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Free Your Feet

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“Free Your Feet,” by Alison Logan

Instructor’s Note

“Free Your Feet” is an argumentative research paper par excellence. In this essay, Alison Logan takes the unorthodox position that those who run should run barefoot. Whenever a student writes an argumentative research paper, that student must ensure that her position is arguable, and, in this case, Alison accomplishes this. Moreover, she’s done her homework. The sources she employs are scholarly, and she even draws on her own expert experience as a runner. Best of all, readers will find themselves delighted to discover that the information is anything but dry; rather, the writer brings an insistent voice to the text that energizes anyone fortunate enough to read her plea.

Writer’s Biography

Ali Logan is a freshman psychology major from Indianapolis, Indiana. She loves to run and spend time outdoors. When she isn’t playing sports, you will probably find her singing or listening to music.

Free Your Feet

In eight seasons of cross country, I have only made it through three without a stress-related injury. Five of my injuries sidelined me for at least a month, and I failed to make it through a year of high school without hobbling through the halls in a boot. Patellar tendonitis, stress fractures, bursitis, sesamoiditis—all big words for a simple concept: too much pounding. Unfortunately, I am not the only one finding myself in constant pain. It seems that the runners’ common tease of other sports, “My sport is your sport’s punishment,” now comes back to haunt those of us who compete without balls or bats. But running is not meant to punish us, especially when we do it voluntarily. The bitter irony mocks us; we who work hard to stay in shape by using the most natural form of exercise constantly sustain injuries that send us back home to the couch to ice, recover, and moan about our misfortunes. A feeling that perhaps few but runners can understand is the desire of nothing more than to get back to the activity that hurt us in

the first place. Running is practically in our blood—humans have been running since creation. Then why do we struggle so much with the sport now? Why does it seem that most of our bodies are not made for the impact? The answers to these questions hide in plain sight, in the sport’s one “essential” piece of equipment: the modern running shoe. Structured shoes inhibit the human body’s natural gait, so to run as efficiently and healthily as possible, the way our bodies are designed to move, the feet should be bare.

Origins of the Modern Running Shoe

The running world has not always been surrounded by companies like Saucony, Asics, and Brooks; in fact, many would be surprised at the lack of technology in older running shoes. Before the 1970’s, runners trained and competed in high tops, sandals, bare feet, and everything in between; the first shoe to fit today’s idea of running footwear came out in 1972 (McDougall 179). Most runners believe that the barefoot movement started in the last decade, but many ran un-shod prior to the introduction of the modern running shoe, and some even studied the mechanics behind natural versus shod gait. In 1961, podiatrist Dr. Simon J. Wikler wrote a book titled *Take off Your Shoes and Walk* to reveal the utter stupidity of wearing shoes as often as the average person does. Although runners generally accepted their lack of high-technology footwear, two men believed they could make good runners better with a specially-designed running shoe. In the 1960’s, Bill Bowerman, a coach at the University of Oregon, and Phil Knight, a runner at the same school, put their heads together to engineer a shoe specifically designed for runners. Not only did they want the shoe to feel good, but they also designed the footwear in such a way that it forced runners to change gait: instead of landing on the ball of the foot directly beneath the hips, Bowerman and Knight believed that it would be faster to step ahead of the center of gravity and land on the heel (McDougall 179). With their brilliant new running shoe, the *Cortez*, the Oregon buddies started a revolution—and they called it Nike.

The problems with the company arose before its founders actually established it. Bowerman, the more involved of the two, did not run much himself—he did not even start jogging until age fifty (McDougall 179). Between limited firsthand experience and little research, Bowerman’s ideas about gait change and athletic shoes can scarcely be considered credible. Fortunately for the company and unfortunately for American runners, Nike quickly became the trend-setter and easily rose to the top of the global market; as of 2009 the business takes in a whopping seventeen billion dollars a year. And for what? An idea wholly based on guess-and-check where two men essentially developed a market and demand for a product, then developed the product itself (McDougall 180). With flashy footwear and excessive measures for comfort, companies like Nike make barefoot runners seem insane. Our own ignorance makes us vulnerable, so for years we believed the mantras of running companies everywhere telling us that we need more cushion, we need a stiff outsole for stability, we need to replace our shoes at least twice a year.

Why, even after the last several years of natural-running promotion, do so many still scoff at unshod athletes? Dr. Wikler, a podiatrist in the mid-twentieth century, explains it best in his book’s introduction:

People will believe most readily what they want to believe. If certain facts lead to conclusions which are unacceptable to the average individual, he is quite capable of ignoring those facts, or rationalizing them in such a way that they no longer pose a threat to his peace of mind. Nowhere can this human shortcoming be better illustrated than in the attitude most of us take toward the kind of shoes we wear (1).

Instead of reading the research available, almost all of which points to barefoot running as the healthiest form, people tend to heed advertisements from the shoe companies themselves. Asics, Brooks, Nike, Mizuno, Saucony, and New Balance know their advantage and woo customers with pictures of gel-pack inserts, vibrant colors,

and a strong but lightweight outsole structure for the ultimate foot protection. Runners with sore feet and legs see the ads and immediately drive to their nearest running store, eager to purchase and run painlessly. They put an average of one hundred dollars into a pair of shoes that will only temporarily fix the problem, if at all. Can we blame the consumer? Not entirely—why would a company like Nike encourage athletes to run barefoot when that would destroy their market? The research against shod running does not sit out in the open, so we must dig for it.

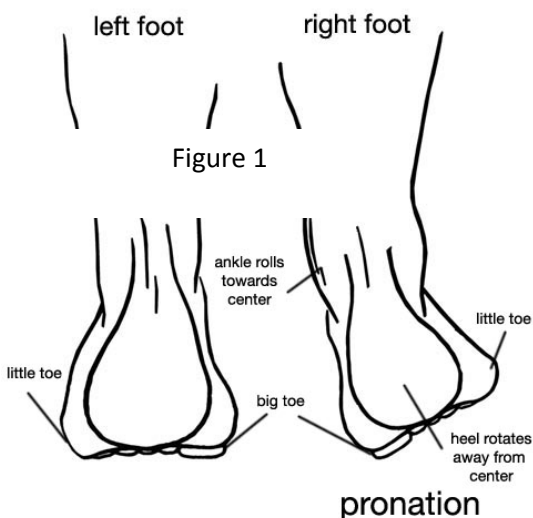
Common Misconceptions about Footwear

I have worked at a specialty running store for the last year and a half, and the most common request I receive when fitting someone for shoes is a call for cushioning. One customer asked me to sell him something that would feel like “clouds under [his] feet.” The feeling of a brand new athletic shoe with layers of soft, memory-foam cushion sounds like excellent relief for weary feet. The second most requested feature is stable structure to keep the foot secure, and the runners who claim a need for it are half correct. Our body naturally needs stability to run safely, but not in the form of more cushion under our feet. When the foot lands on a surface, it will continue to push downward on that surface until it can balance well enough to toe off again (McDougall 182-183). Therefore, when the foot strikes and can only find the soft, thick sole of a highly cushioned shoe, it digs deeper to find a solid surface. As a result, structured shoes compel the feet to come down with a greater force, which puts more stress on bones and joints. After years of listening to shoe companies give us the “facts,” our natural response to barefoot running is to think it will put more impact on our feet than they are designed to take. Contrarily, according to a study performed by Steve Robbins, Gerard Gouw, and Adel Hanna, our feet have high-sensory receptors that tell the feet how to react to impact and surface changes (Robbins et al. 130). The same study also discusses the layers and various types of skin on the soles of the human foot, which serve as shock-absorbers and naturally prevent overloading. Human feet have a high pain threshold because of thick layers of skin, which allows

them, over time, to develop toughness that shoes do not allow us to maintain. The same function that stability shoes can only attempt to replicate is programmed directly into our bodies (Robbins, et al 130), yet we still feel the need to wear extra weight and run in shoes for protection.

Another typical misconception about footwear is that pronation during foot strike is dangerous and increases injury potential. There are three different forms of toe-off during walking and running gait: neutral, pronation, and supination. Pronation is the rolling-in of the foot and collapse of the arch (Northcoast Foot Care). Figure 1 demonstrates an exaggerated form of overpronation, which requires correction.

This is a diagram of overpronation. The image is exaggerated to fully demonstrate the effect—most runners do not actually pronate to this degree. Pronation in a much slighter form is natural. (Source: NorthCoast Footcare)



The opposite gait pattern, supination, is far less common and indicates that the foot rolls out toward the pinky toe in the latter part of the gait cycle. We should aim for a neutral gait, which requires some pronation; the body needs the foot to roll in slightly for ideal shock-absorption. In attempt to correct running and walking gait, athletic companies typically divide their shoes into two main categories: stability and neutral. Neutral shoes cater to people who naturally walk or run with appropriate amount of pronation, while stability shoes intend to correct overpronation. The construction of the shoe includes denser foam on the instep of the shoe near the arch, and sometimes extending to the heel, which prevents the foot from rolling inward upon landing. Many doctors and running specialists often also prescribe orthotics, which are inserts the wearer places in his shoes to act against pronation. In his article “Why Shoes Make ‘Normal’ Gait Impossible,” Doctor William A. Rossi concedes that stability shoes do indeed change foot strike to some extent, but he distinguishes between the words “normal” and “natural.” Rossi claims, “While such therapies provide some relief from gait-induced distress symptoms, they are largely ineffectual in re-establishing natural gait. Why? Because natural gait is biomechanically impossible for any shoe-wearing person” (1). If the goal is to correct gait patterns, shoes fail because instead of mending the problem, they temporarily guide the foot in the right direction, but once the shoe comes off, the foot instantly reverts to its normal tendencies. Shoes and orthotics can be useful in conjunction with therapy or as a temporary fix prior to surgery, but should not be considered a long-term solution.

Injury-Prevention and Efficiency

Both scientific correlation studies and personal testimonies in recent years show proof for barefoot success in muscle strengthening and injury prevention. Gait is our most complex motor function; it uses half of the 200 bones and 650 muscles in our body, so it is incredibly important that every muscle and bone involved be as strong as possible (Rossi 1). Shoes inhibit a level of muscle use,

especially in the foot because the firm, structure platform renders the foot relatively immobile. Shoes also impair the sensory receptors of the foot, which need to be aware of the ground in order to provide adequate stability. In his article “Barefoot Running”, Michael Warburton cites several studies conducted by Steve Robbins and Adel Hanna whose results show that several of the most commonly reported running injuries; including ankle sprains, plantar fasciitis, shin splints, and ilio-tibial band syndrome; are reported far less frequently by barefoot runners than shod runners (2). A West German physical education instructor, who has trained hundreds of barefoot athletes in various sports related to running, cannot recall a single impact-related injury in any of his unshod athletes (Robbins and Hanna 149). Two main factors cause these results: muscle strength through extra usage and impact reduction through natural running form.

The most natural running form is also most efficient because of where the foot lands in relation to the body. Instead of striding out in front of the center of gravity as Bowerman and Knight suggested, the foot should land directly underneath the hips. This placement allows for the best possible stability, which aids other parts of running form as well. First of all, striking under the hips keeps the stride short and tight, so arm swing is also more likely to stay in line and close to the body. Shorter strides also indicate greater stride efficiency: the ideal cadence is 180, which indicates three steps per second (*Good Form Running*). This stride often seems difficult at first, especially for runners with long legs, but the cadence does not actually affect speed directly; instead, it uses less energy because of the consistency and balance it promotes. Finally, when the foot lands ahead of the center of gravity, the leg locks for an instant, which creates a stopping motion. Although the runner does not literally stop, over time the motion uses excess energy and puts severe impact on the joints by jamming them. The extra impact accounts for many common stress-related injuries (Sanders 14).

Several runners can account for the benefits of unshod running based on personal experience. Plantar

fasciitis is one of the most common injuries among runners, and the issue is chronic in that there is no perfect solution. The injury is caused by the shortening and tightening of the plantar fascia, which extends from the middle of the arch to the heel. Plantar fasciitis sidelines even the most pain-tolerant athletes because the muscle tightens so much that the natural stretching that running induces in the foot becomes nearly impossible. My father, who has been running in “normal” running shoes for over fifteen years, fell prey to plantar fasciitis two years ago. He tried the typical remedies, including massaging the foot with a tennis ball, stretching the calves and Achilles tendon each day, and wearing orthotics in his shoes. Near the time his frustration began to mount, I had recently finished reading Christopher McDougall’s *Born to Run*, so I suggested that he try running barefoot. For a week, he did his regular runs wearing shoes, but ran short cool-downs in the grass after each run. He reported that the barefoot portions were all pain-free, and each day the shod portions became less and less painful.

When barefoot seemed to work for my father, I decided to try it as well. The summer before my senior year of high school, I began to run short parts of my runs barefoot and worked up to two miles. When the cross country season started, I talked to my coach about the success I had had so far and he agreed to experiment with the entire team. We ran up to a mile and a half barefoot on the infield of the track each day. That was the first season of high school during which I did not sustain a stress fracture. The team also experienced a great decline in injury: my three years prior, we had at least five girls out with impact-related injuries each season, but my senior year, only two girls sustained long-term injuries. Several other runners, many with far more experience and miles than my dad or I, can testify to the same results. An obvious question arises—with so many studies and testimonies favoring barefoot running, what keeps people from making the switch?

Clearing the Doubts

Perhaps the biggest fear in those learning about barefoot running is the question, “I’ve been in shoes all my life. Isn’t it too late to switch? I have heard that a lot of people get hurt when they start running barefoot.” The concern is justified—many runners, both beginners and veterans, have sustained various levels of injuries after making the switch from regular running shoes to unshod running. However, most documented issues directly result either from a lack of transitional period or a hasty one. Because our feet have been trained to be shod since infancy, we cannot expect our legs to happily accept a sudden 180 degree turn from what they have learned. In my experience, I have come across two main approaches to transition that aim at making the switch more bearable for the legs. In the first, the runner wears his normal running shoes for daily mileage, but adds small amounts of barefoot running each week. He may start with a half mile walking twice a week, then increase frequency, then distance, and eventually he will move to running. The other option is to gradually “downsize” shoes. In this case, the each pair of shoes the runner purchases are lighter, firmer, and closer to the ground until he reaches a point where he can run in nothing. Finally, I combine the two options: because I am almost constantly in season, my transition must be fairly gradual. I run barefoot occasionally and I can currently do up to two miles at a time, but I run my main mileage in a pair of racing flats. I have not had a stress or impact-related injury since I began my transition, I have been able to increase my weekly mileage significantly, and due to my improved running form my muscles tire less quickly than they used to.

There are a couple of side-effects to expect when transitioning from shod to barefoot running. The first is a degree of calf soreness and tightness. Shoes have a significant drop from the heel to the toe, and the higher heel shortens the calf and Achilles muscles so they do not have to do as much work. Without the lift the shoe’s heel provides, the calf and Achilles are forced to bear more weight (Rossi 2). While these muscles are naturally designed to do the extra work, they must be strengthened gradually. It is safe to run through a low level of calf

tightness, but do not run barefoot again until the soreness heals completely. Our bodies provide us with a system that allows us to know what is and is not safe to do, so by paying attention to pain levels we can make changes more safely and effectively. A second risk is more obvious—the possibility of dangerous objects on the path. When there is a chance of stepping on glass, a nail, or a more natural sharp object such as an acorn, a runner can limit the risks by wearing near-barefoot footwear such as Vibram Fivefingers. These “shoes” have a slot for each toe, are very flexible to allow for adequate muscle use, and have a sole of protective rubber that protects from harsh terrain while maintaining comfortable sensory perception of the ground.

Common misconceptions created and promoted by the running shoe industry push people to assume that structured, cushioned running shoes improve running. In reality, the shoes that appear comfortable actually inhibit proper running form and natural injury-prevention. Unfortunately, the “barefoot craze” has only recently begun to gain respect and interest, and meanwhile we have trained for years in our \$100-plus running shoes. As a result, injury rates continue to skyrocket and we gradually lose our ability to compete with international athletes who have been training barefoot since childhood. With step-by-step changes, however, we can reverse the injury trend, save money, and train more efficiently by moving to barefoot running.

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