

www.FireRescueFitness.com

The FireRescue Athletes Guide to

Foam Rolling

By
Aaron Zamzow

FireRescue Fitness Foam Rolling Manual
Copyright ZamzowFitness, LLC. 2012



As we all know, fire fighters and emergency medical services (EMS) personnel respond to emergency incidents that require extreme physical exertion. The high physical demands of the job often result in injuries and psychological stress, affecting the overall wellness of the fire fighting and emergency response system (International Association of Fire Fighters, n.d.). The demands of fire fighting require above-average strength and muscular endurance. Several studies and job analyses have shown that the weight of equipment used by a single fire fighter on the job is in excess of 100 pounds (International Association of Fire Fighters, n.d.). Reduced muscular strength and endurance can contribute to a high incidence of sprains, strains, and back injuries among fire fighters. For example, weak and deconditioned abdominal muscles ineffectively stabilize and support the torso during exertion, which greatly contributes to low back pain and injury.

According to each IAFF Death and Injury Survey since 1981, the leading type of line-of-duty injury within the professional fire service is sprains and strains (The International Association of Fire Fighters et. al, 2006). In addition, *back injury* is the most prevalent line-of-duty injury leading to premature departure from the fire service. A recent survey of the Miami Dade County Fire Rescue Department recently reported that 55% of their members reported current low-back pain. In addition, 86% of members reported a past medical history of low-back pain (The International Association of Fire Fighters et. al, 2006).

In a proactive response to the above statistics, one of our Madison firefighters created a resource that will help combat possible injury and disability from low back pain. In the next few weeks each station will get a “Stretch and Recovery Manual” delivered to their workout rooms along with a foam roller. What is a foam roller you ask?

A foam roller is a 3ft. long by 6in. piece of compressed foam. The idea here is that you roll your body weight along the foam roller, massaging through restrictions (adhesions) that may



occur in your muscles (especially those of the back) and thus causing the nerves to relax and loosen. This allows blood to flow more freely through the muscles and allow muscles to heal and repair more efficiently. The exercise physiology geeks (peer fitness trainers) refers to this concept as "**Self-Myofascial Release**". You will probably love and hate the foam roller. I encourage you to try it more than a week before formulating an opinion on its effectiveness. Just like a massage, there will be some discomfort when you hit the right spot. Over time the foam roller will get easier. Your muscles will be healthier and have less adhesions (knots) making your body and back feel better. Please read the manual, do the stretches, give foam rolling a try and your body, back and career will thank you.

Foam Roller Basics:

A decade ago, strength coaches, personal trainers and athletic trainers would have looked quizzically at a 36-inch long cylindrical piece of foam and wondered, "What is that for?" Today, nearly every fitness center and most strength and conditioning facilities contain an array of foam rollers of different lengths and consistencies.

What happened to bring foam rollers into prominence? The change has been in the fitness industries attitude toward massage therapy. The industry has been slowly moving away from an injury reaction care mode to a more preventive focus of hands-on soft tissue care. The techniques like massage, Muscle Activation (MAT), and Active Release Therapy (ART) can work wonders for sore or injured muscles.

In addition, the understanding at the elite athlete and fire fighter level is: If you want to stay healthy, get a good manual therapist or chiropractor in your corner. Thus, athletes at all levels are starting to ask for some form of soft tissue care.

What does all this have to do with foam rollers? As coaches and trainers watched elite-level athletes experience success from various soft tissue techniques, the obvious question arose:



How can massage be made available to large groups of people at a reasonable cost? Enter the foam roller.

Here is the just of the foam roller exercise.....get a foam roller and use your bodyweight to apply pressure to sore spots.

There are more uses for foam rollers, including injury prevention and performance enhancement. Essentially, foam rollers are the poor man's massage therapist. They provide soft tissue work to the masses in any setting. One of the nice things about using the foam roller is that it can be done on a daily basis. How long your roll is determined on a case-by-case basis.

People are instructed to use the roller to search for tender areas or trigger points and to roll these areas to decrease density and over-activity of the muscle. With a little direction on where to look, most people can easily find the tender spots on their own. However, they may need some instruction on the positioning of the roller, such as parallel, perpendicular, or 45 degrees, depending on the muscle.

The feel of the roller and intensity of the self-massage should be properly geared to the age, comfort, and fitness level of the person. This is one of the plusses of rolling yourself-you can control the intensity of the exercise by modifying your body weight and positioning on the roller.

There is no universal agreement on when to roll, how often to roll, or how long to roll, but generally, techniques are used both before and after a workout. Foam rolling prior to a workout can help decrease muscle density and promote a better warm-up. Rolling after a workout may help muscles recover from strenuous exercise. Personally, I try to use the foam roller anytime my muscles (especially my back) feel tight and sore. Try to get in the habit of foam rolling at the beginning of your shifts, it will help insure you are “Fit for Duty.”



FOAM ROLLING **POSITIONS**



[You can purchase foam rollers here \(if needed\)](#)



Foam Roll- Quadriceps

Muscles worked:

- Great exercise for working the soreness and adhesions from the quads

Preparation :

- Lie face down on the floor with the roller under the front of your thigh
- Support your upper body you're your elbows



Movement:

- Roll over the quad area slowly from your hip to just above your knee. The more uncomfortable it feels, the more the muscle needs the work.
- Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness
- Roll slightly on the outside and inside of the quad as well as the front



Finish:

- Remember to stay relaxed through the shoulders and neck and to breathe easy
- Roll one side completely, and then do the other



Coaching Tips: Find a foam roller; it should be firm enough to support your quads. Draw abs tight, squeeze your glutes then slowly roll your quads over the foam roller until you hit a sore “hot” spot. Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness. Use your elbows to support your upper body and remember to use good posture as you roll.



Foam Roll- Hamstrings

Muscles worked:

- Great exercise for working the soreness and adhesions from the hamstrings

Preparation :

- Place the foam roll under one or both of your legs
- Support your upper body with your arms as you roll



Movement:

- Let your body slowly glide up and down the roll (as demonstrated in picture). If it is too uncomfortable, uncross your legs and roll both hamstrings at the same time. The more uncomfortable it is the more that muscle needs this.
- Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness



Finish:

- Remember to stay relaxed through the shoulders and neck and to breathe easy
- Roll one side completely, and then do the other



Coaching Tips: Find a foam roller; it should be firm enough to support your hamstrings. Draw abs tight, squeeze your glutes then slowly roll your hamstrings over the foam roller until you hit a sore “hot” spot. Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness. Use your arms to support your upper body and remember to use good posture and breathe easy as you roll.



Foam Roll- IT Band

Muscles worked:

- Great exercise for working the soreness and adhesions from the side of the legs (IT band)

Preparation :

- Lie on your side with the foam roll under the outside of your thigh. This area is particularly sensitive; trust me it will be to your benefit to roll this area consistently.
- Support your upper body you're your arms as you roll



Beginner Position

Movement:

- Roll along the side of your thigh from the hip to the top of the knee. If you require more pressure, stack your legs on top of each other. Remember, the more uncomfortable it feels, the more the muscle needs the work.
- Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness



More Advanced Position

Finish:

- Remember to stay relaxed through the shoulders and neck and to breathe easy
- Roll one side completely, and then do the other



Coaching Tips: Find a foam roller; it should be firm enough to support your body. Draw abs tight, squeeze your glutes then slowly roll up and down the outside of your leg (IT Band) over the foam roller until you hit a sore “hot” spot. Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness. Use your arms to support your upper body and remember to use good posture and breathe easy as you roll.



Foam Roll- Glutes

Muscles worked:

- Great exercise for working the soreness and adhesions from the glutes

Preparation :

- Sit on the foam roll-- Bend your leg and cross over the other for more glute exposure
- Support your upper body with your arms as you roll



Movement:

- Slowly roll over the buttocks from your lower back to the back of your thigh
- If you require more pressure, lean to one side (sit on one cheek). Remember, the more uncomfortable it feels, the more the muscle needs the work.
- Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness



Leaning at a slightly different angle

Finish:

- Remember to stay relaxed through the shoulders and neck and to breathe easy
- Roll one side completely, and then do the other



Coaching Tips: Find a foam roller; it should be firm enough to support your body. Draw abs tight, sit on the roller and bend one leg over the other. Slowly roll up and down the glute (butt) area from your lower back to upper leg over the foam roller until you hit a sore “hot” spot. Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness. Use your arms to support your upper body and remember to use good posture and breathe easy as you roll.



Foam Roll- Calves

Muscles worked:

- Great exercise for working the soreness and adhesions from the calves

Preparation :

- Place the foam roll under one or both of your lower legs
- Support your upper body with your arms as you roll



Movement:

- Let your body slowly glide up and down the roll
- Move slowly from the back of the knee to the top part of the ankle. If it is too uncomfortable, uncross your legs and roll both calves at the same time. The more uncomfortable it is the more that muscle needs this.
- Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness



Cross your legs for more pressure

Finish:

- Remember to stay relaxed through the shoulders and neck and to breathe easy
- Roll one side completely, and then do the other



Coaching Tips: Find a foam roller; it should be firm enough to support your lower legs. Draw abs tight, squeeze your glutes then slowly roll your lower legs (calves) over the foam roller until you hit a sore “hot” spot. Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness. Use your arms to support your upper body and remember to use good posture and breathe easy as you roll.



Foam Roll- Lower Back

Muscles worked:

- This exercise improves range of motion of the low back.

****If you are experiencing any lower back pain or orthopedic conditions in the spine ... AVOID THIS EXERCISE**

Preparation :

- Position yourself on the foam roller at the lower level of the back.
- Perform a drawing in and pelvic floor contraction to aid in spinal stabilization.



Movement:

- Once positioned correctly, slightly roll to one side (so that you are on the muscle that runs parallel to the spine and not the spine itself) and HOLD.
- SLOWLY, roll the foam roller down the side of the spine toward the pelvis, feeling for an area of increased tension.
- Once found, HOLD on this area for 30 sec or until the muscle has relaxed
- Once released, continue to roll to other spots and HOLD your position on the spots for 20-30 seconds to release the soreness



Roll to one side

Finish:

- Remember to stay relaxed through the shoulders and neck and to breathe easy
- Roll one side completely, and then do the other



Coaching Tips: Find a foam roller; it should be firm enough to support your lower back area. Draw abs tight, squeeze your glutes then slowly roll slightly to one side (so that you are on the muscle that runs parallel to the spine and not the spine itself) and HOLD your position on the “hot” (sore) spots for 20-30 seconds to release the soreness. Roll one side completely and then do the other. Use your arms to alleviate some of the bodyweight if needed. Remember to use good posture and breathe easy as you roll. If you have, or are experiencing, low back pain, AVOID this exercise until the pain subsides.



Foam Roll- Upper Back/ Chest Stretch

Muscles worked:

- Good for individuals who want more flexibility in through the spine and chest

****If you are experiencing any lower back pain or orthopedic conditions in the spine ... AVOID THIS EXERCISE**

Preparation :

- Maintain good posture throughout the exercise with shoulder blades relaxed and your head on the roller.
- Perform a drawing in and pelvic floor contraction to aid in spinal stabilization.



Movement:

- The stretch involves relaxing the body over the foam roll.
- The hands should be to the side of the body with the shoulders relaxed towards the ground.
- SLOWLY Move from side to side, hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness



Roll to one side

Finish:

- Remember to stay relaxed through the shoulders and neck and to breathe easy



Coaching Tips: Find a foam roller; it should be firm enough to support your upper body. Draw abs tight, squeeze your glutes and relax your arms and shoulders (as shown above). Slowly move side to side until you hit a sore “hot” spot. Hold your position on the “hot” (sore) spots for 20-30 seconds to release the soreness. Remember to stay relaxed through the shoulders and neck and to breathe easy.





References and Resources

International Association of Fire Fighters. (n.d.). Back Injuries and the Fire Fighter.

Retrieved on October 24th, 2010 from <http://www.iaff.org/hs/Resi/BackPain.asp>

The International Association of Fire Fighters, the International Association of Fire Chiefs, and the American Council on Exercise. (2006). *Peer Fitness Trainer Reference Manual*.

International Association of Fire Fighters, Washington, DC.

TriData Corporation. (August, 2004). The Economic Consequences of Firefighter

Injuries and Their Prevention-- Final Report. Retrieved October 24th, 2010 from:

http://fire.nist.gov/bfrlpubs/NIST_GCR_05_874.pdf

Verstegen, M. (2004). [Core Performance: The Revolutionary Workout Program to Transform](#)

[Your Body and Your Life.](#) Rodale, Inc. New York, NY.

West, P. (March, 2005). Nist: Firefighter Injuries Cost Billions Per Year. Retrieved on

October 25th, 2010 from: [http://firechief.com/health_safety/firefighter-injuries-](http://firechief.com/health_safety/firefighter-injuries-cost032505/)

[cost032505/](http://firechief.com/health_safety/firefighter-injuries-cost032505/)

