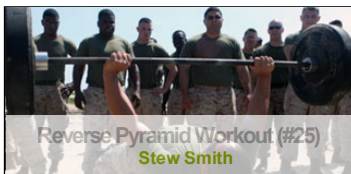
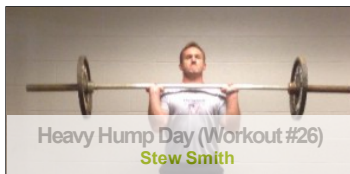


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Balance Training — A Secret of Elite Athletes and Trainers

ADAM ALEXANDER AUGUST 10, 2012 FITNESS EQUIPMENT 0

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One of the characteristics that set elite athletes, trainers and physical rehabilitation professionals apart from the crowd is their willingness and ability to apply training methods that are integrative, at times unorthodox and extremely effective. One of these methods is regularly incorporating balance training into their training or rehabilitation regimen.

What Is Balance Training?

Balance training is a type of exercise that applies the scientific principles of Proprioceptive Neuromuscular Facilitation or PNF. Medical research of PNF training methods dates back to the 1940's. Over the past 6 decades the scientific research has confirmed time and time again that Proprioceptive Neuromuscular Facilitation is effective at increasing strength, injury prevention, fast reflex muscle contraction, balance, and overall improved performance.

Why Balance Training Works?

As I mentioned, balance training is based on proprioceptive neuromuscular facilitation or PNF. Proprioception is a function of the nervous system that tells the brain where a joint is in space and time. So if you were to close your eyes and I were to raise your arm and extend your wrist back towards your head or down towards your feet, because your eyes are closed, it's proprioception that gives you the ability to know the location and position your arm, wrist and hand are in.

In a more practical example, proprioception is what allows us to walk without falling on our faces. As we sway side to side with each step, or lean forward or backwards, it's proprioception that tells the brain what position the joints are in and gives it the information it needs to make the necessary corrections with the small and large muscle groups.

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Keeping all of this in mind, can you imagine how fast all of that information travels within the body and how quickly our bodies must react and coordinate every muscular action. As we age, these responses diminish so balance training, training and reinforcing these neurological pathways, can be extremely beneficial.

How Does Balance Training Apply to Athletes?

How balance training and PNF techniques apply to athletes is the million dollar question. In the few paragraphs above I described some very general and basic movements. Walking, after all, isn't that complicated. We do it everyday. However, if just staying erect while walking, or knowing where your arm, wrist and hand are when your eyes are closed requires integration of the peripheral nervous system, the central nervous system, and musculoskeletal system can you imagine what's taking place throughout the neuromusculoskeletal system as a whole when an athlete is training, competing or on the battlefield?

When an athlete incorporates balance training into their training regimen or physical rehabilitation, when recovering from an injury, the athlete gains an advantage over their opponents or adversaries and allows them to push beyond limits they might not have known they even had.

Benefits of Balance Training

Balance training? So what's the big secret? Well the truth is that the scientific and medical communities have been researching the principles behind balance training since the 1940's. PNF is far from a secret, however, these techniques are so under utilized by the typical athlete that they might as well be a secret. Ask yourself, do you know anyone who uses balance training as part of their regular workout or training regimen?

I'm willing to wager that the answer is no. However, professional athletes, trainers and professional physical rehabilitation experts commonly apply proprioceptive neuromuscular facilitative exercises into regular training and rehabilitation programs because training for them isn't a hobby, it's a way of life. Also keep in mind that these athletes, professional, amateur and tactical athletes may have a "beach body" but they train with a common goal that isn't about their physique; it's about performance.

The list created below discuss some of the benefits of incorporating balance training into your regular workouts so you can determine if making the addition of PNF exercises is right for you.

Increased Integration of the Nervous System:

This has to be one of the most overlooked and taken for granted benefits that balance training has to offer. To say that the nervous system controls every function in the human body is actually an understatement. Our nervous system is a complex network of information exchanging between systems, coordinated in a central location. We have the ability to reinforce those network connections that make optimal performance possible. As you add PNF based balance training to your workout, you'll begin to get the most out of your training as these essential network connections between the nervous system and the muscles we rely on to perform are reinforced.

Injury Prevention:

While injury prevention may not be the most exciting reason for adding balance training to your workout, I have to say that the types of injuries balance training has been proven to reduce or prevent is eye opening. The reason balance training has such an amazing impact on injury prevention is because of what this type of training does for you. As we reenforce the bodies ability to activate fast reflex muscle contraction during movement, we significantly decrease the likelihood of injuries to the ankle, knee and spine. Balance training also has a significant role in developing and strengthening our core musculature which works to stabilize much of what we do.

former Navy SEAL, and author of The Complete Guide to Navy SEAL Fitness, and Maximum Fitness.



Jeff Anderson
Jeff Anderson is a 10 year veteran of the U.S. Army, a Master Fitness Trainer, and Master Instructor of Close Quarters Combat self defense.

instructor, writer and publicist living in New York City.



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For those of us in which dynamic motion is part of the lives we live, the ability to reduce the likelihood of an injury to the joints and soft tissue structures we rely on, due to quick, dynamic and high intensity movements, is something that doesn't just protect careers but entire lifestyles. That alone is something worth taking a second look at.

These same benefits may be even more significant for those individuals that are recently returning to an active lifestyle. Regardless of how long you've been away from physical fitness activities, your body has degraded in a number of ways to include its ability to quickly and instinctively react. For this reason alone, an individual that is returning to an active lifestyle after becoming sedentary may be at an increased risk to injury. These injuries include soft tissue injuries such as ligament sprains or muscle strains, as well as any subsequent injuries as a result of a fall like bone fractures. Any of these injuries can put the athlete out of commission for a minimum of 4-6 weeks, not to mention the pain and aggravation associated with an injury.

Injury Rehabilitation:

I've mentioned a few times that physical rehabilitation professionals use balance training and PNF exercises/stretching in their practices with their patients. In fact, much of the scientific research that has been produced during the past 60 years on balance training and PNF techniques has come from the physical medicine/rehabilitation communities. The simple reason for this is because of the effectiveness of PNF based exercises, like balance training.

Increased Hand-Eye Coordination:

Hand eye coordination applies to everyone, regardless of athletic ability or current fitness levels. Improved hand-eye coordination is something everyone can benefit from, not just athletes or fitness minded individuals. Adding balance exercises to a new or existing workout is easy to do with benefits that no other type of exercise can provide.

Admittedly, this is something that is difficult to measure for most of us. This is especially true because improved hand-eye coordination may result in subtle effects like tighter shot groups, longer drives down the fairway, better goal shots for soccer, hockey, or basketball players. The list could go on and on. How could improved hand-eye coordination improve what you're doing?

Improved Balance:

As much as I hated adding this because it sounds really redundant, balance training and PNF exercises do drastically improve balance. Most of this conversation has been with the fitness minded, athletic individual's in mind. However, while those individual may be more passionate about fitness training, it's actually our parents and grandparents that may benefit the most from incorporating some degree of balance training into their lives.

As an example; for the elderly, a fall that results in a fractured hip can often become a fatal event. That may seem extreme but a fractured hip for an elderly patient is very difficult to recover from, especially if the initial fall was related to preexisting balance problems. Once hospitalized and placed into a physical rehabilitation facility, these patients commonly do not return home or an independent lifestyle and often succumb to their injuries or medical problems that arise from issues after their injury. This is another great example of training for improved performance is so important. It's not just the tactical athlete whose level of training may mean the difference between life and death. The same applies for our elders as well.

Increased Muscle Activation and Recruitment:

During any physical activity or motion, the body activates specific muscles or muscle groups, in order to initiate and complete the desired motion or activity. When performing PNF or balance exercises, more muscles and muscle groups are commonly activated in response to the specific exercise or challenge. This applies directly to fast reflex muscle contraction.

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Additionally, every muscle has a certain number of muscle fibers within it. During balance training, the number of individual muscle fibers within a muscle or muscle group that are recruited is increased, providing the muscle with increased strength, endurance and the ability to react quickly.

By activating, recruiting and integrating different muscles and muscle groups, balance training gives you a more complete workout that doesn't stress just one particular muscle or muscle group. This aspect of balance training alone, may further eliminate the risk and occurrence of an injury.

So if you're serious about increasing performance, then adding exercises that increase muscle activation, muscle fiber recruitment, and increase fast reflex muscle contraction simply makes sense.

Improved Performance:

For me this has to be the most important benefit of incorporating PNF based exercises into any training program. The simple fact is, the nervous system controls everything we do. The more we are able to integrate the nervous system and train our bodies ability to react and adapt to it's environment the better our bodies will perform when we need them to.

Performance is measured in a number of different ways and is unique to every individual's goals and needs. However, as a rule, increased physical performance levels are typically associated with increased strength, increased endurance, improved balance, improved hand-eye coordination, performing at high intensity levels without the occurrence of an injury and even the ability to recover faster when an injury does occur.

PNF based balance training provides an opportunity to improve in all of these areas regardless of what your specific goals.

How Does Balance Training Work?

Balance training uses a number of different techniques that have been shown to be even more effective than other types of training, to include weight training, in regards to specific fitness goals. While balance training can be as simple as walking slowly on a balance beam while dipping your opposite leg down to the floor or even using an elastic band to cause resistance to your opposite leg while balancing on the other, there are many advanced techniques that have been developed to help you improve your balance. I've included a list of balance training equipment to help you get a jump start on your balance training. The price range for this type of equipment varies and does the complexity of the equipment.

Balance Training Equipment

Basic balance training doesn't require any of the equipment I've listed below. However, like anything else, assistive equipment like what I've listed below will ensure you're continually challenging yourself.

- BOSU balance trainer
- Thera-band
- Balance boards
- Wobble boards
- Agility ladders
- Foam roller
- Slide board

Regardless of your fitness level, financial resources or the amount of time you have available to train, balance training is something anyone can begin doing with just a few minutes a day and be able to experience the type of results that matter.

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More From: *Adam Alexander*

Adam Alexander is a licensed doctor of chiropractic and former US Army Ranger. He is the Co-Founder and CEO of Fighter Fitness, LLC and the Co-Developer of the patent protected [Pinpoint Pushup Fitness Trainer](#). Dr. Alexander is a member of the GallantFew Advisory Board. [GallantFew](#) is a revolutionary veteran support non-profit organization founded in 2010 to assist US Military Special Operations personnel as they transition from active service into civilian life. Dr. Alexander can be contacted via email at Adam@PinpointPushup.com.



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