

WYSONG ERGONOMIC INSOLE

(PATENT PENDING)

Foot-in-the-Sand Technology

by Dr. R. L. Wysong

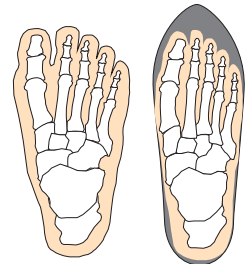
The Foot Is A Dynamic Structure

The foot is an exceedingly complex mechanical structure. It is comprised of 26 bones (25% of all the body's bones!) as well as muscles, tendons, ligaments, joints, sesamoids, nerves, lubricating fluids, pads, nails, veins, arteries and lymphatics comprising hundreds of interconnecting intricate parts. Modern shoes entomb the foot into a virtually immobile state – as if it were comprised of one piece – denying its important underlying functional and dynamic design. The foot has no rectangular or perpendicular edges and was not meant to be strapped to a platform. Conventional shoes are created for adornment with only token considerations made for the critical needs of a living foot crying out for freedom from bondage and solitary confinement. In fact, 80% of all foot problems occur in women because of the shoes they wear. Overweight individuals are even more prone to foot problems.



Anatomy of the foot, a complex, dynamic organ.

Conventional shoes (better termed coffins) lead to a broad host of ailments. Like the binding used to create diminutive feet in Chinese women, modern shoes bind and misshape feet. The misshapen feet of modern adventurers to primitive regions amaze barefooted natives who have naturally wide, toughened, prehensile, toe spread feet.

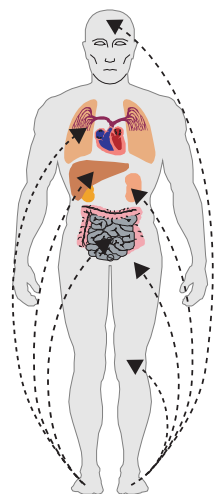


Bare foot compared to constricted foot in shoe.

The true potential of liberated toes becomes apparent in the disabled who have no hand function, yet learn to write and use eating utensils with their toes. In contrast, toes which have spent a life in shoes can barely move.

The Foot's Relationship to Health

The average adult walks five miles a day in the course of daily activities, and our feet absorb about 1,000 tons of force a day – much of it on hard surfaces. Our feet are doing important work, yet improper footwear sends “dis-ease” up through the legs, through the spine, all the way to the cranium. Feet forced out of balance and inhibiting proper movement can result in everything from corns, calluses and ingrown toenails to heel spurs, fasciitis, sesamoiditis, tarsal tunnel, calcaneal apophysitis, shin splints, torn Achilles tendons, sprains, broken ankles, joint pain and arthritis. Pelvic and hip problems as well as lower back and neck disc problems can also result. Improper foot mobility interferes with blood and lymphatic circulation leading to edema (swelling), varicose veins, phlebitis, and claudication (plugging) of vessels. Clots which form can migrate to critical blood vessels in the brain and other areas potentially causing stroke, heart attacks and degeneration of the kidneys and other organs. This is not to mention the fatigue, headaches, and even depression which can have an ultimate cause from such body



Health from the feet up.



The Wysong Ergonomic Insoles™ are the result of several years of research in comparative anatomy, kinesiology (mechanics and anatomy of movement), ergonomics (human engineering for efficient and safe use) and testing in the most rigorous and demanding of sports and vocations.



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imbalance and organic malfunction. Foot pain can lead to decreased exercise and with that increased susceptibility to unhealthy weight gain and a host of other mental, physical and physiological weaknesses.

The feet are much too important to simply bind, adorn and hide. The foot is designed to be our connection to Earth. The sensations received by the foot on the ground create body awareness not unlike the input received by the senses.

For athletes, the demands on the feet are greatly amplified. Many have their careers cut short by foot injury and degenerative diseases. The causes are many, but not the least of which is improper shoe and insole design. All athletes sooner or later have foot problems. Given a natural surface to play a sport on (if that were possible) and using conditioned bare feet, these problems would rarely occur.

Health should be the primary consideration in footwear, not a little cushioning here and there, and a lot of fashion and style. A product that needs to primarily address function should not become simply an opportunity for marketing.

How Feet Are Designed to Work

The proper position of the foot is up on the ball. Propulsion and landing should only incidentally (if at all) employ heel contact. (The heel is to movement what the buttocks are to standing. You're on your heels while standing, but not moving, and on your buttocks if you're sitting and not moving.)



Foot up on ball.

Unfortunately, the platformed box design of shoes forces heel contact with motion, thus decreasing reaction time and speed and setting the stage for injury.

The natural movement of the foot is a complex, resilient, flexing and rolling motion – not the two dimensional heel-foot thumping forced upon it by modern footwear. The natural foot roll is similar to the principle used by a parachutist when landing. By folding and rolling, the chance of injury is dramatically decreased. So too should the foot roll at each landing. That is, in fact, what it is anatomically designed to do.



Foot roll

The motion I speak of is the natural rolling from light heel contact or no heel contact, to the lateral (outer) insole, to the ball, then to the toes.



Foot on heel.

What are the toes supposed to do trapped in modern shoes? What can they do? They're forced into a crunched together pointed shape dictated by improper shoe design (whose foot is shaped like a shoe?) and rendered basically useless. Toes should have room to spread out and be free to dig in and grip to help drive the body forward at the end of the foot roll.

If one compares the feel and function of the bare foot in sand to that within a modern shoe, it becomes apparent why problems arise. The solution is to return the foot to the sand. That is the purpose of the Wysong Ergonomic Insole (WEI). The design allows the foot to mimic the support and movement possible in sand and thus restore the foot to its living functional role in movement and health.

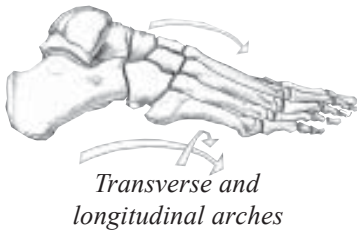
Features

Arch Support

In the sand, the foot is primarily supported by the arch, not the heel. Most shoes and insoles only hint at arch support. The WEI lifts the foot with comfortable transverse and



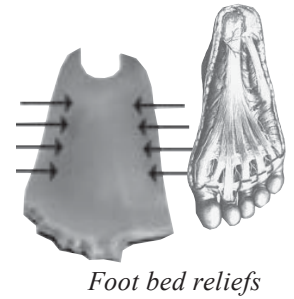
Shoe imprint vs. bare foot running in sand



longitudinal support. This takes pressure off the heel of the foot by properly distributing the weight over the largest surface area of the foot, the arch and ball. In a run, a heel strike concentrates 5,120 foot pounds of force directly to a point on the heel bone whereas with the WEI, this force is spread over approximately 15 square inches of soft resilient tissue in the arch and ball area.

Tendon and Bone Reliefs

Carefully designed depressions in the WEI footbed accommodate major tendons (plantar aponeurosis) running from the great toe to the heel and the 5th toe (little) as well as the metatarsal tuberosity on the lateral side of the foot. If one were to examine the impression of a foot in sand, the WEI is an exact replica in all detail, accommodating the precise anatomy of the foot undersurface.



Heel Cup

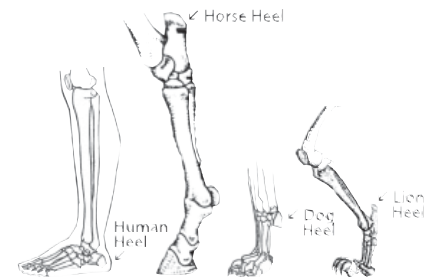
Heel pain is perhaps the most common of all foot problems. It would seem that the way to relieve it would be to place soft shock absorbing materials under the heel. But when this is done, the foot is lifted off the arch and even more pressure is concentrated on the heel. What is needed is to get weight off the heel by transferring it to the arch and ball of the foot. The significant arch supports in the WEI lift the foot off the heel, and the absence of underlying insole under the heel effectively relieves pressure and pain in the heel and permits healing. This is precisely how physicians provide relief for body pressure points, suspending them in air by creating cushioning foam “donuts” around such parts.

Heel cup: “donut” to float heel.

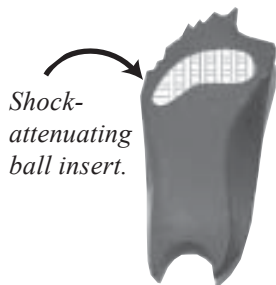


Ball Bed

As the foot naturally rolls forward from the arch, the ball of the foot (metatarsal heads) then receives the majority of the weight. When running, this area receives it all if the stride is correct. The heel is not supposed to have significant impact but rather merely be a point of contact to create balance for the human upright position in the standing and slow walk modes. Virtually no other creature allows the heel to strike the ground in movement. Rather, they are lifted to the ball of the foot or even onto the ends of the toes as in horses.



Animal anatomy comparisons.

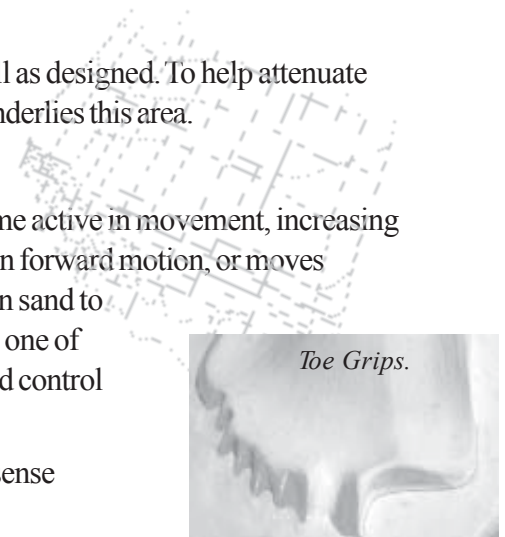


The WEI encourages the foot to roll onto the ball as designed. To help attenuate shock, a special absorbing visco-elastic material underlies this area.

Toe Grips

The toe grips in the WEI permit the toes to become active in movement, increasing balance and athletic capability. As the foot lifts off in forward motion, or moves laterally, the toes can grip the WEI as they would in sand to increase speed, power and agility. The sensation is one of digging in with your toes and new-found power and control over movement results.

In WEIs, you will feel your feet come alive and sense strength and spring return to your movement.



Materials and Fit

Only the highest quality medical-grade foams and shock-attenuating materials are used in the WEI. Unlike shoe insoles or aftermarket products, WEIs are substantial and create an almost miraculous feel of the bare foot in sand. WEI microporous materials breathe to permit the escape of moisture and to decrease bacterial growth. Air channels are designed to pump air to the feet with each stride. WEIs also retain their memory rather than set to a non-elastic and ineffective board-like state.

WEIs may be placed on top of existing insoles (if there is room without constricting the feet), or the shoe insoles may be removed. Using wide width shoes or open-toed sandals is another option to properly accommodate WEIs. If the shoe does not accommodate all aspects of the insole, they may be trimmed with scissors as necessary.

Once properly placed, the feel of the insole seems to disappear and the foot feels immediate relief. Once used for a time, it is almost impossible to tolerate shoes without them.

Replacement

Over time the WEI may lose some of its resiliency and softness. When this occurs, replace with a new set. For best results replace every 3-6 months.

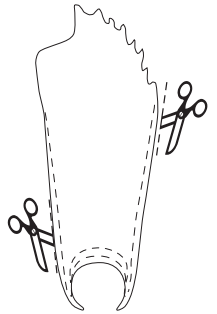
Foot Odor

To reduce foot odor and bacterial growth in shoes, alternate shoes permitting air dry time.

Additionally, use Wysong's Nature Foot Powder™, an all natural formulation. One teaspoon has the adsorbing surface area of a football field!



Air channels pump air to the sole.



Trim to fit shoe.

A while back I purchased orthotics from my doctor that cost \$500, but the Wysong Ergonomic Insoles are what I prefer in my running shoes. I wish I could have gotten them sooner and saved myself \$500!

Toronto, ONT

