

**GOOD HEALTH AND NUTRITION**

# SPORTS NUTRITION



Good nutrition is vital for performance, whether you're a professional athlete or a weekend warrior.

The Australian Dietary Guidelines recommend 2.5–4 serves from the dairy food group per day for a variety of health benefits. For athletes and active Australians, dairy foods offer extra benefits. They're known for their calcium content, but are also high in protein and can be a great source of electrolytes for rehydration. This unique composition means milk, cheese and yoghurt can be used as targeted sports foods in a range of situations around exercise.

## Before exercise

Although individual goals vary, a pre-exercise meal or snack usually aims to top up carbohydrate stores in the muscle and optimise hydration. Hydration is particularly important in hot conditions, as dehydration can reduce performance and increase perceived effort or discomfort associated with exercise.

When planning what to eat before activity, it's important to choose foods that are familiar and easily digested to avoid gastrointestinal discomfort. Dairy foods like flavoured milk, yoghurt and dairy desserts provide fluid, extra carbohydrate and are low in fibre, helping to maximise gut comfort.

Some athletes worry that dairy foods before sport will cause gut problems – but recent research has debunked this myth. A study in competitive female cyclists compared gut comfort and performance when they ate either a breakfast containing three serves of dairy or a similar meal that was dairy free. The study found there were no negative effects on gut comfort or sporting performance – even with daily dairy recommendations concentrated into a single meal before a strenuous cycling workout.

There may also be some benefits to bones from a rich source of calcium just before activity, especially in activities like cycling which don't provide the bone-building benefits of high-impact exercise.

## Recovery

The period following exercise is an opportunity to replenish the body and allow it to recover and adapt.

Athletes may need:

- fluid and electrolytes if rehydration is required;
- carbohydrate to refuel muscles; and
- high-quality protein to promote muscle recovery and regeneration.

When there's only a small amount of time (less than eight hours) between hard training sessions or competitive events, it's usually a good idea to have a meal or snack in the 30–60 minutes after exercise. This provides muscles with the building blocks needed for effective recovery. When there is more time between bouts of exercise, it's less critical to start the recovery process immediately and your next scheduled meal or snack can provide the necessary nutrients.

Milk, cheese and yoghurt can contribute to several recovery goals by providing valuable amounts of the important nutrients.

### TIP



Ensure recovery foods are on hand when you need them by using an insulated lunch box or freezer pack to keep foods chilled, or trying UHT products.

## Rehydrate

For effective rehydration, fluid needs to be taken in adequate volumes to replace sweat losses. This amount will vary between individuals and depends on factors including the type of exercise and environmental conditions. Electrolyte-containing fluids help ensure the fluid is retained more effectively by the body.

Milk and higher-fluid dairy foods, like smoothies, yoghurt and custard, provide the body with a great source of water and electrolytes. In fact, the sodium concentration of milk is similar to that of sports drinks, with several studies showing that it is equally effective (or even better) than sports drink or water for rehydration. Milk and flavoured milks offer additional nutrients that may help the body retain fluid and milk is also better for dental health, as it is less acidic. The extensive variety in flavour, texture and taste of dairy products may also make rehydrating more enjoyable and enhance rehydration.

## Refuel

In the period following exercise, there may be a need to replace carbohydrate stores in the liver and muscle by eating carbohydrate-rich foods. Sweetened dairy foods, like flavoured milk, dairy desserts and yoghurts, all provide carbohydrate along with a host of other essential nutrients. Whether they are included as part of a meal or eaten on their own as a snack, dairy foods offer appealing options to replace the carbohydrate fuel used during exercise.

Why are dairy foods great choices for refuelling?

- 1 They are easy to consume and widely available.
- 2 Their energy content can be altered by making different choices to meet individual needs (e.g. choosing low-fat products).
- 3 They contain essential vitamins and minerals that contribute to overall health, including calcium, iodine, vitamin B12 and potassium.
- 4 They contribute to other aspects of recovery nutrition: rehydration and muscle repair.

## Growth, repair and adaptation

After exercise, muscle tissue undergoes repair and adaptation to make it even better than it was before. Consuming high-quality protein promotes this process. Several studies have suggested the optimal serve of high-quality protein needed to enhance gains in muscle strength and function following resistance exercise, high-intensity interval training and endurance events is 0.3g per kg of body mass. Given the variation in body shape and size between active people, this translates to a range of between 20–25g of protein. Dairy protein has been found to be superior to other protein sources in optimising muscle protein synthesis following resistance training.

### PRACTICAL RECOVERY CHOICES 20G OF PROTEIN =

600ml flavoured milk; or

200g tub fruit yoghurt and 30g nuts; or

½ cup low fat cottage cheese with crackers

## Supporting an active lifestyle

### Health

Calcium and other essential nutrients in dairy foods contribute to the healthy formation and maintenance of strong bones and teeth. Frequent and high-intensity exercise can suppress the immune system, an effect which can be reduced by ensuring adequate energy, protein, carbohydrate, vitamin and mineral intake. Dairy foods contribute towards these nutrient targets.

### Body composition

Research has shown consumption of dairy foods (or whey protein) is associated with greater increases in lean muscle gain and fat loss for those on an energy restricted diet. Epidemiological studies have also found a positive or neutral relationship between eating dairy foods and reduced risk of obesity.

For some individuals, a diet rich in dairy foods helps achieve physique goals.

### Minimum recommended number of serves from the dairy food group

	Age (years)	No. of serves per day
Men	13–18	3 ½
	19–70	2 ½
	70+	3 ½
Women	13–18	3 ½
	19–50	2 ½
	50+	4
	Pregnant or breast feeding	2 ½

Adapted from: 2013 Australian Dietary Guidelines. The dairy food group includes milk, cheese, yoghurt and/or alternatives.\*



\*Alternatives include: 250ml soy, rice or other cereal drink with at least 100mg of added calcium per 100ml.