

Muscle rolling improves blood flow, reduces blood pressure, and improves vascular health.

I've said for a long time that muscle rolling improves blood flow to muscle. It's one of those claims everyone makes, but nobody every really had much evidence to back it up.

But I can sleep better now. Because a paper from the Journal of Strength and Conditioning Research (Okamoto et al, 2014; 28:69-73) has some interesting findings on the effects of muscle rolling on arterial function. Here's a summary...

The researchers measured 2 things before and after several minutes of muscle rolling. The first measure was called the brachial-ankle pulse wave velocity (baPWV), an indirect measure of arterial stiffness. A lower baPWV indicates more elasticity

in arterial walls and better blood flow to tissues. A higher measure indicates arterial stiffening, as is found in atherosclerosis.

The second measure was plasma Nitric Oxide (NO) concentration. NO is released from the inner lining (endothelium) of small arteries. NO functions as a vasodilator, causing dilation of the vessels that supply blood to tissues, like muscle. When NO is present, vessels dilate, allowing more blood to pass into working muscle. The production of NO also has a side benefit of lowering overall blood pressure.

The findings are pretty cool...

1. baPWV was reduced by about 11%
2. plasma NO concentrations were increased by roughly 40%!

What does all this mean?

It means, that muscle rolling improves muscular blood flow while reducing blood pressure. This has a few really important implications:

1. The heart does not have to work as hard to deliver blood when muscles are working during exercise. You be the judge of what that means for your overall cardiovascular health...
2. There is more efficient delivery of oxygen to working muscle. The result is that muscles are less prone to fatigue because there is better oxygen delivery,
3. The more efficient delivery of oxygen means that muscle cells do not have to rely as much on anaerobic metabolism that releases lactic acid as a waste product. Consequently, muscle contractions are more efficient, there is less

fatigue, and there is less post-workout muscle soreness.

If you need yet another reason to roll your muscles, here it is in a nutshell... Rolling improves blood flow, reduces blood pressure, and improves vascular health.

Be well,

Scott Hadley PhD, DPT