

An Introduction to Foam Rolling, Part 1

by Jeremy Bushong, MS, CSCS

Foam rolling has recently become popular in the realms of athletic training, strength and conditioning, and fitness enthusiasts as a means to decrease stiffness, improve flexibility, and manage pain in joints and body parts. While there hasn't been much formal research regarding foam rolling, many coaches, therapists, and athletes vouch for its effectiveness.

Chances are you may have seen someone using a foam roller at the gym or off the mat. As the popularity rises, so do the questions. What is it? Does it work? How can I use it? The purpose of this article is to introduce the foam roller and its therapeutic benefits to the judoka.

The theory behind foam rolling is very similar to that of a massage. Applying pressure to muscles and other tissue allows them to relax, reducing tightness and pain. Surrounding muscle and organs is a tissue known as fascia. While fascia itself does not contract or move the body like muscle, it can become restricted due to factors such as injury or repetitive motion. Restriction in fascia can contribute to stiffness and pain, limit normal range of motion, and change posture.

Have you ever had pain or stiffness in your neck, unable to turn your head, yet the "trigger" for this pain is lower near your shoulder blades? This is an example of a myofascial restriction. The knot may be located in the upper back or lower trapezius muscle yet the pain is referred up through the neck. Because fascia is a large, three dimensional network of fibers encompassing many muscles, restrictions in one part of the body, such as the back, can affect other body parts such as the neck or shoulder. A trained therapist can sometimes detect these restrictions and work them out with manual pressure (referred to as myofascial release). Unfortunately, unless you're visiting a therapist on a weekly basis, these restrictions can add up and start to become a problem. This is where use of the foam roller can pay off.

Just recently I completed my master's thesis discussing the use of the foam roller for increasing flexibility. I did a small study using participants over the age of 50 and compared foam rolling to standard stretching and aerobic



Using the foam roller for the back and legs



warm-up routines. Surprisingly, the foam roller was just as effective at increasing flexibility as stretching or aerobic warm-ups, and using the roller for only 5 minutes resulted in nearly 20% increase in range of motion of the lower body. In addition, the pain management and massaging properties of the roller made it the preferred warm-up method among the participants. Basically, using the foam roller on the back, hips, glutes, and legs loosened up joints and muscles, increased flexibility, allowed for greater range of motion, and helped reduce pain in muscles and joints.

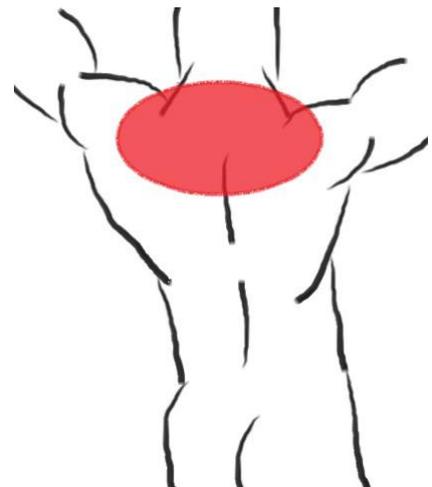
When we look at judo techniques, how many require flexible hips, legs, and shoulders? How many of us would like to help decrease pain and tenderness between training sessions? How many judoka are looking for new and interesting methods of warming-up before class? I found the foam roller works for me and many of my training partners, and I want to share this information with as many people as possible. It's nothing revolutionary--people have been using massage therapy for a very long time. However I think athletes often overlook simple methods which can complement their training.

Foam rollers are fairly inexpensive. If you search online, you can find more information on foam rolling, including example videos and tutorials. In next month's article, I will share specific foam rolling techniques and alternative methods if you don't have a roller.

Foam Rolling, Part 2 *by Jeremy Bushong, MS, CSCS*

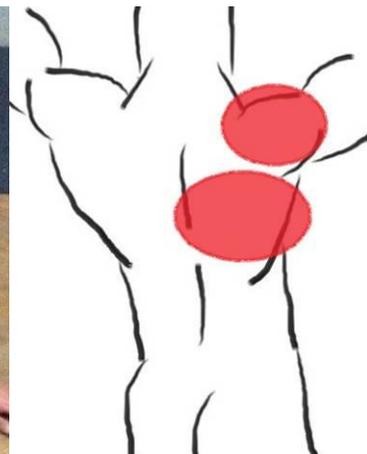
Last month I introduced the concept behind myofascial release and the benefits it might have on performance and training. This month I would like to illustrate a few examples of how to use a foam roller for maximum benefits. The various positions may be limited by the shape or size of the roller, but the following techniques can be done with rollers of any size or material.

Upper back

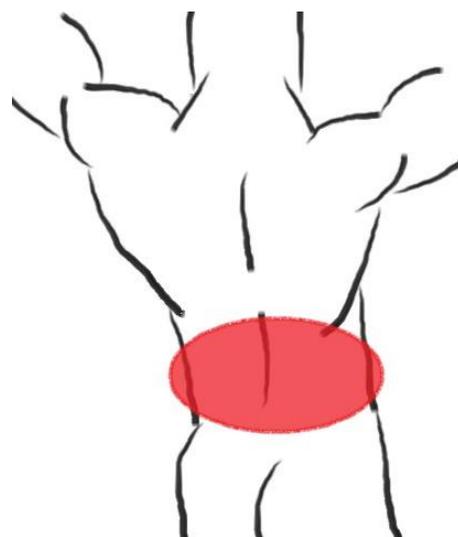
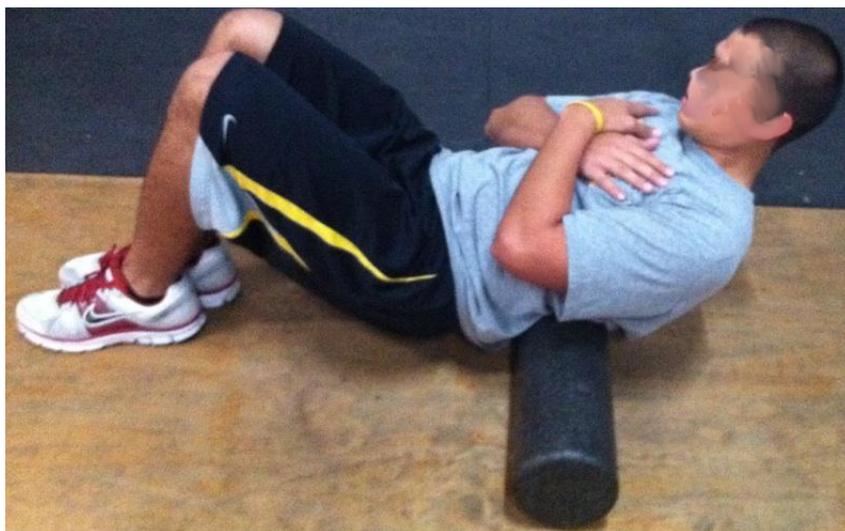


Often pain in the neck or shoulders can be as a result of tight muscles in the upper back. Rocking over the roller in a bridge position, you can apply pressure directly to the lower and upper trapezius and scapular muscles. Releasing tension in this area may improve mobility in the upper body for movements which require rotation in the shoulders and upper spine, such as forward throws like tai otoshi or seionage.

In addition to the trapezius muscles, the latissimus dorsi and rear deltoid muscles contribute to upper body mobility and movement. Pain in these regions may limit the movement of the shoulder joint and increase the risk of injury. The roller can be applied to these muscles, as pictured below.



Lower Back and Gluteal Muscles



The lumbar spine is often an area of injury and pain for many judoka and grapplers. Flexibility and mobility in this region is important for rotational movements and upright posture. Rocking on the roller over this region will help loosen up and increase flexibility in these muscles. However, chronic lower back pain may be symptoms something more severe, and while myofascial release and foam rolling may help reduce the pain, it may not treat it completely.

Sometimes pain in the lumbar region may be referred from dysfunctions or impairment of other muscle groups such as the gluteal muscles. The glutes are partially responsible for extension of the torso (creating an upright posture) and for changing positions from a seated to standing. Inflexibility or tightness in the glutes may increase risk of injury in the lower spine during

movements in which the participant is unaccustomed or weak. It is important, especially for people who are seated most of the day, to stretch and strengthen the gluteal muscles. An example for applying myofascial release with a foam roller is pictured below.



Hip Flexors & IT Band Release

Frequent sitting (most desk jobs) can do terrible things for your health. Often we sit more than we think we do, either while driving, working, typing, reading, and so on. Over long periods of time, sitting decreases the length of the hip flexor muscles, decreases abdominal strength, and subsequently the ability to control the torso properly in relation to lower body movements (causing a forward, hunched posture). As a result these short, tight hip flexors tilt the pelvis and decrease the ability of the glutes to do their job. This in turn causes bad movement mechanics in positions where we would need to use those strong muscles. Such positions include posturing up, stabilizing the upper body, or reaping motions. However, we rarely notice when we have tight hip flexors. In an effort to help improve the function of the hips, it is important to restore the length and flexibility of the hip flexors, as pictured to the right.



The iliotibial band (IT band) is the common name for a muscle and tendon which runs along the outside part of the leg. It helps stabilize the leg and knee during movement and running. When this muscle becomes tight, pain in the leg and knee are often associated. You may have heard of



runner's knee. This is a muscle that is tight in the majority of the active population, and myofascial release may help reduce stiffness and pain in the lower body.

While this is by no means a comprehensive guide to foam rolling, these techniques can be used to help improve you or your athlete's flexibility, movement, and general well-being. The usage of the foam roller is limited only by your

imagination. Next month I will introduce alternative methods for myofascial release for those of you who don't have a foam roller. Such methods include tennis balls and PVC pipe. Until then, give these techniques a try!

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