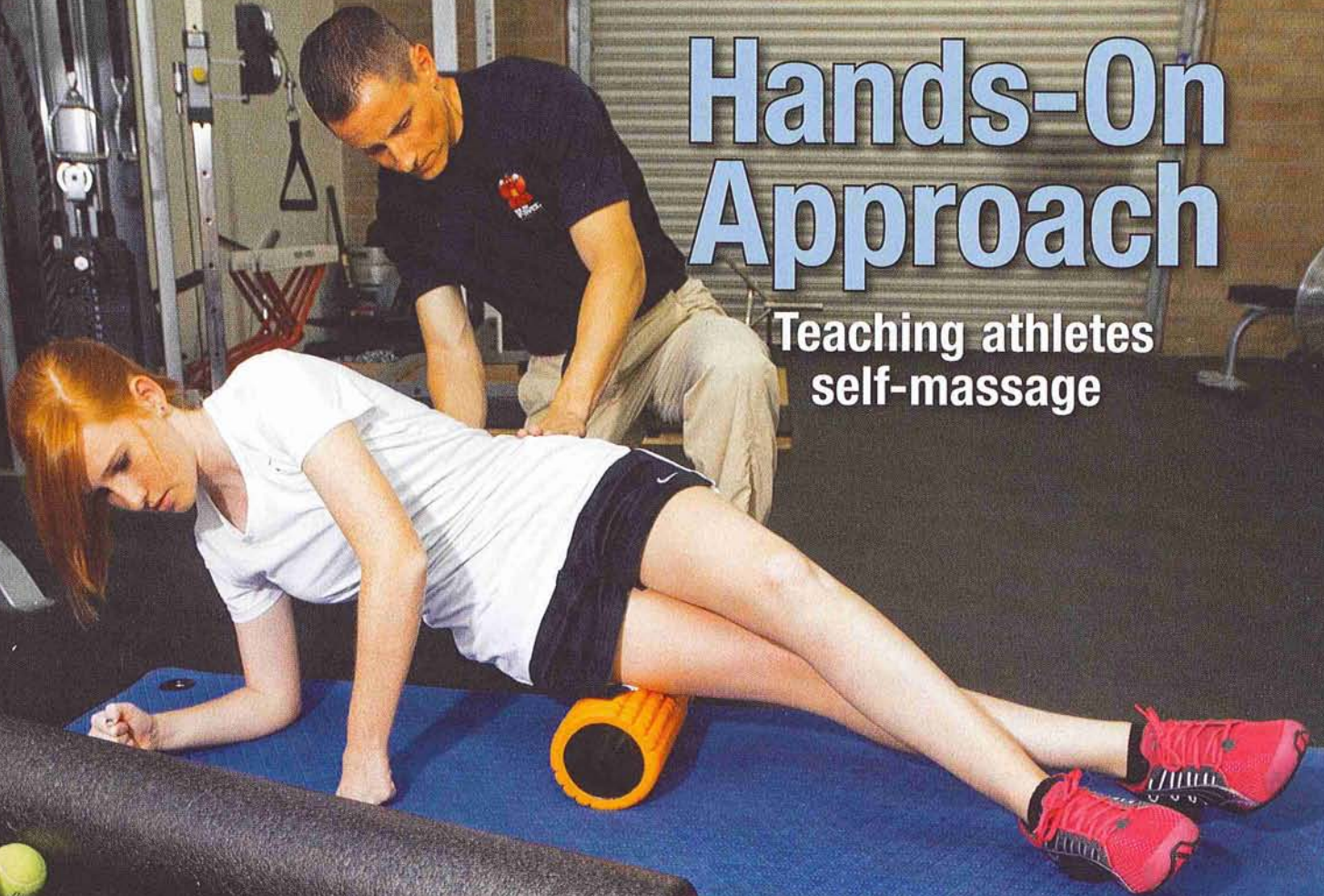


Training & Conditioning

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Hands-On Approach

Teaching athletes self-massage



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HANDS-ON APPROACH

Athletes don't always need to see a massage therapist for treatment. There are plenty of self-massage tools and techniques available that you can teach them to use.

BY KEATS SNIDEMAN

As an athletic performance specialist and massage professional for the past 15 years, I have witnessed several evolutions in the fields of strength and conditioning and rehabilitation. One of the greatest advancements has been increased awareness about the importance of recovery and regeneration—both by athletes and the coaches who work with them. After all, gains from any training session are realized during periods of rest, not work.

Specifically, there has been a boom in the use of self-massage devices such as foam rollers, massage sticks, and other tools. Having a background in massage certainly makes me biased towards the importance of maintaining soft tissue health, but self-massage has been a staple of my work with athletes since the late 1990s because I've seen the advantages firsthand.

First, self-massage can alleviate basic superficial ischemia and tenderness after a workout. The practice can also help an athlete prepare their muscles for better elasticity and compliance prior to static or dynamic stretching.

Additionally, by taking responsibility for their own soft-tissue health, an athlete can monitor whether any specific muscle groups require extra attention. For example, excessive soreness or tenderness in a specific body part or muscle group can indicate overtraining. If soreness is caught and treated before any real pain or loss of function is realized, injury can hopefully be avoided.

The many different self-massage tools and techniques available may be confusing at first. But with proper safety precautions, athletes of all types can easily use self-massage for better recovery and regeneration between workouts.

Keats Snideman, CSCS, CK-FMS, LMT, CNMT, is the Owner of Reality-Based Fitness, LLC, a performance training and massage center located in Tempe, Ariz. He has worked with athletes from the NFL, NBA, MLB, USA Track & Field, and the collegiate and high school levels. He can be reached through his Web site at: www.realitybasedfitness.com.

Author Keats Snideman teaches one of his athletes how to use a foam roller.

THE BENEFITS

Although there is little documented research available on the benefits of self-massage specifically, there is a lot of anecdotal evidence that proves mas-

increase joint range of motion. It is not well understood whether collagenous (scar tissue) fibers or adhesions can actually be altered through any type of massage, but theoretically,

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sage is beneficial for athletes. Though the research is slow to catch up, I'm confident that it will. In the meantime, the bottom line is that if a technique isn't harmful to the athlete, I'm all for trying it.

Massage can benefit athletes' biomechanical, physiological, neurological, and psychological systems. Here's how:

Biomechanical: Exerting mechanical pressure is theorized to decrease adhesions between various tissue layers, improve muscle compliance, decrease passive muscle stiffness, and

massage can influence the organization of collagenous fibers as they are being laid down to repair myofascial tissues damaged during a workout.

Physiological: Again, there isn't much hard data to support it, but massage seems to help athletes improve ischemia by increasing skin blood circulation, blood flow to the muscles, parasympathetic activity (the "rest and digest" part of the autonomic nervous system), and the release of relaxation hormones and endorphins, while decreasing stress hormone (e.g. cortisol) levels.

Neurological: The possible neurological effects result from reflex stimulation of the various receptors in the skin, like mechanoreceptors and proprioceptors, fascia, muscles and their respective tendons (including the golgi tendon organs), nerves, blood vessels, and even ligaments. The goal of reflex neurological stimulation is to decrease neuromuscular excitability of the muscles and minimize trigger point activity and pain, muscle spasm, and excessive tension or "tonus" of the muscles.

Psychological: Athletes who practice self-massage may experience an increased sensation of relaxation in the muscles and decreased anxiety. It is also interesting to note that there is no definitive research showing whether massage is effective in diminishing post-workout soreness—otherwise known as delayed onset muscle soreness (DOMS). However, there are too many anecdotal accounts of athletes feeling a subjective reduction in pain and stiffness following post-workout self-massage to completely dismiss the positive psychological effects.

IMPLEMENTS & IMPLEMENTATION

Self-massage techniques can be used both before and after training, as an adjunct to a warmup or cool down, respectively. For example, a popular protocol is to begin a training session with three to five minutes of self-massage work on the major muscle groups, including the spinal erectors, gluteals, lateral thigh/iliotibial band, hamstrings, calves, quadriceps, adductors, and anterior shin. The athlete would then perform any stretching (static and/or dynamic) necessary. Additional self-massage work with the foam roller could be done after the training session as a means to restore muscle length and tone.

Self-massage is also effective as a separate recovery and regeneration session, especially when performed in conjunction with mobility and flexibility work. One of my favorite times to perform self-massage work is at night, just prior to sleep. Adding static or corrective stretching creates a potent combination that can both enhance the athlete's sleep and possibly reduce stiffness and soreness upon waking.

A variety of self-massage implements and devices are on the market today. Some of the most popular tools that have stood the test of time include foam rollers, massage sticks and canes, and various massage balls or spheres for use with small-ball release techniques. Athletic items such as tennis, lacrosse, or golf balls can also be used.

For athletes who utilize most of their major muscle groups in workouts and competition, I favor using a massage stick and various foam rollers for general release work. For more specific trigger point work or tender spots, using some type of small ball can be more helpful.

There are several sequences I like to use with my athletes who perform self-massage. Though programs will depend on the devices available and the needs of the athlete, here is an example of a general self-massage session utilizing a ball and a firm foam roller:

Bottom of foot: Placing a ball (golf, tennis, or lacrosse) under each foot, emphasize long, slow rolls moving the ball from the base of the metatarsal heads to the heel. Divide the foot into thirds, making sure to cover the entire plantar surface of the foot. Thirty to 60 seconds per foot once or twice should suffice.

Erector spinae and postural reset: Lie



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with a foam roller under your back so your head and sacrum make contact with the roller. Keep both knees bent so your feet are flat on the ground comfortably spaced apart. Perform small side to side movements while trying to keep your torso and pelvis facing upward toward the ceiling with the head remaining on the roller to avoid neck strain.

Slowly roll up and down the lateral border of the scapula to treat the key muscles attaching or crossing that area, including the latissimus and teres major muscles. These are often very sensitive and care must be taken to prevent irritation of the soft tissue structures in this region.

Climb the rope: To perform this mobilization, start from the same position as the postural reset exercise. Put both hands at the side of your torso as if performing a dumbbell bench press. Reach up with one arm straight toward the ceiling while rotating onto the opposite ribcage and shoulder. Keep your head down against the roller to avoid neck strain. This mobilization movement effectively targets the lateral erector spinae muscle on the ribs while also affecting the intercostals rib musculature. This is a transverse plane or "rotational" mobilization.

Overhead reach: From the same position as the previous mobilizations, place both hands outside the shoulders as if about to perform a dumbbell military press. Reach up with one arm overhead so the bicep comes next to the ear while simultaneously bending the spine (like the letter C) to the opposite side. Both the roller and torso will rotate slightly toward the arm you are reaching up with. Continue to alternate reaching overhead between the two arms for a great lateral ribcage, spine, and latissimus dosri stretch. This is more of a frontal plane or "side to side" mobilization.

Spinal erectors & T-spine extensions: Lying on your back (knees bent, feet flat on floor) with a foam roller underneath your shoulder blades and perpendicular to your spine (like a T), roll back and forth with arms hugging your body while gently pushing your feet into the ground. This should lift the hips off the ground so you assume a table-top alignment. Then roll down from your upper thoracic spine (top

of your shoulder blades) to the thoraco-lumbar junction. Although you can traverse down into your lumbar spine, I am not a fan of doing this with a dense foam roller as the last two ribs (ribs 11 and 12) are "free-floating" and can become irritated in some people.

Thoracic spine extensions from T-2 to T-7 or T-8 can also be performed

from this position by returning the hips and buttocks back to the ground while supporting the head with clasped hands. Starting right below the shoulder blades, gentle extensions can be performed for three to five repetitions at each spot before moving up a few more segments. Two and sometimes three spots can be utilized for these mobilizations. Again, make sure to stop right before the thoraco-lumbar junction.

Lattisumus dorsi and lateral scapular attachments: From a side-lying position, place the roller underneath the bottom outstretched arm in the armpit/axillary area. Slowly roll up and down

the lateral border of the scapula to treat the key muscles attaching or crossing that area, including the latissimus and teres major muscles. These are often very sensitive and care must be taken to prevent irritation of the soft tissue structures in this region.

Gluteals and hip rotators: Sit on the foam roller with your arms extended behind you, palms on the floor. Some weight should be placed on the fingers and palms. Cross one leg over the other so that they make a figure "4" shape with the foot/ankle complex of the crossed leg resting on the lower thigh and knee region of the bent leg still on the floor. Lean slightly onto the gluteal area of the crossed leg and gently roll up and down a few inches to treat the superficial and deeper musculature of the buttock area.

Hamstrings and calf musculature: While seated on the ground, place the roller perpendicular to your thighs under the belly of the hamstring muscles. With arms extended behind you for support, shift your weight so the posterior surface of the thigh moves forward and backward over the surface of the roller. By crossing one leg and foot over the other, more load can be applied to target the hamstring musculature.

By sliding down the roller to the center of the calf muscles, the same process can be effectively repeated to treat the gastrocnemius-soleus musculature.

HELPING HANDS

Though this article is about the benefits of self-massage, it's hard to beat the skilled hands of a licensed massage therapist, athletic trainer, physical therapist, or chiropractor. When combined with a skilled assessment of an athlete's needs at a given time of their training year, hands-on soft-tissue therapy can be invaluable. But in reality, this is not always practical or affordable for athletes.

The best way for athletes to stay on top of their recovery and regeneration is to use a combination of self-massage and visits to a clinic or athletic training room for hands-on work. I recommend athletes commit to at least one hands-on treatment per month.

When performing self-massage, the athlete should be tuned in to what is bothering them and communicate this to the massage therapist or sports medicine professional they visit. Together, the athlete and therapist should be able to stave off many injuries, especially those chronic in nature.

Care must be taken to avoid direct pressure behind the knee in the popliteal area and also to protect the wrists and hands by ensuring they are not excessively strained.

Lateral quad/iliotibial band, and tensor fasciae latae muscle: While lying on your side with the bottom forearm propped underneath the shoulder in a side-plank type position, place the roller underneath the bottom thigh. Roll upward and downward from the top of the knee to the top of the thigh. A slight rotation toward the floor with the roller at the top of the thigh can address the small, but thick tensor fascia latae muscles which often harbor some pretty challenging trigger points.

Prone quadriceps and anterior shin: While lying face down, place the roller perpendicular to your body along the mid-thigh. Prop yourself up onto the forearms in a plank position. From here, move forward and backward over the roller so that the entire surface of the anterior thigh and quadriceps musculature is massaged.

By splaying one thigh outwards, the roller can be positioned obliquely to

the body to apply pressure to the groin/adductor region of the inner thigh. Also, by propping up onto the hands and wrists, the roller can then be placed underneath the anterior shin in a "tuck" type of position. By then rolling back and forth on the anterior surface of the shin, one can effectively treat the tibialis anterior and other extensor muscles in that region.

Pay special attention to vulnerable areas such as the wrists and shoulders when performing certain foam roller techniques ... For some athletes, a massage stick may be a better choice for lower-extremity exercises to avoid overloading the wrists and hands.

TEACHING TECHNIQUES

The easiest way to teach athletes how to perform self-massage is through demonstration and clear verbal instruction. Explanation of basic muscular anatomy and fiber direction can help athletes visualize the intended effects prior to treating a specific area.

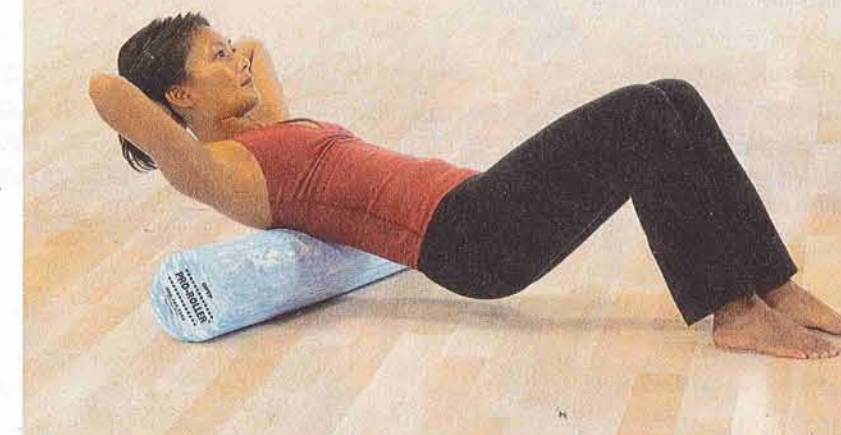
It's important to have the athlete practice the technique in front of you so you can assess their work and make any necessary corrections. For example, proper pressure should be applied to the desired areas, but athletes should take care to hold or support their body safely throughout the process. They should also pay special attention to vulnerable areas such as the wrists and shoulders to

ensure they don't strain or irritate them when performing certain foam roller techniques such as rolling out the gluteals and posterior thigh. For some athletes, a massage stick may be a better choice for lower-extremity exercises to avoid overloading the wrists and hands.

One of the main keys to ensuring a quality response from self-massage is

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to perform each technique slowly with steady, constant movements while focusing on deep, diaphragmatic breathing ("belly breathing"). Many practitioners of self-massage mind-

from a more remote, distant region or group.

Finally, it is important that athletes understand self-massage should not hurt. This is a major misconception

Self-massage work has become an integral part of the athlete performance process, including recovery and injury prevention.

lessly go through the motions quickly, without any real focus on what they are trying to accomplish, which yields less than desirable results.

I also like to educate the athletes I work with on the continuous nature of the body through the fascial system, and that there really aren't any isolated muscles per se, only chains of connective tissue (called fascia) that weave throughout the entire body. Once athletes understand this concept, they tend to become more aware of the interconnectedness in their body and realize that tightness or discomfort in one area of the body could come

about massage in general, and it is especially important to dispel when it comes to self-massage. The old mantra of "no pain, no gain" does not apply here. No massage technique should ever result in pain.

Some of my athlete clients are shocked when they realize how little pressure or force I use when treating a sensitive or tender area. I tell them the key is the specificity of the work on the targeted area, which often makes it feel like I'm using a lot of pressure when in fact I may be using very little at all. The same concept applies to self-massage.

One of the things I like to do when working with a new client is talk about the pain scale. On a scale of one to 10, one should feel like no pain at all and 10 should be unbearable pain. I tell athletes that therapeutic work should be manageable from a pain standpoint and that we should stay in the range of mild to moderate discomfort, which falls somewhere between four and six on the scale. The simple goal to improve tissue tone and quality can be achieved without excessive pain during or after a self-massage session.

Self-massage work has become an integral part of the athlete performance process, including recovery and injury prevention. When performed properly, it has many benefits for athletes, including maintenance of soft tissue and orthopedic health, as well as assistance in the process of optimizing mobility and posture for improved sports performance. And if an athlete feels better both mentally and physically after a session, that's an added benefit. There is a place for self-massage in every athlete's regimen. ■



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