

# Is My Pain Soreness or Injury?

Daryl C. Rich, DC, CSCS, ART®

It is simply soreness after your workout, or is it injury? Hurt or harm? It's an important question to ask yourself when you wake up the day after a hard workout or a day in the yard. How do you know the difference? And better yet, how do you prevent the pain?



Hurt vs. Harm is a principle I teach my patients to help them understand when pain is good and when it is not. **Pain is not something to always fear and avoid, because “hurt” can be just what your body needs.** “Hurt” is when you feel achy or sore hours to days after exercise, not during the exercise. “Hurt” is muscular pain found in the body of the muscle, usually in the extremities and the abdominals. This pain is nearly gone when at rest, but becomes painful with the initiation of movement and then better again with sustained movement such as walking. “Harm” is when pain occurs during the exercise, often in or around a joint or the spine. “Harm” is pain that does not go away with movement and/or continues to get worse with more movement. “Harm” continues to be painful even when your body is at rest.

Harm often occurs because of previous injury, trauma, or poor biomechanics during exercise. Any of these causes should be reason to cease exercise until the pain has been thoroughly evaluated. Hurt is caused by a good exercise performed too long or without adequate training or when adequate recovery protocols are not followed.

The recovery period is when your body repairs damaged muscle and connective tissue to make you stronger. Exercise causes muscle breakdown by creating an inflammatory hormone response with higher cortisol, lower testosterone, and reduced

neuromuscular function. The skewed testosterone-to-cortisol ratio and decreased power and strength can last for as long as 60 hours after exercise.

Even though your body is acting to make you stronger, this is a poor anabolic environment. Researchers suggest it's caused by the combination of large metabolic stress, muscle damage, negative energy balance, and depleted glycogen reserves after intense physical activity. This physiological process occurs after anything that is more strenuous than your regular activities—running, weight training, outside chores, house cleaning, etc.

Not only does the body lose strength and power and create scar tissue during this time period, the brain can be affected as well. Often this same post-exercise activity can cause mood disturbances for up to 36 hours after the exercise. Low mood is related to the stress hormone response and possibly to a high degree of muscle damage and soreness.

Follow these steps to maximize recovery and minimize inflammatory pain:

- 1) After a high-intensity, high-volume workout or strenuous physical activity, allow for at least 60 hours of recovery before you repeat the activity.
- 2) Light physical activity during this 60-hour window should be performed to increase blood flow into the tissues to help remove metabolic waste products.
- 3) Ensure adequate glycogen stores and take branched-chain amino acids (BCAAs) before the strenuous activity to decrease muscle damage and optimize energy stores. Eat a high-protein, healthy-fat meal a few hours before the exercise.

4) Maximize protein synthesis and tissue repair with during- and post-workout nutrition. Take 10g of L-glutamine during or shortly after the exercise.

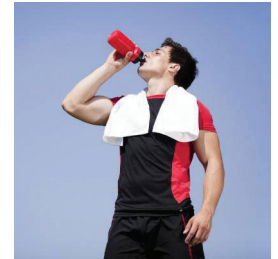
5) Take at least 20 grams of whey protein and a high-quality carb addition within the first hour after the exercise. Research shows that supplementing with protein and carbs can lead to a lower cortisol response and speed the replenishment of glycogen stores. This is most important for athletes and for those who are within normal body-fat compositions. Those who are overweight should avoid the carb addition to promote fat loss. A good carb addition would be pineapple or cranberry juice.

6) Avoid alcohol and NSAID painkillers post-competition because both will significantly delay recovery and inhibit tissue healing in the long run.

7) Get extra antioxidants in the form of berries and green vegetables. Research shows blueberries can decrease muscle soreness after intense eccentric exercise. The amino acids L-aurine and L-glutamine may be beneficial as well as vitamin C, which can help clear cortisol.

8) Take a few grams of fish oil after the exercise. Fish oil has been found to reduce muscle soreness after intense training.

8) Hydrate with water for up to 48 hours post exercise to help the kidneys filter and excrete the by-products of cellular metabolism.



9) Use an ice bath before bed to force the waste metabolites out of the tissues. Fifty-degree water for no less than 12 minutes is optimal.

10) Get to bed before 10:30pm. The body has the greatest ability to heal itself between 10:30pm and 2:00am. Every minute after 10:30pm that you are not sleeping diminishes the recovery effort and can lead to problems the next day.