



GROW WITH EBFA™

July, 2013

Educational newsletter brought to you by the Evidence Based Fitness Academy Inc.

Hello Health & Fitness Professionals!

Dear Health & Fitness Professionals,

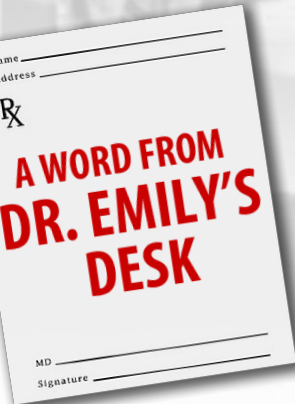
I hope that you are all having a safe and healthy summer.

EBFA is very excited to introduce our newest course in the EBFA line-up - Foot Strike & Functional Movement.

In the spirit of our new course, the July Grow with EBFA® Newsletter is all about gait analysis and the human gait cycle.

Workshops are already booked in India, NYC and San Francisco!

Dr. Emily



Featured Article



Walking Gait Assessment: The most functional movement assessment?

Whether you are a Chiropractor, Physical Therapist or Fitness Professional, one of the most important tools you have is your ability to assess human movement. From the overhead squat to the step up, each of us probably has our favorite, or go-to, assessment techniques that we perform on all patients or clients.

As we consider the most appropriate assessment techniques for demonstrating instability or compensation patterns, how much do we consider function?

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Featured Barefoot Training Specialist®



Dr Jennifer Barlow-

Benicia, CA

BTS Certification Date: Feb 08, 2013

Dr Barlow is board certified by the American Board of Podiatric Surgery. She graduated from Temple University School of Podiatric Medicine. She did her residency in Salt Lake City, UT, and has been in practice for twelve years. She also hold a CES credential from the NASM.

1. How have you been implementing barefoot training into your client programming?

I use barefoot training in almost every patient I see with a musculoskeletal complaint--for example, I very commonly use the short foot exercise. I also teach a VCore class, and have been pleasantly surprised at the excitement generated in my local community about this very unique barefoot balance training workout.



(Continued from page 1)

2. What has been the response by your clientele to the barefoot training techniques?

I have been amazed at the interest in barefoot training, even in my patients who have been treated with orthotics for many years and even in patients who are not minimalist runners. Almost everyone I see, when I discuss exercises to improve the posture of their feet and lower extremities all the way up to the hip, is interested in adding this approach to their treatment plan.

3. Any case studies or improvements that you have noticed in your clients since implementing barefoot training?

One thing that is always gratifying to me is when I see someone whose intrinsic muscles are “asleep” learn how to activate their abductor hallucis right in front of my eyes when I teach them the short foot!.

Is a double leg squat more functional than a single leg squat?

And if you had to choose to perform only one, which would you choose?

As we look closer at the movement assessments that we perform daily, I challenge you to consider how functional each assessment really is to your patient or client's activities of daily living (ADLs) and/or occupation.

One movement assessment that I perform more than any other technique is the walking gait assessment. I believe the walking gait assessment to be the most functional of all assessments – and it can reveal the instability and compensation patterns that patients and clients are performing 8,000 times a day!

A squat assessment can demonstrate dysfunction in joint mobility and stability but can it assess the way the body will react to impact forces and how efficiently load will be transferred?

Most injuries that we see, whether they are in the foot, the knee or the lower back, are related to stability and control as it relates to impact forces and energy transfer.

This means, that as we consider movement assessments, we must also consider an assessment technique that is more dynamic and transferrable to the most common activity we do everyday – walking!

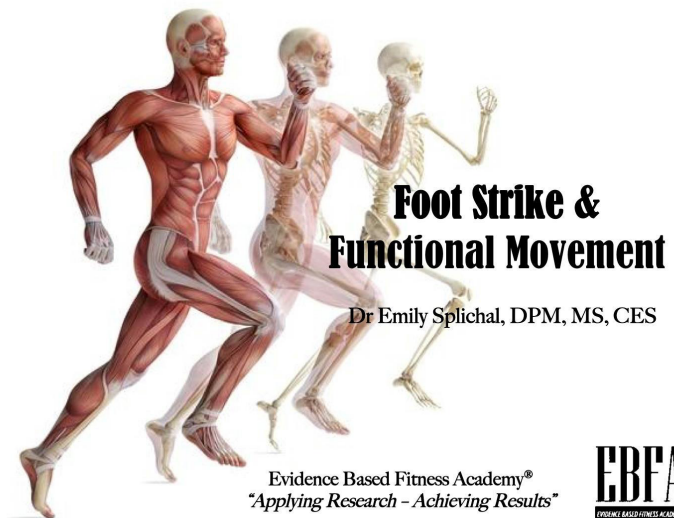
Join EBFA in our newest workshop – Foot Strike & Functional Movement: Human Gait Assessment – and learn the basics to the human gait cycle, walking gait assessment and corrective exercise programming.

Foot Fact:

Did you know that there are two types of nerves in the foot - small nerves & large nerves?

Studies have shown that the small nerves on the plantar foot have a faster response time and are able to better detect finer foot movements.

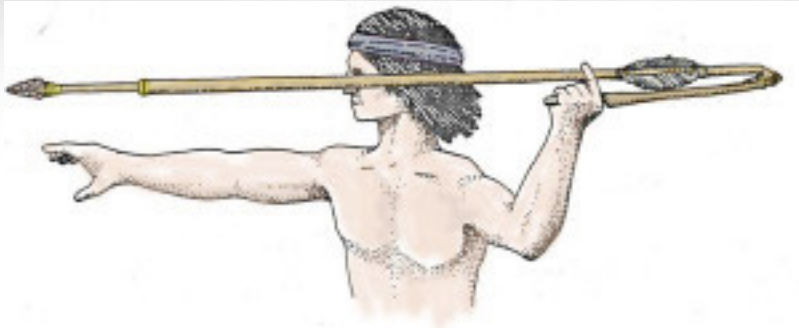
This is one of the benefits behind barefoot training and reduced injury risk.



A Matter of Leverage: What Walking and Weaponry Have in Common

by Kevin Moore , BTS Master Instructor

This is an atlatl:



More specifically, the handle in which the spear is cupped is an atlatl. Humans have been using devices like this for hunting and warfare for around 30,000 years. “Atlatl” is the Aztec terminology, but it has been called “amentum” by the Romans , “woomera” by Australian Aborigines, and “ankule” by the Greeks.

It is a testament to human ingenuity.

Let’s be clear: it’s essentially a stick. But this stick, employed just so, dramatically increases the power and accuracy of a projectile. Modern versions, made of carbon fiber and aluminum, can launch a spear 850 feet. By comparison, the record distance for the javelin throw is 321 feet.

Those extra 529 feet can be accounted for through the beauty and elegance of Sir Isaac Newton’s Laws of Motion. A throwing spear has a metal or stone tip, shaped and sharpened to cut and pierce. This shaped point, by virtue of its material, is more massive (m) than the butt-end of the spear. Consequently, the same force (F) applied to both ends would cause the butt-end to accelerate (a) faster. $F=ma$, says Newton.

Picture this: a swing of the atlatl causes the butt-end of the spear to accelerate. The more-massive pointy end resists acceleration, building speed more slowly than the less-massive butt-end. With the back end moving faster than the front, the spear bows.

That bowing action converts the kinetic energy of the swing into potential energy stored in the tensile fibers of the spear’s shaft. At the last moment of contact between spear and spear thrower, the shaft unbows, converting its stored, potential energy back to kinetic energy and adding it to the overall acceleration of the spear.

Brilliant, right? It’s just a stick! How did humans 20,000 years before the invention of agriculture come up with such an ingenious little device?

Maybe because most of your joints operate on the same principle.

Did anyone happen to notice the Greek term for these spear throwers? Ankule. If you’re thinking that sounds suspiciously like ankle, you’re exactly

Featured EBFA Workshop



Foot Strike & Functional Movement

You assess your client’s squat and lunge, but how often do you assess their walk?

As one of the most functional movements we do everyday, walking should be the foundation to all functional movement screens.

Join Dr Emily for a workshop that will break down human walking and running gait cycle. Experience the basics to a proper gait assessment and take away skills you can use on your clients and patients right away.

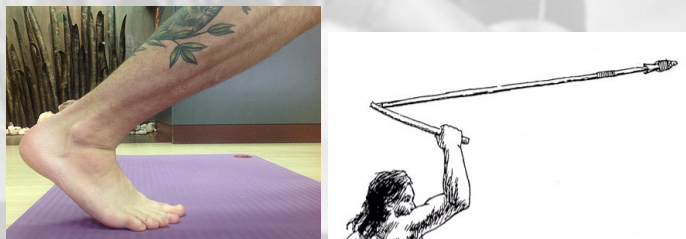
Upcoming Gait Assessment Workshops!

September 2013 – India

November 2013 – New York City

February 2014 – San Francisco

right, and it's not an accident.



You're right, that is amazing!

Most of the force that accelerates your stride is free, granted to you through simple physics and the specific arrangement of the handful of oddly shaped sticks that make up your skeleton.

Thanks, Newton, much obliged.



It works like this:

When you take a step, your center of gravity shifts forward, leaving your other foot behind you. At that moment the body weight that is ahead of the trailing ankle joint is much greater than the body weight behind it and, with the knee bent, leverage is produced, like a pair of scales with a brick in one tray and a marble in the other:



The ball of the great toe acts as a fulcrum, where the normal force continues to resist the force of gravity as the inequity of mass created by your body position converts potential energy into kinetic energy, or forward motion. The foot then swings in an arc that drives the rear foot into the tibia's less-massive end, just like an atlatl into the base of a spear.

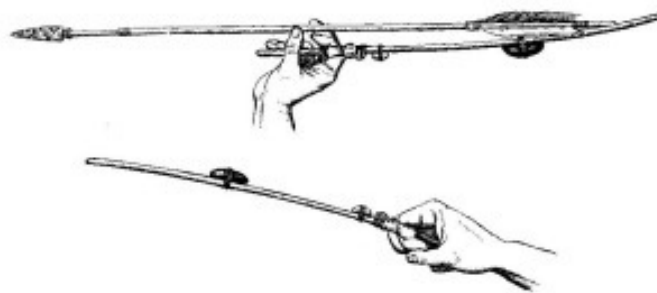
At the other end of the tibia is your knee and, of course, the rest of the body, which is dramatically more massive than the end being acted on by the swing of the foot. This massive end resists acceleration, building speed slowly, while the base accelerates quickly.

But the tibia is a much more advanced piece of engineering than a spear. The tibia doesn't just bow; it coils. Both the bone itself and the soft tissues surrounding it—joints, fascia, and muscle—compress like a steel spring, storing up all that free energy generated during those first few moments of your gait.

When the alignment is right, the tibia and all its associate tissues rapidly uncoil, unleashing the potential energy stored within as a pulse of kinetic energy driving the knee joint, and the rest of the body, forward.

Oh man, but it only just started to get cool.

As a piece of technology, the atlatl has been improved many times over the past 30 millenia. One such advancement was the addition of a weight to its distal end.



The weight converted the atlatl from a simple lever to an energy storage device in itself. Just like the spear, with its disparity of mass between the butt and pointy ends, the stone-encumbered end of the atlatl would now accelerate more slowly than the handle, bowing the atlatl, storing energy therein. The force of the swing is now compounded twice—with explosive results.

**LEADERS
IN
BAREFOOT
FITNESS**

Look again at a human foot:



The calcaneus, or heel, does to the human foot exactly what a stone does to an atlatl: allows energy to be stored in the lever. Only our heel does it better because, in addition to bowing, it also coils, just like the tibia.

Lets go back to that step we discussed earlier. After the weight of the body is shifted forward and the trailing knee bends, the ankle is compressed into what's called dorsiflexion. When dorsiflexed, the foot is flattened and the heel is rotated into its lowest energy state, eversion.



As the knee continues to move forward, the foot swings over the ball of the great toe. The calcaneus, like the stone, makes the rear foot more massive than the forefoot, and more resistant to acceleration; once again, this disparity of acceleration creates a bow.

This bow is otherwise known as the arch of your foot.

As the tibia uncoils, releasing all of its stored energy and driving the forward motion of the body, the arch continues to compress. At its maximum potential energy, the heel is coiled tightly into a powerful position called inversion.

When the great toe lifts off the ground, the arch uncoils, firing the trailing leg forward like a cannonball. When it lands, arch flattened, heel everted, it's prepared to catch the weight of the body and absorb all those free ground forces and start the process again.



And while this is incredibly cool, all by itself, the real genius of the human skeleton is not that it can harness huge amounts of free energy to accelerate the body through space, but that it can do so repeatedly. Built into the system is its own retrieval mechanism, storing just enough energy from each step to prepare for the next one.

You can throw a spear once.

A healthy, active adult takes around 10,000 steps a day.

So the next time you think taking a walk is a boring form of exercise, keep in mind that the structures that allow you to walk are some of the most elegantly designed energy storage devices you've probably ever used. Every step you take contains more power—totally irrespective of the strength of your muscles—than hurling a spear over two and half football fields.

Happy walking!

Upcoming Workshops

US & Canada

Fri. July 12, 2013 9am-5pm

Barefoot Training Specialist®

-Denver, CO

willPower Summit
1400 Welton St.
Denver, CO 80202

Sat. July 13, 2013 2pm - 3pm

Rethinking Proprioception Training for Ankle Instability

NSCA 36th National Conference
Las Vegas, NV

Sat. July 20, 2013 11am-12pm

Movement from the Ground Up

-Denver, CO

Sheraton Denver West Hotel
360 Union Blvd.
Denver, CO 80228

Sat. July 27, 2013

Barefoot Training for Power & Agility - British Columbia, Canada

Okanagan Strength & Conditioning Conference
Coast Capri Hotel
1171 Harvey Ave
Kelowna, BC V1Y 6E8, Canada

Fri. Sept 20, 2013 1:30pm-5:30pm

Barefoot Rx - Evidence-Based Barefoot Rehab Techniques - NYC, NY

Kinected
151 W. 19th St, 2nd Fl
New York, NY

Sat. Sept 21, 2013 1pm-4pm

Barefoot Training for Power & Agility - NYC, NY

Lucille Roberts
50 East 42nd Street
New York, NY 10017

International

Sat. Sept 7, 2013 9am-5pm

Barefoot Training Specialist®

- Sweden

SALT Studio
Hotellvägen 1
Saltsjobaden, Sweden 133 36
wlundqvist@hotmail.com

Sun. Sept 8, 2013 9am-5pm

Barefoot Training Specialist®

- Netherlands

Mindful Motion Center
Bezuidenhoutseweg 30
2594AV, Den Haag, Netherlands
www.mindfulmotioncenter.com

Fri. Oct 11, 2013 11:45am-12:45pm

Science of the Single Leg Stance

Asia Fitness Convention 2013
Bangkok, Thailand
www.asia-fitness.com

Fri. Oct. 11, 2013 3pm-4:30pm

Watch that Walk Functional Gait Assessment

Asia Fitness Convention 2013
Bangkok, Thailand
www.asia-fitness.com

Fri. Oct. 11, 2013 5pm-6pm

The Sixth Sense of Fitness Rethinking Proprioceptive Training

Asia Fitness Convention 2013
Bangkok, Thailand
www.asia-fitness.com

Sat. Oct. 12, 2013 4:45pm-6pm

Functional Foot & Ankle

Asia Fitness Convention 2013
Bangkok, Thailand
www.asia-fitness.com

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EBFA in the Community



EBFA was pleased to join Barefoot Runners NYC for a free educational event!

Dr Emily shared tips for preventing barefoot running injuries and answered questions about the transition to barefoot or minimalist running.

If you'd like to learn more about Barefoot Runners NYC, you can join their meetup group <http://www.meetup.com/BarefootNYC/>

Recently Certified

Barefoot Training Specialist®

William Belew - Brookline, MA

Natalie Wessel - Portland, OR

Elizabeth Andrews - Mercer Island, WA

Pratik Rao - Bangalore, India

Anitha Vasanthi - Chennai, India

Ahmad Nasir - New Delhi, India

Mohammad Adil - New Delhi, India

Riesal Mikael Idries - Singapore



Upcoming Webinar

Walking Gait Assessment: The most functional movement assessment?

Wednesday July 10, 2013 @ 8pm-9pm EDT

Reserve your Webinar seat now!

Register Here: <https://www3.gotomeeting.com/register/378366022>

You assess your client's squat and lunge, but how often do you assess their walk?

As one of the most functional movements we do everyday, walking should be the foundation to all functional movement screens. Join Dr Emily for as she explores the benefits and power behind the walking gait assessment as a movement screen in the fitness industry.

Learn some quick tips on how to get started assessing your client's walking gait assessment!

Sponsored by Cory Vives.

Past Archives

Make sure to view all of our past webinars on our Archive

<http://evidencebasedfitnessacademy.com/webinar-directory.html>

EBFA Photo Gallery



EBFA's Dr Emily partners with National fitness chain Crunch Fitness to launch the first ever barefoot balance workout - BARE®



EBFA introduces our newest online course through Leaders in Fitness "Barefoot Training for Power & Agility". Learn more at www.leadersinfitness.com



EBFA introduces our newest workshop Foot Strike & Functional Movement May 29th in Bangalore, India

Not a subscriber? Sign up now to get free monthly education from EBFA!



Leaders in Barefoot Fitness