



GROW WITH EBFA™

October, 2014

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

Hello Health & Fitness Professionals!

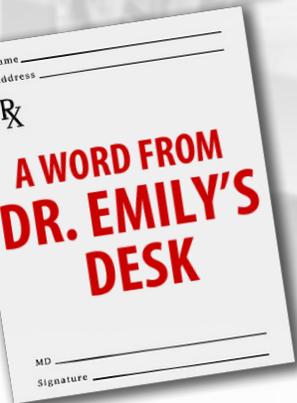
Welcome to the latest issue of GROW with EBFA®!

In this month's issue we have two great articles for you which explore the concept of isometric contractions and fascial loading as it relates to efficient movement. These articles introduce the shift in EBFA's education to include not only barefoot science but also training concepts which relate to the way we strike the ground, footwear, surfaces and energy transfer.

As we prepare for 2015 you will be seeing a lot more from EBFA in the topics of surface science and barefoot stimulation - including the introduction of a new product line. Stay tuned for more soon!

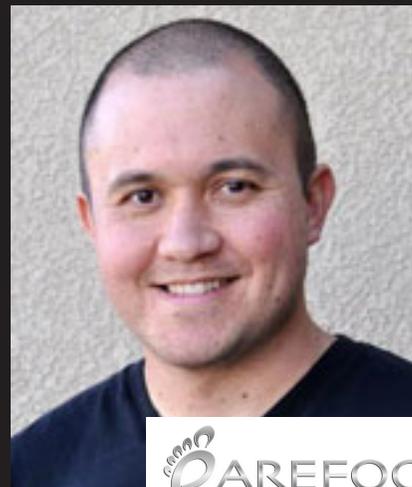
In the mean time, we hope you enjoy the latest evidence-based concepts introduced in the issue of GROW.

Dr. Emily



Featured

EBFA Master Instructor



John Bauer, California

NASM-CPT, CES, PES
PTA-Global-Advanced Trainer

1. Why did you want to become an EBFA Master Instructor?

I have a passion for teaching and for helping to play a role in uplifting the personal training profession. The role of EBFA Master instructor has been a perfect fit for me because the knowledge that I am helping to spread to personal trainers and other movement professionals is allowing them to have great impact on their clientele by integrating EBFA's "from the ground up" principles.

2. How has barefoot training and the BTS Certification changed your practice?

It is clear to most movement professionals that core activation

Featured Article

Deceleration through Eccentrics?

by Dr Emily Splichal, DPM, MS, CES

Movement efficiency is a common theme behind all the EBFA education and Certification Programs. By assessing and improving movement efficiency from the ground up we are better able to tap into the body's natural loading and unloading mechanism.

With each step we take 1 – 1.5 times our body weight in impact forces enter the body. Often associated with overuse injuries such as stress fractures or Achilles tendonitis, impact forces are actually a necessary component to efficient movement.

The impact forces we encounter with each step are used by the body to run, climb, jump – or do a variety of closed chain movements we enjoy. Where injury and compensation ensues is when we begin to interfere with this natural relationship to impact forces.

Inactivity, injury and surprisingly footwear all interfere with the loading of impact forces and the ability to move efficiently.

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is an important component in any training program. Better core activation can help attain various goals ranging from increasing athletic performance to minimizing pain and injury. What is missing in most core training programs was the concept of “foot to core” sequencing. The BTS Certification forced me re-think the ways I train myself and my clients. This Certification presents strong evidence-based materials that explain how the core activates in the best and most timely manner when it receives the proper input from the feet.

What does this mean for myself and my clients? Barefoot is best if we want efficient and timely core activation.

3. What would you tell a professional who is considering attending an EBFA workshop?

It is not often that a professional of fourteen years can attend a one day workshop that completely changes the way he assesses and designs programs for his clients for the better. That is what attending my first EBFA workshop did for me. This compelled me to sign up for my second workshop right away, and eventually become a Master Instructor.

I value continuing education for movement professionals. I also value getting bang for my buck when it comes to my continuing education. What I learned from EBFA was worth every penny for myself and for my clients. I would not hesitate to tell anyone to sign up for a workshop as soon as possible.

John Bauer is a Master Instructor in the California area

Want to take a Barefoot Training Specialist® workshop with him?

Visit www.ebfafitness.com to learn more!

Deceleration and Loading Impact Forces

When we were first studying for our licensing or certification exam we learned that there were three types of muscle contractions – eccentric, isometric and concentric.

Often referred to as “negatives” or deceleration contractions, eccentrics are associated with hypertrophy training, plyometrics and tendinopathy rehab programming.

Although the above may be true for isolated movements such as a bicep curl or calf raise, current research challenges the way we decelerate or load impact forces during sinusoidal or rhythmic movements – such as walking.

Emerging Role of Isometric Contractions

I first came across the concept of isometric contractions and the loading of impact forces when I was researching for a presentation on Achilles tendon injuries.

Common among runners, Achilles tendonitis is one of the most frustrating overuse injuries. A 2002 study in the Journal of Physiology demonstrated that the gastrocnemius/soleus fibers actually contracted isometrically during the gait cycle – allowing the task of storing and releasing elastic energy to the Achilles tendon.

Another 2012 study by Schleip et al. further supported this concept by stating that it was the fascia and tendons, not the muscles, which actually turned impact forces into elastic energy. This supports the concept that fascial work, more so than stretching, is more appropriate for improving adequate transfer of forces.

So why isometric contractions for the absorption of impact forces?

Studies have shown that we perceive impact forces as vibrations.

I often tell my students to compare impact forces to the vibrations on a gong or two cymbals. To make the cymbals stop vibrating you put your hands against it.

Similarly, the vibrations associated with impact forces need to be damped as they enter the body. The muscles in our feet and lower leg play an important role in deceleration by contracting isometrically to damp the vibrations.

Training Fascia for Efficiency

So are eccentrics completing out of the picture and a waste of time?

Absolutely not!

Eccentrics are one of the best exercises for improving tissue elasticity and range of motion, however specific work should also be done to fascial tissue.

According to Schleip et al. the best way to train fascia for energy transfer is through oscillatory, rhythmic movements such as those associated with Tai Chi, Gyrotonics or dance.

Finding a soft elastic bounce at the end range of motion and activating the muscle in a lengthened position further bring elasticity and hydration to our fascial network. In lieu of this concept I now have many of my patients do Gyrotonics instead of yoga to specifically increase fascial elasticity and decrease their risk of overuse injury.

To learn about movement efficiency from the ground up please visit www.ebfafitness.com

Five Tips to Protect Your Peripheral Nerves

by Dr Emily Splichal, DPM, MS, CES

As a Podiatrist, I frequently treat patients complaining of numbness in their feet and legs. From the top of the foot to the lateral aspect of the heel, we typically associate loss of protective sensation with our diabetic clients – however this is not always the case.

We all, regardless of age need to consider our peripheral nerve health!

Through years of treating various nerve entrapments and idiopathic peripheral neuropathies, I have become quite passionate about educating patients and professionals on the importance of protecting our peripheral nerve health as we age.

The Nervous System

Comprised of both the Central Nervous System (CNS) (brain & spinal cord) and Peripheral Nervous System (PNS) (nerves & axons), our nervous system is responsible for coordinating voluntary and involuntary actions.

Our PNS is a complex network of spinal nerves and plexuses branching from the spinal cord and includes the cervical spinal nerves, brachial plexus and lumbosacral plexus. In all of our peripheral nerves there is an afferent (signal to CNS) and efferent (signal to PNS) pathway which controls our movements and actions.

What's unique about the PNS, as it relates to the foot, is this is where the smallest nerve branches exist. Nerve branches that will have either a sensory (skin) or motor (muscle) function.

Those small nerves that have a sensory function to the skin are referred to as cutaneous nerves or in the bottom of the foot they are our plantar cutaneous receptors. These small plantar cutaneous nerves are responsible for processing information that allows us

to maintain quiet stance, manipulate uneven terrain and absorb impact forces.

Foot Fact: *Did you know that we have both small nerves and large nerves in our foot? Small nerves can be found in our plantar skin and provide a faster response when compared to large nerves.*

Aging and Nerve Health

You have probably read at least a dozen articles advocating the benefits of protecting cognitive function as we age. From exercise to crossword puzzles, there are many ways to keep your brain sharp as you age.

But how much do you think about your peripheral nerve health?

Our ability to maintain an active lifestyle and participate in the activities we enjoy is just as dependent on a strong, healthy peripheral nervous system as it is to cognitive function.

Foot Fact: *Did you know that 80% of our plantar mechanoreceptors are sensitive to vibration? The sensitivity of these mechanoreceptors peaks at age 40 and by age 70 requires twice the stimuli to create the same response.*

Tips to Protecting Peripheral Nerves

Tip #1 – Keep blood sugar under control

Although we typically associated elevated blood sugar levels with diabetes, we can all experience fluctuations in our blood sugar levels (think Ben & Jerry's ice cream).

Elevated glucose in our blood stream is converted to AGEs (advanced glycation end products). The myelin

that surrounds our peripheral nerves is sensitive to these AGEs – which cause demyelination and disrupts signal transport.

The formation of AGEs stimulates an increase in oxidative stress, free radical formation and an up-regulation in our pro-inflammatory markers. Or essentially elevated blood sugar levels (even in a non-diabetic) causes aging and degeneration of peripheral nerves (with the foot nerves going first!).

Tip #2 – Consider Nerve Protective Vitamins

When I was in Graduate School a big part of my focus was on vitamin supplementation and diabetic peripheral neuropathy. Having spent so much time researching this topic I became a firm believer in the benefits of the appropriate vitamins in protecting nerve health as we age.

Everyone can benefit from nerve protective supplements – especially if we consider that elevated blood sugar levels (even in a non-diabetic) can start to damage our peripheral nerve function.

Vitamin #1 – L-Methyl Folate

This is not your mother's folic acid!

L-methyl folate is the activated form of folate (folic acid) which has been shown to increase nerve growth factor. When taken over a period of 6 months studies have shown an increase in epidermal nerve fiber density (or in other words more peripheral nerves!).

Dosage: 1000 ug X 3 times day

Vitamin #2 – Acetyl-L-Carnitine

ALC is another powerful nerve protective supplement.

ALC has been shown to decrease painful nerve symptoms, as well as increase vibratory sensation. Remember that we maintain balance and absorb impact forces based on our ability to detect vibration so this is extremely beneficial as age!

Dosage: 500mg x 2 times day

Vitamin #3 – R-Lipoic Acid

This is probably my favorite supplement! (Yes I do get that excited over a vitamin)

Touted as one of the most powerful anti-oxidants, ALA has been shown to improve micro-circulation to peripheral nerves while decreasing oxidative stress. A key point about ALA is that it must be taken in the R-LA form. "R" form is one that is biologically active (vs. "S" form).

Dosage: 600mg x 1 time day

Tip #3 – Cardiovascular Exercise

Cardiovascular exercise has many benefits, one of which is related to peripheral circulation. The vascular system, just like the nervous system, is very intelligent meaning that if there is a loss in circulation to one area of a muscle the vascular system will create what's called collateral circulation (or in other words form new blood vessels). This is why cardiovascular exercise is beneficial for those with peripheral arterial disease.

So just like the collateral circulation formed in muscles, our vascular system can create new micro-vascular pathways to our nerves. The more blood and oxygen to our nerves the healthier they are!

Tip #4 – Myofascial Release

When I have a patient with idiopathic nerve symptoms I often include myofascial work into their recovery program. Our complex network of superficial and deep fascial is intertwined with just as complex of a network of arteries, veins and peripheral nerves.

As our peripheral nerves course from the spine down to the foot it is only inevitable that they may get "stuck" or "sticky" at some point. From muscle adhesions to a loss in fascial flexibility, our inflexibility can often impede nerve conduction.

Just like when you sleep on your arm and wake up with it tingling, to a smaller degree this is what's happening to our peripheral nerves when they get caught in fascial tissue.

I often recommend to my patients to release their plantar foot, up the back of the calf to the hamstrings and into the glutes and piriformis. For those with nerve symptoms this should be done daily.

Tip # 5 – Go Barefoot!

This one pretty much goes without saying! If our small nerves are on the bottom of the foot we want to keep them sensitive and awake through frequent barefoot stimulation.

Our nervous system is very plastic – which means that it can be shaped, challenged and molded based on the stimuli it encounters. Conversely, if you do not stimulate your peripheral nervous system it will begin to weaken, fade and atrophy.

Whether your barefoot routine includes vibration training, standing on different textures or simply walking around your home – daily barefoot stimulation is enough to keep these small nerves on point!

Want to kick it up a notch? Workout barefoot!

Upcoming Workshops

US & Canada

Sat. October 25, 10am - 5pm
Barefoot Training Specialist® -
Manhasset, NY
The Fitness Loft
1447 Northern Blvd.
Manhasset, NY 11030

Sat. October 25, 10am - 5pm
Barefoot Training Specialist® -
Toronto, Canada
AK Fitness
44 Prince Andrew Place
Toronto, Ontario M3C 2H4

Sat. October 25, 9am - 4pm and
Sun. October 26, 9am - 4pm
Movement from the Ground Up -
Naperville, IL
mklab Pilates
20 W. Jefferson
Naperville, IL 60564

Sat. November 1, 10am - 5pm
Barefoot Training Specialist® -
Barrie, Canada
Lifesource Wellness
102 Commerce Park Drive
Barrie, Ontario L4N 8W8

Fri. November 7, 10am - 5pm to
Sun. November 9, 10am - 5pm
EBFA Master Instructor Training -
San Mateo, CA
San Mateo Athletic Club
1700 W. Hillside Blvd
San Mateo, CA 94402

Sat. November 15, 9am - 4pm and
Sun. November 16, 9am - 4pm
Movement from the Ground Up -
Reston, Va
Physiotherapy Associates
12005 Sunrise Valley Dr.
Suite T40 (bottom floor)
Reston, VA 20191

Sat. December 6, 10am - 5pm
Barefoot Training Specialist® -
Manitou Springs, CO
Manitou Bindu
513 Manitou Ave
Manitou Springs, CO 80829

Sun. December 7, 10am - 5pm
Barefoot Training Specialist® -
Denver, CO
Location TBA

Sat. February 7, 2015, 9am - 4pm and
Sun. February 8, 2015, 9am - 4pm
Movement from the Ground Up -
Palm Springs, Florida
Excellent Bodywork
649 US Highway One, Suite 17
North Palm Beach, FL 33408

International

Sat. October 25, 9am - 5pm and
Sun. October 26, 9am - 5pm
Barefoot Training Specialist® -
Manila, Philippines
The Podium
4th Level, Unit 413A
Manila, Philippines

Sat. November 8, 9am - 5pm
Barefoot Training Specialist® -
Tokyo, Japan
Tokyo, Japan

Mon. November 24, 9am - 5pm
Foot Strike & Functional Movement -
Bangkok, Thailand
Fitness Innovations (Thailand) Limited
884, 886 Ploenchit Road,
Lumpini, Pathumwan
Bangkok 10330, Thailand

Sat. November 29, 9am - 5pm and
Sun. November 30, 9am - 5pm
Barefoot Training Specialist® -
Lisbon, Portugal
Location TBA

Sat. December 6, 9am - 5pm
Barefoot Training Specialist® -
London, England
Location TBA

Sat. December 6, 9am - 5pm
Barefoot Training Specialist® -
Petaling Jaya, Malaysia
FIT Malaysia
No. 2-8, 2nd Floor, D19 Business Centre,
Jalan PJU 8/3 Bandar Damansara Perdana,
47820 Petaling Jaya, Selangor, Malaysia.

Sun. December 14, 9:30am - 4:30pm
Barefoot Training Specialist® -
Osaka, Japan
Osaka, Japan

Fri. January 9, 10am - 5pm and
Sat. January 10, 10am - 5pm
Movement from the Ground Up -
Dubai, U.A.E.
The Warehouse Gym
Umm Suqeim RD, Al Quoz Ind 3
Dubai, U.A.E.

Sun. January 11, 10am - 5pm
BarefootRx® Rehab Specialist -
Dubai, U.A.E.
The Warehouse Gym
Umm Suqeim RD, Al Quoz Ind 3
Dubai, U.A.E.

Barefoot Training Summit

Fitness | Performance | Rehab

13th – 15th, March 2015
Delhi, India



Dan Edwardes
London, U.K.



Stacy Lei Krauss
Colorado, USA



David Martinez
Valencia, Spain



Kevin C. Moore
Hong Kong



Dr Emily Splichal
New York City, USA

Are you ready to take the concept of “barefoot” beyond running?

Join EBFA in 2015 for the first-ever fitness conference that is dedicated to the power of barefoot training, footwear science and from the ground up programming! Experience the latest workouts and workshops in barefoot movement progressions, foot assessment techniques, small nerve training and pre-activation programming. All-star line-up of global leaders in barefoot science research, barefoot movement, performance, rehab and footwear innovations!

Registration opens January 1, 2015

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



Leaders in Barefoot Fitness