

Support for Exercise Recovery

Developed and reviewed by the clinical, chiropractic, and naturopathic members of the Standard Process team

The Physiology of Exercise Recovery

Regular exercise has been shown to improve both mental and physical health. However, exercise can be an acute stressor and pro-inflammatory in the short term. Patients may face issues related to soreness, fatigue, and hydration that can impede their ability and desire to exercise regularly. This is especially the case for patients who are implementing new exercise routines or engaging in strenuous workouts.

Exercise causes an increase in acute inflammatory processes. The degree to which pro-inflammatory cytokines are elevated with physical activity depends on factors such as exercise duration, intensity, and the individual's fitness level.¹ For example, intense exercise drives a larger increase in the pro-inflammatory cytokines TNF alpha and IL-6 when compared with moderate exercise.² This occurs because strenuous exercise requires higher oxygen consumption which then leads to the production of more reactive oxygen species (ROS); more ROS disrupts oxidation-antioxidant homeostasis.³

Muscle soreness is a result of microtears in the musculature and connective tissue, creating a temporary increase in inflammatory cytokines.³ These microtraumas are a natural part of the muscle development process and are normally resolved through anti-inflammatory mediators. Patients may present with delayed onset muscle soreness (DOMS) that peaks 24-74 hours after exercise. DOMS can occur with novel or intense exercise and occurs more often with exercise that includes eccentric contractions.⁴

Nutrition and lifestyle practices have the potential to support the healthy resolution of acute inflammation, muscle discomfort, and hydration challenges post-exercise. By helping patients through these issues, the clinician can support a consistent exercise routine and reinforce positive habits.

Supportive Lifestyle Practices

- Recommend soft tissue therapies to reduce DOMS and enhance muscle recovery. Therapies may include massage, instrument-assisted soft tissue mobilization, myofascial release, foam rolling, and acupuncture.⁵⁻⁸
- Yoga can be an effective adjunct to other forms of exercise by enhancing flexibility and reducing muscle tightness and soreness.⁹
- Educate patients about proper hydration, including the importance of restoring electrolytes after strenuous workouts.¹⁰
- Prescribe cold therapy such as cryotherapy or an ice bath post-exercise. These tools have been shown to reduce muscle damage and inflammatory markers.¹¹

Whole Foods Nutritional Recommendations

- Recommend consumption of protein for muscle growth and repair.¹² Good sources include poultry, fish, beef, eggs, beans, lentils, and whey.
- Recommend consumption of antioxidant-rich whole foods to support a healthy inflammatory response and neutralize free radicals.¹³ The antioxidant vitamins A, C, and E can be found in colorful fruits and vegetables. Vitamin C is also a key building block of collagen which is the foundation of cartilage, ligaments, and tendons.¹⁴
- Recommend the inclusion of omega-3 fatty acids as they have been found to decrease muscle recovery time and support a healthy inflammatory response.¹⁵ They are found in fatty fish such as salmon, mackerel, tuna, and sardines. Plant sources include chia seeds, flaxseeds, and walnuts.

Dietary Supplement Regimen



Whey Pro Complete

Suggested Use: **2 heaping tablespoons (scoops), 1-3 times per day**

Whey Pro Complete is a whey protein powder that:

- Helps promote satiety*
- Supports muscle growth and repair processes*
- Can be mixed in a supplement shake or added to foods
- Excellent source of protein that contains all essential amino acids



SP® Power Mix

Suggested Use: **1 heaping scoop in 8 oz cold water, 1 serving (13 g) per day**

SP® Power Mix is a superfood powder that provides a whole food, plant-based blend of phytonutrient-rich fruits, vegetables, oats, and algae.

- Contains a blend of superfood-based ingredients — several of which are grown on the Standard Process certified organic farm*
- Provides ingredients with antioxidant activity, including vitamin C, which is involved in the synthesis of collagen*



Olprima™ EPA|DHA

Suggested Use: **2 softgels per day**

Through a 55:45 ratio of omega-3s EPA and DHA, Olprima™ EPA|DHA supports cardiovascular and brain health while supporting the body's healthy inflammatory response.*



Saligesic

Suggested Use: **1 tablet 2-4 times daily**

Saligesic contains Willow stem bark which is used traditionally to:

- Support musculoskeletal system health*
- Help maintain and support healthy joints*
- Ease the temporary mild joint and muscle discomfort associated with exercise*
- Temporarily relieve mild, occasional exercise-related lower back discomfort*

Assessment of Exercise Recovery

In Office/Physical Exam

- Assess energy level and sleep quality
- Track heart rate variability (HRV) over time
- Consider a 4-point diurnal cortisol measurement (urinary, saliva, blood)
- Assess hydration status

- Physical exam: Palpate for taut and tender fibers or trigger points, assess active and passive range of motion to identify movement restrictions
- Perform a comprehensive history to identify posture and movement patterns

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