

# Strong Roots

## Awakening the Feet for Yoga & Life

By Michelle Dalbec, E-RYT500



# Introduction

*“The human foot is a masterpiece of engineering and a work of art.”*  
- Leonardo da Vinci

Your feet are a feat of living engineering. They are your natural way to ambulate from point A to point Z and all the points in between. Foot mobility is extremely complex due to its

structure: each foot has 26 bones, 20 muscles and motor nerves, 33 joints, and all the connective tissues that lash them together. With all of that inner “soft- and hardware”

your foot has the potential for over a zillion (literally) unique positions. Our current medical and movement texts identify three. That’s how stiff our feet have become.

And many people these day don’t give their feet much thought ... until something goes wrong that is. And what happens in the feet DOES NOT stay in the feet. In fact there are many ailments north of the ankles that are being influenced by the state of your feet.



The feet are constantly under stress. They take on the weight of the world ... well, maybe not the world ... but they do take on the weight on the body and all the loads and forces of the body - think walking, running, jumping, climbing, dancing, even standing. During an average day of walking, the

total forces on your feet can total hundreds of tons. Imagine if from about two years old, that every day from morning to night you put stiff leathery mittens on your hands lumping all the bones together, rendering all the small muscles for fine motor skills useless. How would that have affected how you were able to use your fingers and hands? Most of us do not have to imagine that same scenario with the feet. Stiff leather coverings have been on our feet practically since the moment we could walk, creating restricted use of the muscles and loss of movement. As a result of wearing

footwear, most of us have not developed and used the bulk of the muscles that live within the foot (intrinsic muscles).

This places unnatural loads on the muscles of the lower leg, on the joints in the foot, and on passive tissues (those that cannot adapt strength) like the fascial system and ligaments of the foot. Using the intrinsic muscles of the feet is critical to whole-body health because they help you with balance, keep the nerves healthy, and are a part of a complex lever system that is required for the hip to work properly.

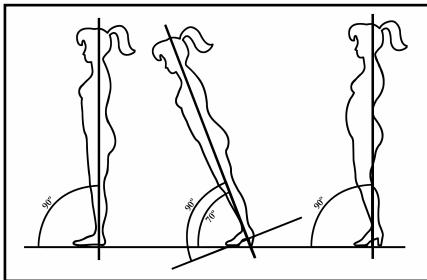


Being able to stand upright is important to the health and strength of your bones. Put another way, the skeleton needs to be weight-bearing to generate bone. Weight-bearing means the bones below are feeling the **total weight** of the body above (a vertical stack to the floor). Anything you put on your foot changes the foot's connection to the ground, its receptivity, the mobility of the intrinsic bones, muscles, & fascia, the mobility of the ankle joint, and more likely than not the shape of the foot.



If footwear has a heel of ANY height, it can do all the things mentioned above, in addition to

changing the angles of your body so you are no longer in a stack vertical to the floor. Wearing footwear with a heel changes the body's alignment from a vertical, weight-bearing stack into more of a zig-zag formation. With this seemingly small change comes wear and tear on your joint cartilage, an increase in potential disk degeneration, a weak pelvic floor, nerve damage in the feet, and a decrease in your weight bearing status.



Amazingly, 9 out of 10 women wear shoes that are too small for them. Shoes that do not fit properly, especially across the toe box (the area that encloses your foot from the knuckle joints to the tips of your toes) squeezes the toes together and prevents the spreading of the toes away from each other. Chronic toe squeezing not only weakens the muscles of the toes but also loads the bones while they are positioned incorrectly increasing the occurrence of joint stress, bone stress, and deformation of the other tissues.



Also shoes that do not fully attach to the feet like the flip-flop, mules, or slide-ons are another category of shoes that change the natural movement of the foot. They don't stay on without some major muscles clenching and boney alterations. Research on gait patterns and poorly attached shoes demonstrates increased risk for hammertoes, plantar fasciitis, and knee pain.

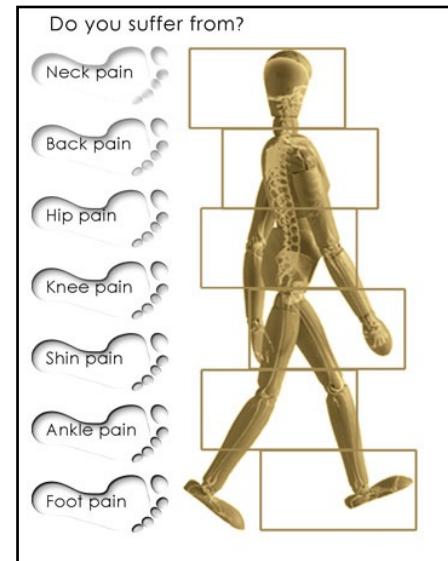
The feet are not just for walking either, they give feedback. There are 1,500 sense receptors per square inch on the sole of each foot allowing your feet to map what is underneath them. When the feet are stiff and tight (and constantly in footwear), the pelvis also becomes stiff and restricted in its movement. Since the feet are in constant communication with the pelvis to help navigate movement, when the feet are out of touch with what they are walking on they end up not communicating properly with the pelvis. Eventually you get lumbering, lurching, unbalanced movements resembling an old or injured body — which essentially is what's happening due to minimal sensory input.

The current health of your feet is a future projection of how well you'll be able to move as you grow older. This is important because as you age, independent living requires that you are able to both walk and balance. Your ability to walk and balance depends on the mobility and strength of the muscles within the feet

**LIFE IS MOMENTS AND CHOICES ...** One of the main aims and effects of any yoga practice is to raise your level of awareness and sensitivity. It literally begins to wake you up to the life that is living within you moment to moment. In those moments of awareness you are able to feel more fully and clearly the effects of every choice you make. Eventually you begin to make choices that bring you into back into balance and make you come ALIVE. These benefits apply not only to time spent on the mat, but off the mat as well for the countless choices one has to make every day. When you understand the impact your shoes can have not only on your feet but on your entire body, then choosing mindfully means selecting the footwear (or lack of footwear) that is most appropriate to your highest goals for yourself. There is an immediate and long lasting effect on your whole body from wearing footwear. Choosing to wear footwear that doesn't fit properly, has a positive heel, drastically changes the natural shape of the foot, or restricts the foot and ankle movement will have negative effects.

**GOOD NEWS —** Your feet are full of living tissue, they can change, grow, and improve, no matter what they've been doing (or not doing) up to this point. You have the ability to restore lost foot function and improve your overall health if you make the choice to do the work. This work helps those who deal with the effects of high heel habits, flip flop-itis, plantar fasciitis, bunions, hammer toes, bone spurs, shin splints, cramping calf muscles, and more.

This series uses self massage techniques, creative-corrective movements, and skillful stretches to bring suppleness back to the feet, create intelligent mobility between the feet and the legs, and help reestablish the proper alignment from pelvis to feet.



*The following sequence is a Restorative Exercise Institute®, Yoga Tune Up®, and Integrated Positional Therapy inspired protocol intended to rehabilitate the feet and reestablish a working relationship between the feet, legs, and hips. This handout is not medical advice and is in no way intended to replace advice or treatment from a licensed medical professional. Please check with your doctor before beginning any of the exercises on this handout.*

# FANCY FOOTWORK

## FOOT MASSAGE

Actually this work is less about a massage and more about creating a surface that distorts the joints in the foot in order to bring suppleness, blood flow, and mobility to the bones, fascia, and muscles of the feet.

- Bring a Yoga Tune Up® Therapy Ball or any other type of pliable solid core ball that has a grippy surface to the center of your right foot. Step your left arch on top of the ball while keeping the heel on the floor. Press your body weight down on the ball, attempting to smash it, and sustain for several breaths.



- ✓ While you are attempting to smash the ball start to pivot your foot from side to side causing the ball to roll from the inner arch to the pink toe side of the foot. Repeat for several rounds



- ✓ Continue to smash the ball and move it from side to side but change the movement from pivoting to rocking the foot over the ball.



- ✓ Next move the ball to your heel and bring your toes and the balls of your feet to the ground. Drive your body weight into the ball, then briskly scrub the ball from side to side as if you were trying to pulverize something under your heel.



---

## TOP OF THE FOOT STRETCH

- ✓ Stand in mountain pose. Reach your foot behind you and bring the top of the foot to the floor (where your shoe laces would be). Keep your pelvis aligned directly over your standing leg. Work to holding for up to a minute.



## CALF STRETCH

- ✓ From a standing position place balls of your right toes onto the Half Dome Rx.erciser (like I'm using in the photo), a rolled towel, a rolled yoga mat, or firm cushion and bring the heel all the way to the floor. Straighten the knee all the way. Keep your weight stacked over whichever leg is the back leg. Work at holding the stretch, for up to 90 seconds then switch.



## ANKLE WORK

- ✓ POINT & FLEX: Sit on the floor or on a chair with your legs stretched out in front of you. With your legs and feet together slowly point and flex your feet.
- ✓ CIRCLES: Bring your legs together and begin to circle your feet without your inner ankles or inner legs separating, repeat for several rounds and then change directions.
- ✓ INVERSION & EVERSTON: Separate your legs hips distance apart. Turn the soles of your feet towards each other, like you do with your palms and then turn them away like you were going to bring the tops of your feet together.

---

## TOE WORK

- ✓ With legs still hip distance apart begin to curl toes into a “fist” then release and then flex them back towards the shins. Repeat this several times.
- ✓ Start with toes in neutral. Flex just the big toe and release. Then flex just the 4 toes and release. Go back and forth slowly.
- ✓ Finally practice moving your toes individually. Moving the big toe, first toe, second, third, and then fourth in succession until they are flexed then slowly release from pinky toe to big toe back to neutral.

## TOE SPLITS

- ✓ Sit with one foot in your lap. Hold your big toe and first toe. Slowly separate them bringing one forward and one back. Hold for a 10-30 seconds then reverse the direction. Then “split” them apart left and right, hold for a 20-60 seconds then release.
- ✓ Move 1 toe down, holding the first and second toes and repeat above until all toes have been worked.

## SHAKE HANDS WITH YOUR FEET

- ✓ Sit on the floor or in a chair with your right ankle crossed over your left knee. Gently weave your left fingers in between the toes, spreading the toes away from each other. Hold for up to a minute.

## SPREAD THE TOES

- ✓ Bring legs out in front of you again and stand your feet on the floor. (You can also sit in a chair or stand up for this) Practice spreading the toes apart from each other (side to side) without lifting them off the floor. Relax and repeat several times.

## SITTING ON THE TOES - SITTING ON TOPS OF THE FEET

- ✓ From a table position on your hands and knees tuck your toes under then slowly sit as much of your weight back on your feet/toes finding “comfortable uncomfortable” and sustain for several breaths.
- ✓ Release back to table, flatten the tops of your feet to the floor (where your shoe laces would be) then slowly sit as much of your weight back on your feet/toes finding “comfortable uncomfortable” and sustain for several breaths. Go back and forth several times.

## HAMSTRING, CALF, AND FOOT STRETCH

- ✓ Lie on your back, knees bent.
- ✓ Loop a strap around your right foot then straighten it up to the ceiling. Keep your sacrum on the ground, while keeping space under the low back, and the hips level left to right.
- ✓ Straight your knee all the way. Adjusting the angle of the leg to accommodate this, even if that means the leg is out in front of you verses over the hip. *Left leg can stay bent or straighten out on the floor.*
- ✓ Flex your foot. Sustain that and add flexing the toes.
- ✓ Remain here for 90 seconds or more then release and switch sides.



## INNER THIGH STRETCH

- ✓ Come back into the Hamstring Stretch Pose above. Externally rotate your right leg and take it out to the right until you feel a stretch in the inner thigh/groin area. Keep the leg at hip height, your shoulders on the floor, and left arm out at “T” position. Stay here for 90 seconds or more then release and switch sides.

## RECLINING SPINAL TWIST VARIATION

- ✓ Come back into the Hamstring Stretch Pose above and then take your right leg across the body at hip height. Keep your shoulders on the floor, arms out at “T” position. Stay here for 90 seconds or more then release and switch sides.



---

# REFERENCES

---

## BOOKS

- ▶ Simple Steps to Foot Pain Relief: by Katy Bowman
- ▶ Whole Body Barefoot: Transitioning Well to Minimal Footwear by Katy Bowman
- ▶ Alignment Matters: The First Five Year of Katy Says by Katy Bowman
- ▶ Psoas Release Party!: Release Your Body From Chronic Pain & Discomfort by Jonathan FitzGordon
- ▶ The Roll Model by Jill Miller

## WEBSITES

[www.nutritiousmovement.com](http://www.nutritiousmovement.com)

- online movement classes for purchase, a great blog and outstanding podcasts

[www.yogatuneup.com](http://www.yogatuneup.com)

- online movement classes for purchase and a great blog

[www.corewalking.com](http://www.corewalking.com)

- free information and a great blog

## DVD - STREAMING ONLINE CLASSES

*Hip Helpers* by Jill Miller (can be found on Amazon)

*Fix Your Feet* by Katy Bowman (can be found on Amazon or [alignedandwell.com](http://alignedandwell.com))

*Knees and Hips* by Katy Bowman (can be found on Amazon or [www.nutritiousmovement.com](http://www.nutritiousmovement.com))

## PRODUCTS

Yoga Tune Up® Therapy Balls (can be found on [www.yogatuneup.com](http://www.yogatuneup.com))

My Happy Feet Foot Alignment Socks (can be found on Amazon or [my-happyfeet.com](http://my-happyfeet.com))

Half Dome Rx..erciser (can be found on [www.nutritiousmovement.com](http://www.nutritiousmovement.com))

Vibrams Five Finger Shoes (<https://us.vibram.com/shop/fivefingers/>)

Bedrock Sandals (<https://bedrocksandals.com>)