



## Recovery Nutrition - four goals to set with your athletes!

Optimising nutrition after exercise can better maintain subsequent training quality, facilitate training adaptations and better maintain immune function. Failing to consider the role of nutrition in recovery can result in fatigue, impaired performance, increased muscle soreness or injury and illness.

While nutritional recovery strategies are important for all athletes, targeted nutrition interventions are particularly important for athletes training more than once a day or when sessions are in close succession over consecutive days (e.g. evening session followed by early session the next morning).

Recovery strategies should be individualised for your athletes based on the type and duration of exercise undertaken, training goals and available time until the next session. The expert guidance of an [Accredited Sports Dietitian](#) can assist with this, integrating individual athlete preferences.

### Four goals of nutrition recovery

1. Refuel
2. Repair
3. Rehydrate
4. Revitalize

#### Goal 1: Refuel... Replenishment of fuel stores

Carbohydrate is a primary fuel used during intense exercise and depleted glycogen (carbohydrate in the body) stores need to be replaced after the session. Failing to replenish fuel stores can contribute to fatigue and compromise your athlete's subsequent training capacity. If the time between training sessions is short (<8 hours), your athletes should consume rapidly digested carbohydrate as soon as practical after exercise. In these situations, refueling with 1.0-1.2g carbohydrate per kilogram body weight (e.g. 70-85g carbohydrate for a 70kg athlete) within the first hour is recommended, perhaps a little less (0.8g per kilogram body weight) if co-ingested with some protein rich food.

Athletes with longer recovery periods between sessions (especially if more than 24 hours), can integrate their recovery nutrition into their usual eating pattern (e.g. dinner can meet recovery needs following evening training).

Nutritious carbohydrate rich food should also be considered at subsequent meals and snacks as full restoration of glycogen stores can take upwards of a day if depleted. Refueling soon after exercise also helps to restore immune function, which can be impaired during intense exercise.

#### Goal 2: Repair... Protein for muscle repair, growth & adaptation

Integrating some protein rich food (15-30g of protein depending on body size) into the post-training snack/meal amplifies the muscle building signals turned on by exercise, promoting muscle repair, growth, and adaptation.

Exercise turns on protein metabolism for upwards of 24-48 hours, so it makes sense to include small serves of protein rich food into meals throughout the day. For more information on the types and timing of protein, please refer to our fact sheet on [Protein- rich meals for muscle health](#)

#### Goal 3: Rehydrate... Replacing fluids and electrolytes lost in sweat

As sweat losses during exercise often exceed voluntary fluid intake, fluid replacement or rehydration is necessary post-exercise to avoid the performance implications of dehydration. Given ongoing fluid losses in recovery (continued sweating, respiratory losses and urine production) a volume equal to 125-150% of the fluid deficit post exercise is advocated. This can be easily estimated by simply weighing before and after exercise. For example, if weight loss following exercise was 1 kilogram, 1.5 litres of fluid should be consumed over the next ~2-4 hours, depending on the level of dehydration. An [Accredited Sports Dietitian](#) can assist your athletes calculating their sweat rate, and thus individual fluid needs during and after exercise.

While sports drinks are excellent during fuel demanding exercise, higher electrolyte solutions (the oral rehydration solutions you might have been given when you are sick) are advocated when aggressive rehydration is required as they better retain the ingested fluid.



Water is the recommended fluid of choice for junior athletes and can be an effective fluid replacement for athletes of all ages, so long as foods rich in sodium (e.g. bread or crackers, cereals, sauces etc.) are integrated into the recovery meal/ snack.

Milk is also an excellent fluid choice, especially for your athletes who may experience appetite suppression after exercise. Milk has a similar electrolyte composition to sports drinks with the added benefit of carbohydrate and protein to support recovery goals while also promoting better delivery of fluid to the stomach. For further information, please refer to our fact sheet on [Dairy and Sports Performance](#).

#### **Goal 4: Revitalize...Support your athletes' immune function**

Including a variety of fruits and vegetables in recovery meals will help your athletes consume a wide range of vitamins, minerals, and antioxidants without the need to supplement, important for their immune health and fighting off the free radical damage that accompanies intense exercise.

#### **What are some of the key challenges that can influence your athlete's recovery goals?**

- Reduced appetite post-exercise... take advantage of nutritious drinks like milk shakes and smoothies to simultaneously meet needs.
- Busy schedules... ensure your athletes have packed nutritious and non-perishable snacks and drinks across their day.
- Smaller energy budgets...discuss with your [Accredited Sports Dietitian](#) - bringing forward the next meal to meet nutritional goals instead of adding in another snack can help.
- General fatigue, lacking motivation to prepare meals...encourage your athletes to prepare meals and snacks in advance to ensure ready access to nutritious, tasty options or consider the use of nutritious and well – balanced ready - made meals.

#### **Take home messages**

- Nutrition is a crucial part of your athlete's recovery and has been shown to positively affect subsequent exercise performance and should be prioritised when the next exercise session is within a short space of time.
- Recovery plans should be tailored to meet the individual carbohydrate, protein, fluid, and electrolyte needs of your athlete, and often need to be considered for several meals, not just the immediate post-exercise meal/ snack.
- To develop a recovery plan to suit your athletes individual requirements, click [here](#) to find an Accredited Sports Dietitian near you.

