

Recovery Nutrition for the Injured Athlete

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Though never planned, injuries are common in sports. As a result, we, as athletes, are vulnerable to spending the bulk of our competitive season seeking ways to enhance recovery. While corrective surgery and physical therapy are often key players in the recovery process, nutrition intervention can help enhance the healing process.

Below, I address the four primary goals of recovery as well as the nutritional strategies that will have you back training and performing at peak levels in record time. Goal #1:

Correct Calorie-Protein Imbalance

Following an injury, our body's protein, carbohydrate and fat-related metabolic pathways are sent into overdrive causing our total energy expenditure and consequent individual calorie needs to increase by as much as 30 percent, depending on the type and magnitude of the injury and if surgery was needed. When we fail to match these increased metabolic needs — which is often the case post-surgery since anesthesia and pain-killers often kill appetite — a protein-calorie deficit or catabolic state is inevitable. This often results in a nutritional nightmare when looking to speed recovery as it not only initiates breakdown of muscle but also depresses immune function and exacerbates inflammation.

The following link, supplied by Cornell University's Medical School, provides a calculator utilizing the Harris Benedict Formula to help compute individual energy demands at rest as well as post-injury and/or surgery: www-users.med.cornell.edu/~spon/picu/calc/beecalculator.htm. Goal #2:

Facilitate Optimal Immune Function

For a good 5-7 days post-injury and/or surgery, there is an increased breakdown of skeletal muscle triggering a series of metabolic and hormonal changes that depress our immune function thereby hindering the healing process and overall recovery. To accommodate increased protein turnover and support immune function, an increased protein intake is often warranted with protein recommendations during recovery falling at a rate of one-half to three-quarter gram per pound of body mass. To encourage optimal absorption and utilization of protein, total protein intake should be divided among 4-6 smaller meals throughout the day, each focusing on lean protein sources such as skinless chicken breast and fish. Also, supplemental protein sources, such as whey protein isolate, may be beneficial when appetite does not allow for adequate amounts of protein to be obtained from whole foods.

In addition to protein, therapeutic doses of L-Glutamine can be helpful. L-Glutamine is one of the most abundant amino acids in the body yet often depleted when the body is under stress as with injury and/or surgery. Clinical studies have demonstrated a beneficial immune response in patients supplementing with approximately 20 grams of L-Glutamine per day in the days immediately preceding injury and/or surgery. Goal #3:

Encourage Repair of Tendons & Ligaments & Promote Cell Growth

The majority of athletic injuries involve strains and sprains to tendons and ligaments, which are strong bands of fibrous or connective tissue. Because ligaments and tendons generally have a poor blood supply, incomplete healing is common

after injury and can become a source of chronic pain and weakness ultimately inhibiting a return to peak performance.

While physical therapy is a proven remedy for repair of tendons and ligaments, the effect of nutrition is not as clear although glucosamine sulfate is one particular nutrient that has demonstrated a broad range of applications for repair of cartilage and other connective tissues. Made naturally in the body, glucosamine provides the joints with the building blocks (structural proteins) they need to repair damage caused by osteoarthritis or injury. Furthermore, glucosamine exerts anti-inflammatory effects, which is especially beneficial when recovering from injury. Based on results from human clinical trials, a daily dose of 750-1,500 milligrams of glucosamine sulfate for a period of at least eight weeks can help normalize cartilage metabolism and initiate a reversal of degenerative osteoarthritis — ultimately aiding recovery. Goal #4:

Decrease Inflammation & Improve Wound Healing

Trauma — whether it results from surgery, training or injury — is damage to tissue that leads to inflammation, bruising and breakdown of the affected tissue. Failure to decrease inflammation and address wound healing can cause scar tissue to develop resulting in reduced function and/or mobility and poor recovery times. Fortunately, dietary manipulation can help mute inflammation thereby aiding recovery.

For instance, researchers in Pennsylvania recently discovered that 50 grams (four tablespoons) of extra-virgin olive oil demonstrates anti-inflammatory properties 10 times the strength of the ibuprofen dose recommended for adult pain relief thanks to a compound called oleocanthal found in olives that inhibits the release of enzymes responsible for inflammation. Omega-3 essential fatty acids found in foods like cold-water oily fish, flaxseed, walnuts, canola oil and pumpkin seeds have demonstrated similar strong anti-inflammatory qualities.

In addition, fruits and vegetables contain phytonutrients that have been shown to stop the formation of inflammatory agents. Extracts from tart cherries, for example, were recently found to stop the formation of some anti-inflammatory agents 10 times better than aspirin in a study by Michigan State University researchers. Sweet cherries, blackberries, strawberries and raspberries produce similar effects and blueberries provide additional benefit by boosting the body's production of heat-shock proteins that help repair the damage from oxidative stress, inflammation and toxins. Due to the therapeutic nature of phytonutrients in fruits and vegetables, 50 percent of each meal should aim to include all the hues present in a rainbow.

Want more tips to enhance your recovery from injury? Kim Mueller, owner of Fuel Factor Nutrition (www.Fuel-Factor.com), is a registered dietitian, exercise physiologist and competitive athlete who recently had first-hand experience with injury requiring surgery and is currently practicing the nutritional strategies shared in this article as means to speed her recovery. Customized menu planning, nutrition coaching and sport enhancement programs are available to athletes worldwide. Contact Mueller at kim@Fuel-Factor.com.