

BALANCED BODY SERIES

Mike Boyle is talking about killing kittens and other terrible things.....



Recently I had an opportunity to hear my good friend, Mike Boyle give a talk at a Perform Better Summit. In his opening statements he made mention to the effective use of static stretching in some of his programs. Some attendees in the room would have had a more positive response if Mike had said, “hey guys let’s go kill some kittens”. It was almost like Mike had to defend static stretching, even though there is some research showing its effectiveness. Research also shows some more efficient ways to get muscle length to change. I’m not going to waste your time with those references at this point; A Goggle or Medline search can help you with that. Dr. Stuart McGill has stated that **“static stretching deadens the muscle from a neural perspective – diminishing the stretch reflex and reducing peak strength and power”** and I agree with this statement. Over a long period of time I feel that indiscriminately holding static stretches will create more problems than it will correct. So why am I saying Mike and Stuart both have a point. Let me explain:

I would like to lend my support and admiration to Mike for sticking to his guns about static stretching. Mike is an excellent teacher and coach. He teaches by example with a quick eye for practical application. I think he talks about static forms of stretching because of the results he observes when trying to change and improve movement patterns as well as educate his athletes and clients. Many people would be surprised that I’m an advocate of static stretching but, I definitely think it has its place. Scientifically, there may be better, quicker and faster ways to develop muscle length or change and maintain muscle length; however, they require a higher level of expertise, are more technique intensive, and usually have a more significant learning curve for the user than static stretching. Let me go over some of the benefits of static stretching for the user.

As a personal trainer, performance specialist, or rehabilitation professional, you may screen or assess someone who has less than optimal range of motion. You may identify that muscle length is a problem and therefore want to improve muscle length. The first order of business is achieving agreement with the client, athlete, or patient. You must make sure that the individual has an appreciation of that which you have discovered. You can take the movement pattern (squatting, lunging, backward bending, etc.) that presents them with difficulty and find safe static stretching positions within that pattern that actually make them completely aware of their specific limitation. It only takes a few other individuals doing the same stretch with no difficulty to let them know they have a deficiency. You then have an opportunity to say to them, “This is your priority”. They are immediately aware, both externally by watching others move, and internally by feeling their own restrictions that a barrier does exist. All the exercise in the world will not change their movement without attention to this limitation. It may be obvious to you, but you must drive this point for them. Further more, if a left-right asymmetry is present, there is yet another dimension of appreciation afforded to the user. This opens a discussion of injury prevention and move-

ment efficiency. Most of the research data that we are currently collecting points towards left-right asymmetry as a huge problem and underlying reason for compensation. Using a static stretch position to allow your client, athlete, or patient to have an appreciation of a left-right asymmetry is invaluable. You have given them both a perspective of a problem or limitation that they currently have and a baseline measure that they can re-check every day before and after every training session. They can gauge the effectiveness of the other mobility techniques you employ on their simple and primitive baseline static stretch. The static stretch offers them a safe, proprioceptive awareness of where the restriction is, and making that awareness raise to the conscious level will help them appreciate the holistic approach that you are taking with them.

Now that you have shown them a barrier, you can educate them as to how this barrier can be overcome. You can break out

some cool foam roll stuff, or fancy Stick work or even some great PNF technique to accelerate the re-setting of normal muscle tone.



Then ask them to try the static stretch again. Sit back and enjoy the “Wow” moment.

Here are the steps:

1. Identify the most significant faulty pattern (screen). If muscle length / tone (identified by assessment) is the problem then -
2. Reset tone in the area of limited muscular length
3. Introduce normal ROM and length to the muscle group
4. Reset pattern with a corrective maneuver that utilizes the basic mobility and stability needed in the primary pattern.
5. Don't be surprised if you can reduce time and activity in step 2 and then step 3 as things improve. Invest the extra time in step 4. Eventually if you have successfully addressed the primary problem, you can effectively use step 4 as movement preparation.

*Note that I'm now using the word **tone** instead of **length** because muscle length is usually a physical representation of muscle tone. Tone is simply a characteristic of a skeletal muscle brought about by the constant flow of nerve stimuli. This tone creates the resistance to stretching. Abnormal muscle tone can be defined as:*

- **hypertonus** - increased muscle tone, as in spasticity in extreme cases when the neurological system is functioning abnormally, and tight muscles when the neurological system is considered normal. The tight muscles are usually the result of poor habits in posture and movement and usually respond to corrective exercise.
- **hypotonus** - reduced muscle tone, as in flaccid paralysis in extreme cases when the neurological system is functioning abnormally, and long, sloppy, and weak muscles when the neurological system is considered normal. The long, sloppy, and weak muscles are usually the result of poor habits in posture and movement and usually respond to corrective exercise.

You can also introduce yoga postures. Yoga can be very helpful because the focus is on breathing. Many don't understand the natural, protective reflex response, to tighten up, when we come upon a barrier like a tight muscle. We breathe shallow, grimace with our facial muscles, and push, thinking that if we just push a little harder, the barrier will yield. We somehow think the tight muscle will give in. But, very often, the individual with a flexibility problem will actually tighten and contract the muscle that they are trying to stretch. The reason the muscle is tight in the first place, is probably because it is being used improperly. This muscle may be activated twice as frequently as it should because of a lack of muscle strength or coordination in another area of the body. This muscle is actually tight because it's protecting itself; it's been overused and it's generally fatigued. Part of its protection involves shortening its length to reduce its workload (contractile length) and guard against unforeseen stretching. Pushing the stretch can actually, in some cases, make the muscle you're stretching contract even harder. This is a great opportunity to educate your athlete, client or patient and talk to them about breathing. Deep slow breaths with a relaxed expression can make a huge difference. Take a big, deep inhale breath, and enter the stretch on the super slow exhale breath. Repeat this same slow cycle the entire time you are in the stretch position.

Another thing we learn from yoga is that many of the stretches actually require you to support or brace your body in such a way, that you are not just lengthening one muscle, you are statically stabilizing with another. It is this static stability that allows you to elongate the muscle on stretch. Many of the yoga postures require you to hold yourself up in proper postural alignment while elongating one segment. This proper alignment is not simply done for aesthetic purposes; statically stabilizing your body while elongating another part of your body is more functional. It looks like static stretching, but there is a lot of stabilization going on. You do not sink and sag into a stretch, you hold your body erect, breathe into your diaphragm, and allow the segment that you are stretching to elongate. If you force it, it will contract. As you reach your barrier, breathe, tighten or hold the supporting parts of your body with more conscious control and watch the length come back to the area of your stretching focus.

I truly feel that there's a lesson in life here. When you reach a barrier, do you push and grimace and force, or do you breathe, assess your surroundings, check your alignment and ease with patients and caution into unfamiliar territory?

One last thing you need to consider is how you actually think about muscle tightness. To help work this out, ask yourself this question on a daily basis for at least two weeks; what drives the tightness? Obvi-

ously, we are talking about static stretching because we've all uncovered tightness. We all know the need to reduce or resolve that tightness, but tightness in and of itself is not the problem. There is something causing the tightness. What is behind it? What is driving the tightness? Usually you will find muscle tightness is a by-product of inefficient movement patterns where muscles unnecessarily have to compensate or work overtime to help you achieve your fitness and athletic goals. Many people think, 'well, if I just push harder or exercise longer or lift more, the problem will work itself out'. Not necessarily so. If anything, activity will reinforce a compensation, unless it is identified and addressed at its most primitive and fundamental level. My point is, if you don't have the basic mobility and stability for a ground based activity, like a posture from yoga, a deep squat or side plank position, then performing a hang clean, plyometrics or an advanced Pilates moves is really not what you need to be doing. You need to go back and get that fundamental primitive mobility and stability when you are connected to the ground. When you become proficient you can build on that.

Learning for yourself to answer the question, 'where does the tightness come from', will help you educate clients and athletes about their own flexibility. When they say to you, 'why do you think my hamstrings are so tight', say, 'I think they're tight because you are using them that way'. I think that improving your movement patterns such as squatting and lunging and balancing on one leg may activate your glutes, and by activating those glutes, we reduce the dependence on extra hamstring work. Those hamstrings will actually become more flexible and functional, when they are not overworked. One of the catch-phrases I always like to state in my workshops is very simple, but very complex in its application:

“Don't go for length in one place, if you don't plan on adding strength in another place.”

And, for every small bit of length that you gain in one place, make sure you add a piece of strength in the other. That length you are taking away is the body trying to create stability in a muscle that wasn't made as a stabilizer. These muscles are often found to be tight.

Below is a list of muscles prone to tightness and prone to weakness. You can see that the muscles prone to tightness are actually movers, and if they are used as postural stabilizers, will often get tight. You will also notice that the muscles prone to weakness are actually postural stabilizers, and if they are not used efficiently, or if poor alignment does not allow them to activate automatically with movement, they will actually become weak with disuse.

Janda's functional division of muscle groups:

Muscles Prone to Weakness:	Muscles Prone to Tightness:
<ul style="list-style-type: none"> ○ Peronei ○ Tibialis anterior ○ Vastus medialis and lateralis ○ Gluteus maximus, medius, and minimus ○ Rectus abdominis ○ Serratus anterior ○ Rhomboids ○ Lower portion of the trapezius ○ Short cervical flexors ○ Extensors of the upper limb 	<ul style="list-style-type: none"> ○ Gastroc/Soleus ○ Tibialis posterior ○ Short hip adductors ○ Hamstrings ○ Rectus femoris ○ Iliopsoas ○ Tensor fasciae latae ○ Piriformis ○ Erector spinae ○ Quadratus lumborum ○ Pectoralis major ○ Upper trapezius ○ Levator scapulae ○ Scalenes ○ Flexors of the upper limb

**This list is not intended to create controversy. I realize that this list was constructed some years ago and some may consider one or two muscles are misplaced. I prefer to look at the concept that Janda has introduced. He is showing us a concept of patterns. The weakness causes the tightness and the tightness causes the weakness. You cannot just fix only one because they are mutually dysfunctional. Also note that the list of 'muscles prone to weakness' usually function as stabilizers and the 'muscles prone to tightness' usually function as movers. Why not consider one of the underlying causes of muscle tightness to be a dysfunctional stabilizer system that causes movers to shorten in an attempt to create support. Simply stretching muscles that appear tight will only address part of the problem and will rarely get to the cause.*

Summary of static stretching points with comments:

- **A static stretch creates awareness** of tightness and sets a baseline for future comparison. It can function as a quick self appraisal of limitation, changes in limitation, or lack of limitation. It can also create awareness of appreciable asymmetries between functional units of the right and left side of the body. Dr. McGill supports static stretching in the presence of asymmetry.
- **A static stretch creates safety** because a stretch should be felt in the belly or midsection of a muscle, not the tendon, and not over a joint. If this is felt, something more than a tight muscle is going on here. You probably have a joint problem or tendonitis. “No pain no gain” does not apply here. If a static stretch produces pain, over a joint or tendon, you have a problem that stretching alone will not fix. Do not proceed to exercise or training without getting this assessed.
- **A static stretch creates perspective** with respect to movement. If the muscles that cross your ankles, knees, and hips are tight they will probably limit your squatting movement pattern. If the muscles that cross your ankles, knees, and hips are not tight and are considered normal and you cannot perform a squatting movement pattern you may have a stabilization problem. If your stabilizers do not support your skeletal system as you lower into the squat you must use your movers as a secondary support system. This will distort joint alignment and create poor postural control within the movement pattern. Consider this next time you pick exercises that do not utilize postural control (leg press, bench press etc....).
- **A static stretch creates education** if you take the time to discuss the potential causes of muscle tightness during the stretching session. Ask ‘where does tightness come from’ and see what responses you get. Here are some hints. One or all may fit any situation.
 - Movement habits drive tightness – focus on better exercise and athletic techniques.
 - Postural habits drive tightness – look at the positions of the body during sitting, sleeping, driving, and standing. Some habitual positions can create muscle shortness so consider the four positions above.
 - Emotional stress can drive tightness – This is often overlooked and avoided in discussions about muscle tightness, but it is a big part of excess muscle tension (See Yoga and Breathing).
 - Trigger points – are extra electrical activity in a small part of a muscle that can create muscle tightness and pain. They can result from an old muscle injury to chronic muscle tension (see all of the above). They respond best to manual pressure and stick work followed by stretching and correct exercise habits.

In closing, I would like you to understand that I do support static stretching, for the simple fact that it helps make the individual aware of their most basic limitation. It makes them think! It causes an open exchange of ideas of where the limitation has come from and what can potentially result if the limitation is not addressed. It's easy, simple and uncomplicated. They can reproduce it, and hopefully, you will start adding more functional movements on top to keep the flexibility issues from returning. Assure them that the static stretching is necessary but only temporary. If you do your job you can turn the improved muscle length into functional movement. If movements remain functional then muscle length has

no reason to return to its previous limited state. Mike is right on the money with his static stretching comments. ***People need time to understand and get reconnected with their body. Once this understanding is present then introduce them to more advanced techniques.*** I can't think of a better way to make this point, than with some simple static stretches to show people, 'here's your problem', 'here is what I've found', 'here is where you will need to focus'. This sets you up to say 'now, I'm going to show you some advanced and fancy stuff', but you will always have a baseline and a perspective of where that original limitation was. If you don't show them that, they're not going to know how good you are.

Oh yeah.... I don't really think Mike has problems with kittens.

Our poster series reviews in great detail how we use the Functional Movement Screen to identify faulty patterns. We use the stick and various stretches to reset tone and movement training to create harmony between stabilizers and movers. These are foundation of the corrective strategy for the movement patterns in the Functional Movement Screen. Two companion CD-roms walk you through my powerpoint presentation for each poster and guide you through the exercises that correct each pattern in the Functional Movement Screen. See a full line of our products at www.performbetter.com

