

RECOVERY AFTER TRAINING AND COMPETITION

by Jason C. Dorman, MS, CSCS, Operations Manager

Recovery is essential to restore an athlete's physiological and psychological capacities. Prompt and sufficient recovery between exercise bouts and training sessions can also improve performance by enhancing training quality and tolerance to the training load, as well as improving the athlete's adaptation to training. Without proper recovery following multiple training sessions or competitions, an athlete increases the risk for poorer performance and overuse injuries.

RECOVERY STRATEGIES:

Many recovery approaches and interventions are utilized by athletes today. These include nutritional tactics, active recovery ("warm down"), stretching, hydrotherapy, and wearing compression garments. Some recovery strategies are supported by solid scientific evidence, while others continue to be investigated and experimented with.

NUTRITION (POST-EXERCISE; WITHIN TWO HOURS):

Water, carbohydrate, and protein are the priorities; however, with heavy sweating, sodium replacement may also warrant particular attention. A carbohydrate-electrolyte sports drink, protein snack (e.g., energy bar, yogurt, nuts), or other carbohydrate sources (e.g., fruit, chocolate milk, pretzels) work well for immediate nutrient recovery.

- 0.5 grams of carbohydrates per 1 lb of body weight¹
- 20 oz Gatorade + medium sized banana + 6 oz low fat yogurt = 90 grams of carbohydrate
- Example: 180 lb individual should consume ≈ 90 grams of carbohydrate

ACTIVE RECOVERY:

Low-intensity exercise that utilizes the major muscle groups just used in training or competition is a good way to let your body know that it has finished exercising and help with metabolic waste removal and muscle cell recovery. As little as five minutes can be effective.

STATIC STRETCHING:

Stretching your muscles after exercise while the body is at rest (each stretching position is held at a stable position for 15-20 seconds) can relax your muscles and increase your range of motion. The intent is to also accelerate recovery, as well as reduce injury risk and enhance performance the next time you train or compete.

COMPRESSION GARMENTS:

Given the demands that training and competition has on muscle structure, compression garments (compression leggings and tops) maybe useful in aiding recovery and subsequent performance by reducing soreness and swelling in the muscles related to muscle damage from exercise².

HYDROTHERAPY:

Hydrotherapy techniques help in reducing the physiological responses to exercise related muscle micro-damage associated with prompting "Delayed-Onset Muscle Soreness"³.

CONTRAST WATER THERAPY (SPA POOL/PLUNGE POOL):

Ideally used at the end of a training day. Do not use if you have a very recent injury or bruising. Try to build up a total of five minutes in plunge pool.

- One minute spa pool (≈100° F)
- One minute plunge pool (Relax as much as possible ≈55° F)
- Repeat Cycle
- Always finish on cold (plunge pool)

COLD WATER IMMERSION (PLUNGE POOL):

Ideally used following a heavy weights session, between training sessions, or during the acute phases of muscle injury, soreness or bruising. Try to build up to a total of five minutes in the plunge pool.

- One minute plunge pool (Relax as much as possible ≈55° F)
- Two minutes out of water (room temperature)
- Repeat Cycle

RECOMMENDATIONS:

After a long or very strenuous training session or competition, it is critical for athletes to implement a deliberate and prompt recovery strategy. The nutritional priorities are to replenish water, electrolytes (primarily sodium), and carbohydrate, as well as a little protein to aid in muscle rebuilding. To optimally re-fuel energy (carbohydrate) stores in the muscles, sufficient and rapidly digested and absorbed carbohydrate sources are recommended within the first two hours post-exercise.

A sports drink is an effective source for water, electrolytes, and carbohydrate. However, protein intake at this time helps you to also achieve more optimal muscle training adaptations. Therefore, recovery drinks containing carbohydrate, protein, and electrolytes may be your best choice.

A post-exercise "warm down" dissipates body heat and allows other physiological aspects of recovery (e.g., heart rate) to return to pre-exercise levels more slowly and safely. Static stretching immediately after the active recovery phase can assist in relaxing the muscles post-exercise and accelerate recovery⁴. If hydrotherapy recovery is available, this may be further beneficial in enhancing muscle recovery, more promptly reducing core body temperature and heart rate, and increasing an athlete's ability to repeat a same-day performance³.

Athletes can also wear compression garments during or after training, as this may provide relief from muscle soreness and swelling². Try adding one or more of these recovery strategies to your workouts or the next time you compete athletically. You'll be surprised how much better you feel.

Sanford Clinic Orthopedics
& Sports Medicine
Van Demark Building
1210 W. 18th Street, Suite G01
Sioux Falls, SD
(605) 328- 2663

Sanford Orthopedics
Fast Track Clinic
(No Appointments Necessary)
Monday – Friday
8 a.m. – 5 p.m.

FOR MORE INFORMATION CONTACT:

Jason C. Dorman, MS, CSCS, Operations Manager
Sanford Sports Science Institute
1210 W. 18th St. Suite 204 • Sioux Falls, SD 57104
(605) 328-4750
jason.dorman@sanfordhealth.org

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