



Reducing Post-Exercise Soreness and Decreasing Recovery Time.....What You Need to Know

Part 1 of 2

Alan Tyson PT, ATC

Muscle soreness following a vigorous or new workout is frequently inevitable, and though it may be uncomfortable, it's actually a good thing.

It means that you've effectively stressed and challenged your muscles, and as your muscle fibers repair themselves, they'll grow stronger in the process. Post-workout soreness is a *normal* response to exertion and part of an adaptive physiological process that leads to increased strength and stamina.

Delayed onset muscle soreness (DOMS), or the muscle soreness you've experienced one to two days after exercise, is actually caused by inflammation stemming from microscopic tears in your muscle fibers, or more specifically, micro-tears between your muscles and their surrounding tissues. These damaged muscles release biochemical irritants that trigger mild inflammation, which awakens your pain receptors.

Try to include some of these in your post exercise nutrition to help speed the recovery.

Amino Acids to Help Quell Muscle Soreness

Carnosine is composed of two amino acids, beta-alanine and histidine, found in many tissues but most notably in your muscles. It serves several important roles, including helping to buffer acids in your muscles and serving as a potent antioxidant to quell inflammation.

It appears particularly useful for improving anaerobic high-intensity exercise performance *and* may help reduce muscle soreness. However, if you are considering using carnosine as a supplement, it is important to realize that carnosine itself is probably *not* that useful because enzymes rapidly break it down to its constituent amino acids (beta-alanine and histidine), which are then absorbed by your muscles and re-formed back into carnosine. Most studies find that if you want to increase athletic performance with carnosine, your best bet is to use **beta-alanine** instead, since beta-alanine appears to be the rate limiting amino acid in the formation of carnosine. The foods with the highest amount of useful dietary dipeptides like carnosine would be animal proteins like eggs, whey protein, poultry and beef.

Many recommend 20 grams of protein within 30 minutes to one hour post exercise and remember this period starts as soon as the exercise stops or cool down begins. So for team sport

athletes if it takes you 30 minutes to get to your parents after the game due to meeting with coach, talking to friends, getting equipment together etc, the clock is continuing to tick.

Gently Exercising Your Muscles Also Relieves Soreness

Another option for relieving your post-workout aches and pains is to do a bit of exercise. Contrary to making the soreness worse, exercise is just as effective as massage in relieving muscle pain, according to one study. Researchers said:

"Active exercise using elastic resistance bands provides similar acute relief of muscle soreness as compared with massage. Coaches, therapists and athletes can use either active warm-up or massage to reduce daily onset muscle soreness acutely, e.g. before competition or strenuous work.

Foam Rollers, Cold Water Immersion and Other Sore Muscle Tips

Foam Rollers are easy to use after a hard workout or competition. Roll over each of the larger muscle groups but remember that the muscle although initially "tender" should be less uncomfortable after one minute of rolling. For the lower body make sure to roll the calves, quads and glutes. For upper body make sure to roll the lats, posterior shoulder and stretch your pects.

Cold water and ice baths, otherwise known as cold water immersion or "cryotherapy," is another popular technique among amateur and professional athletes, as it is thought to help reduce muscle inflammation and pain after exercise, as well as speed recovery time. Most studies on cold water immersion report minimal or no side effects, so if you're willing to spend 20 minutes or so in a cold tub of water (about 10-15 degrees C or 50-59 degrees F), you may very well find some relief.

Deep breathing or meditative breathing is also shown to help with relaxation and recovery. One easy way to start is the "4-4-6" method. Breathe in through your nose for a count of 4, hold the breathe for a count of 4 and then breathe out through your mouth for a count of 6. You should feel like you have no air left after the exhalation. Practice this for 10 minutes daily to help with relaxation.

In the next article we will discuss what **not** to do and also what natural remedies may help.

****Remember to**

- 1. Always plan ahead for what you are going to eat**
- 2. Obtain adequate amounts of protein**
- 3. Work on Flexibility**
- 4. Supplement your diet with a fish oil and multi-vitamin**

Let me know if I can help. Email me at architechsports@gmail.com

God Bless,

Alan Tyson

Physical Therapist, Athletic Trainer, Certified Strength and Conditioning Specialist