injury or signs of developing infection such as redness, warmth, swelling, and pain. For someone with a diabetic foot infection massage to that foot would be contraindicated – you risk introducing infection to the area and this must be avoided. Adding any extra pressure to the area could potentially cause further damage.

**Swollen feet (oedema):** A small amount of swelling in the feet can be normal after prolonged standing and common in people with varicose veins. Feet oedema can also be a sign of heart, kidney, or liver problems. Now light massage or lymphatic drainage massage could help here but you need to first of all know the underlying cause and your primary contraindication would be for the underlying condition.

**Calluses:** A build-up of tough skin over an area of frequent friction or pressure on the feet. Calluses usually develop on the balls of the feet or the heels and may be uncomfortable or painful. These may be a little uncomfortable for the client but generally massage wouldn't cause a problem here – just be careful to gauge your depth by your client's reaction.

**Corns:** Like calluses, corns consist of excessive tough skin buildup at areas of excessive pressure on the feet. Corns typically have a cone shape with a point, and can be painful – work with these as for calluses but be extra careful on the pointed tip of them.

**Heel spurs:** An abnormal growth of bone in the heel, which may cause severe pain during walking or standing. People with plantar fasciitis, flat feet, or high arches are more likely to develop heel spurs. Again you can massage someone with a heel spur but work around, rather than directly onto the spur so you don't cause unnecessary pain.

**Ingrown toenails:** One or both sides of a toenail may grow into the skin. Ingrown toenails may be painful or lead to infections. Ingrown toenails are incredibly painful and as they can often be infected you need to avoid working on or immediately next to an ingrown toenail – you can also increase the risk of infection. In any of this detailed foot work you should be avoiding the nail bed.



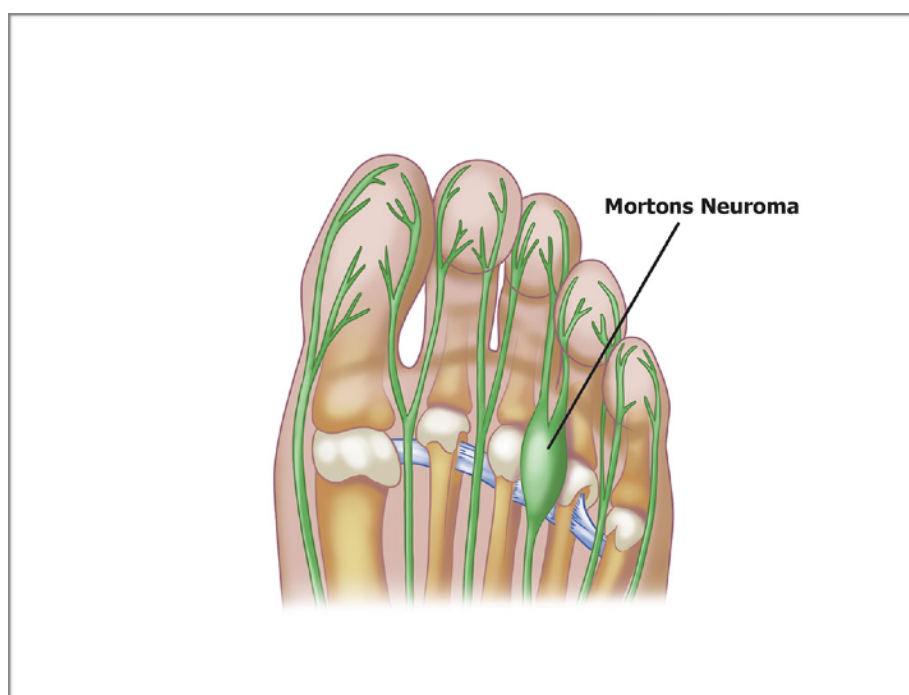
**Fallen arches (flat feet):** The arches of the feet flatten during standing or walking, potentially causing other feet problems. Flat feet can be corrected with shoe inserts (orthotics), if necessary. This foot massage will usually be of benefit to someone with fallen arches, usually what will happen is that the foot will rotate inwards and this causes upwards problems into the knee and hip – so working to loosen tension in the foot and leg will help with this.

**Nail fungal infection:** Fungus creates discoloration or a crumbling texture in the fingernails or toenails. Nail infections can be difficult to treat and easy to catch so work through a protective barrier – either the client’s socks and a towel or wear gloves. As with athlete’s foot – pay extra attention to your clinic and person hygiene afterwards.

**Metatarsalgia:** Pain and inflammation in the ball of the foot. Strenuous activity or ill-fitting shoes are the usual causes. Again you can massage but adapt your massage so that you are avoiding direct pressure on the ball of the foot where tissue might be inflamed.

**Plantar wart or verruca:** A viral infection in the sole of the foot that can form a callus with a central dark spot. Plantar warts can be painful and difficult to treat and they can be incredibly contagious – if I have a client with a verruca I will ask them to pop a sticking plaster over it and also keep their sock on – and again increase your clinic hygiene. I always have a supply of elastoplasts in my clinic just in case – including hypoallergenic ones for anyone who might be sensitive. I do keep gloves in the clinic for use when needed but it’s not my first choice of protective barrier – but sometimes they are needed.

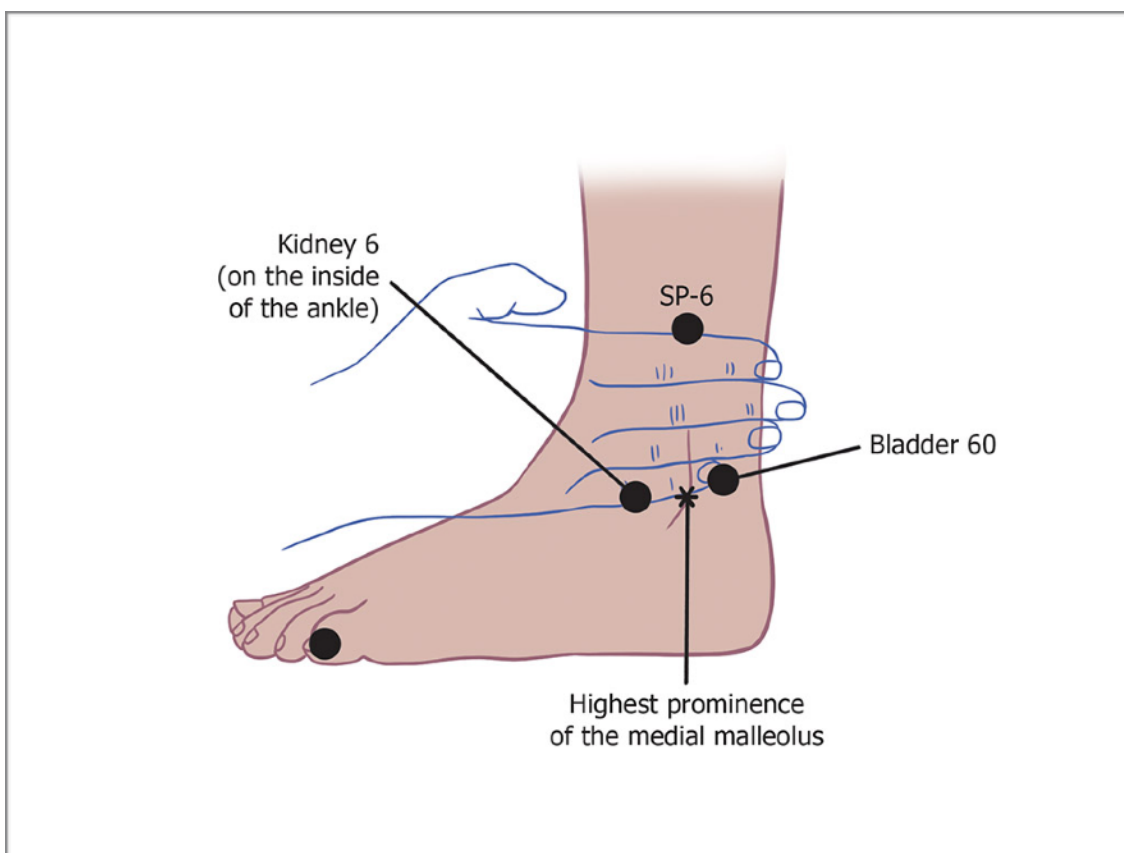
**Morton's neuroma:** A growth consisting of nerve tissue, usually between the third and fourth toes. A neuroma may cause pain, numbness, and burning and often improves with a change in footwear.

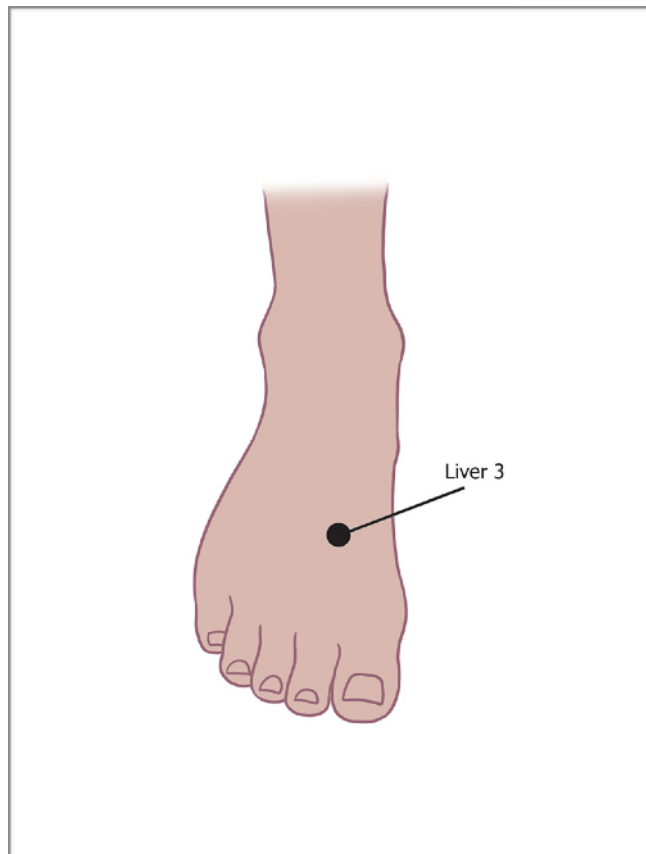
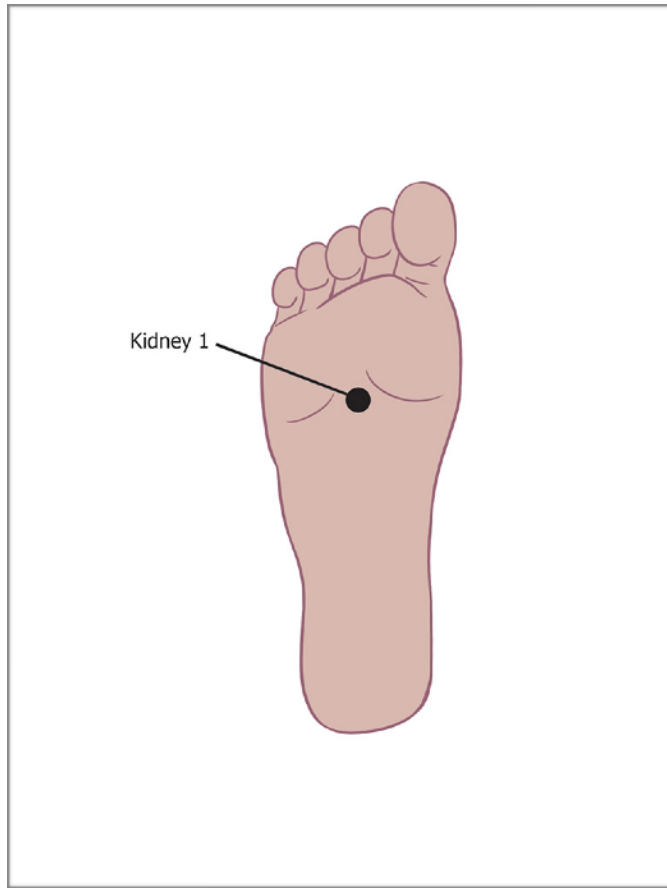


If your client has this, still do the rest of the massage but skip over the area of the neuroma as it will be too painful to work on.

**Fractures and dislocations along with any cuts or open wounds** – are of course contraindicated as they would be anywhere else in the body.

**Pregnancy:** There are also key pressure points to avoid during pregnancy when doing foot massage – these are all fairly precise so are detailed in your course notes and these points should be avoided and are shown here for clarity.







## **Practical work**

Please refer to the course book chapter three, this will give you detailed instructions to accompany this video course. You will also see from some of the other chapters in the book how this can become an important aspect of other lower body work.

Try to practice on friends and family members before building this detail into your practice. It takes time to develop the precision needed and to check your depth levels when you are working on the feet, you should always be working within the client's tolerance levels.

For the reference material regarding Plantar Fasciitis please refer to page 166 of the course text.

I hope you very much enjoy this new aspect of your work. When introducing clients to this work for the first time, they may question why you are spending so long working on their foot. It can help you explain the benefits by working one foot first and then pausing and asking them to feel the difference between the two feet before you continue to the next foot.

Remember you can also diversify your treatment menu by adding a discrete 30 or 45 minute foot treatment and giving a separate price for this. It works well both as an individual treatment as well as being an integral part of a lower or full body treatment.

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