

Newsletter

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Static stretching: not evil, just not a panacea

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This brief post has two main points:

Static stretching is not going to kill your performance and **Static stretching is not a cure-all**

Further, nothing in this post is even remotely new.

Are you against static stretching or just the nonsense that people have said about it?

The unsupported benefits of stretching may have caused many of us to look for reasons to attack stretching. For the past fifty years a simplistic view that stretching was both a cure and prevention for all musculoskeletal ailments has dominated sports medicine. Many professionals and the media would suggest that you needed to stretch to not just prevent injuries (pick up any Runner's World Magazine before 2009) but to ward off delayed muscle soreness, align your collagen fibres after an injury, break up scar tissue, permanently lengthen muscles to fix your posture and as an cure for any injury. Ugh. These ideas were extremely opinion driven with little evidence.

We've known for decades that its injury preventative influences were rather weak or questionable (Shrier 1999) and its actual influence on muscle and the function of the body were overblown and again questionable.

But just because stretching is not helpful for a number of things does not mean it doesn't have utility.

The evidence against stretching has mounted in the past 15 years

A body of work emerged showing decreases in power, strength, balance and/or speed following PROLONGED (>60 second holds) static stretching. (Canadian researcher, David Behm) This work gave us more cause to question prolonged static stretching's wonderfulness as a panacea and gave us some insight on how not to stretch. A horrible thing happened with this evidence against static stretching. The "stretching sucks" swing of the pendulum went too far with many not reading and critically reviewing the literature and then applying this research inappropriately to clinical practice.

So now the "cutting edge" is anti-static stretching.

But this is not cutting edge – the research is old and it needs to be applied with a critical mind to our practical applications. Throwing static stretching away is not research informed. This is the same as telling people they have to stretch to prevent injuries. We are again confusing Shades of Gray for Black and White. Those strongly against static stretching and suggesting it should not be part of a good warm up are just as ill informed as those that suggested stretching was the answer to everything musculoskeletal.

A good blog post on the case for stretching (by Ben Bruno). What I had read from the literature and what Ben stressed was:

Most of the research showing performance deficits following static stretching tested prolonged stretching protocols (greater than 60 second holds). Most people in a warm up don't do this.

And that is it. Prolonged static stretching of greater than 60 seconds (not what is typically done in a warm up) slightly decreases the performance during some simple activities. There is no research showing long term changes in performance, nothing showing an increase in injury risk, no reason to think that your joints become unstable or more susceptible to injury and no reason to think that stretching impairs our ability to adapt to a training stimulus. Just maybe don't stretch for longer than 60 seconds before an event. Not that anyone ever did this any way.

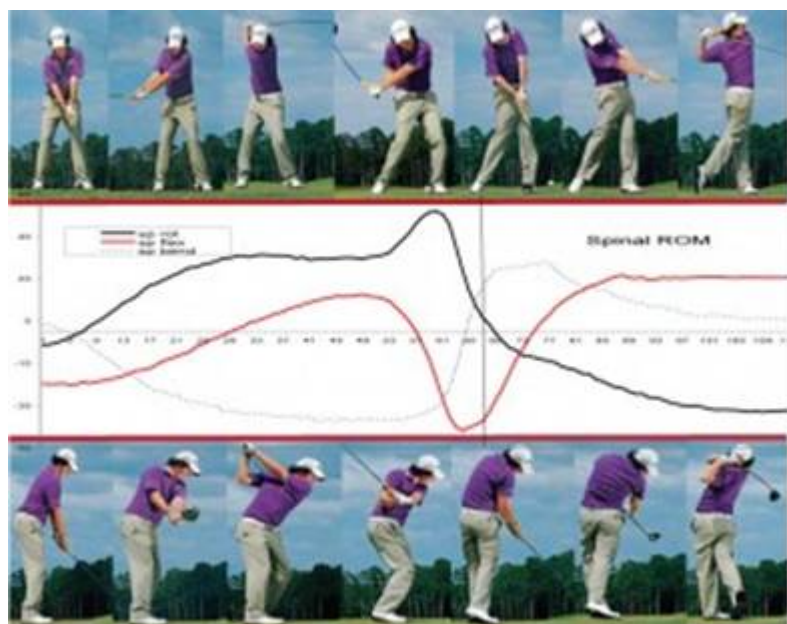
We need some caution in dismissing stretching

Stretching can still be a useful tool in appropriate situations. I'm not going to tell that runner who has been injury free for 15 years and stretching before every run to stop stretching.

Further, we also should not generalize prolonged static-stretching's negative influence involving simple tasks across all aspects of human performance.

For example, a decrease of isometric ankle strength following stretching does not mean a long distance runner will become more inefficient when running a 10k (and yes, this has been studied with decades of research, albeit conflicting, but much showing no change in running economy following stretching).

An example can be seen from my work as a mediocre researcher where we conducted a small, unpublished study in 2007 on trunk kinematics during the golf swing following a 60 second trunk rotation stretch. I was hoping to see losses of performances so I could get the thing easily published. Ideally, a decrease in trunk rotational velocity. Of the nine subjects, none decreased their velocity. Interesting, there were also no changes in spine rotation, the x-factor or the x-factor stretch.



Final Round Up – I am not saying to go out and statically stretch every athlete as a warm up

What I am suggesting is that we need some caution in just catastrophizing over simple exercises. Static stretching can still have its purpose. Even when I was a big anti-stretchite in the early 2000s I would warm up and static stretch during golf. It did not change my performance and I needed the range to swing fluidly. The demands of my sport and the limitations in my function determined what I needed to do to prepare. This is how we need to treat all of our best practice recommendations. Perform a needs analysis of your goal task, compare it to your athletes ability and determine what matches and what needs work.

Maybe you have a sport that just needs a fantastic warm up as the demands of the sport don't see any athlete's joint ranges come close to their maximum (many long distance runners for example). These athletes may not need to stretch. But maybe you need to prepare an athlete for the extreme range of movement they need in the sport. You can have science on your side and incorporate a little static

stretching (e.g. 10-30 second holds) and not have to worry about their performance suffering. You only have to worry about a former pro-stretcher now evangelical anti-stretcher tweeting that sky is falling because pro football players were stretching when the lights went out during the Superbowl. Ugh.

To conclude I think its best to listen to David Behm:

Generally, a warm-up to minimize impairments and enhance performance should be composed of a submaximal intensity aerobic activity followed by large amplitude dynamic stretching and then completed with sport-specific dynamic activities. Sports that necessitate a high degree of static flexibility should use short duration static stretches with lower intensity stretches in a trained population to minimize the possibilities of impairments.