



## Rowing

August 2009

### About Rowing

Rowing requires great power and strength, and uses both the aerobic and anaerobic energy systems. Racing is a near-maximal effort lasting between 5½ to 7 minutes over 2000m depending on the class of boat and the competition level. Classes differ between:

- The number of occupants in the boat (single, double/pair, four/quad, eight)
- The presence of a coxswain steering
- Whether the boat is sculled (two oars per person) or rowed (one oar each)

Rowing is divided by lightweight and heavyweight competition. In the lightweight division, male athletes are not permitted to exceed 72.5kg with a crew average of 70kg. For lightweight females, the maximum individual weight is 59kg with a crew average of 57kg. Nutrition plays a key role in managing the demands of training and competition.

Rowing requires long hours of training, with 1 to 2 daily rowing sessions, in addition to gym sessions 3 to 4 times a week to develop strength and endurance. Cross-training sessions such as running, cycling and rowing ergometer sessions are also common.

### Competition

Regattas can range from two days of competition, up to one week and heats and finals precede a berth in the finals. In major regattas, rowers may race once or twice in one day and in club regattas rowers may race up to three times per day of competition. On rest days, some light training may be organised. Lightweight rowers must weigh-in 1-2 hours prior to the first of their races on each day they race.

### Training Diet

A high energy (kilojoule) diet, containing adequate carbohydrate and protein is required to support the training and competition demands of rowers. Energy demands may be higher for athletes striving to increase muscle mass or growth. Male heavyweight rowers (taller and more muscular than their lightweight counterparts), often struggle with the volume of food they need to consume to meet daily energy demands, especially when training, work and study commitments interfere with typical meal and snack times. The use of transportable, energy-dense snacks is essential to meet daily requirements without adding too much extra volume. Suitable options include:

- Cereal and muesli bars
- Flavoured yoghurts
- Low fat fruit muffins
- Fruit loaf, bread and English muffins with spreads of peanut paste, jam or honey
- Drinks e.g. sports drinks, juice, flavoured milk, or liquid meal supplements (i.e. Sustagen Sport)

These snacks are also suitable as pre-training snacks before heading to early morning training. Rowers also need to pay attention to recovery nutrition for multiple training sessions over the day (see our fact sheet on [Eating and Drinking During & After Sport](#)).

Lightweight rowers have similar nutritional priorities however meeting daily fuel and nutrient requirements are complicated due to the added strain of making weight. This situation is best managed with the support and experience of a sports dietitian. To seek an accredited sports dietitian, [click here](#) or go to *Find a Sports Dietitian* at [www.sportsdietitians.com](http://www.sportsdietitians.com).

## Fluid Needs

Rowers have high fluid requirements. Long training sessions on the water (even in cold weather) lead to significant sweat losses, particularly when undertaken twice a day. In Australia, regattas are mainly held over the warmer months and often involve long hours in the hot sun. Rowers should assess how much fluid they lose during a training session by weighing themselves pre and post training. **For every 1 kilogram lost, 1.5L of fluid needs to be replaced.**

### Some practical tips on staying hydrated:

- Rowers should try to begin every training session well hydrated
- Sufficient water bottles are needed at training. Extra bottles can be kept in the coaches' boat for top-ups
- The aim is to drink every time there is a break in training or alternatively a camel-back can be used: aim for regular sips throughout the session
- During long sessions, hard training cycles or hot weather, sports drinks are recommended as they supply carbohydrate and electrolytes together with fluid. Sip of water to 'chase-down' your sports drink to ensure your teeth are well maintained.

Sports drinks are suitable fluids during long training sessions (more than 60 minutes) or if training for maximum performance, and are ideal during competition between events. Moreover, they can help to achieve high fuel goals, especially in the case of adolescent male or heavyweight rowers'.

### A word on dehydration...

Intentional dehydration (or 'cutting weight') in order to make weight cut-offs are "the norm" for some lightweight rowers desperate to get their weight down at the pre-race weigh-in. The practice of 'cutting weight' is particularly **dangerous** when large weight losses are required in order to make weight.

The advice and guidance of a sports dietitian should be sought for safe and effective weight loss and 'cutting weight' strategies. Ideally, once the goal weight has been achieved, weight maintenance should be within 2 to 3kg of racing weight during the season.

## What should I eat pre-event?

The ideal pre-event meal should provide sufficient fuel and fluid without leaving you feeling full and uncomfortable. Suitable foods and fluids should be familiar, low in fat, protein and fibre while providing sufficient carbohydrate to top-up fuel stores. You should experiment to find a routine that works best for your situation. If you are a lightweight rower a sports dietitian can help to develop an eating plan so that you can make the weight and still perform at your best.

Rowers should have a high-carbohydrate meal 2 to 4 hours prior to competition, and include 400-600ml of fluid. To avoid stomach discomfort (and also to lessen the weight of stomach contents of lightweight rowers) foods low in fibre and fat are preferred. Examples include:

- Breakfast cereal + low fat milk + 200-300ml of juice
- English muffin and or crumpet with jam/honey + sports bar
- Banana and honey sandwich/roll + 400-600ml of sports drink
- Muesli or cereal bar + glass of low fat milk

If nervous before an event and appetite is a problem, carbohydrate-rich fluids can be an alternative, such as a low fat milk or smoothie or liquid meal supplements e.g. Sustagen® Sport. A small snack such as a muesli bar, fruit or a vegemite sandwich can be eaten up to an hour prior to the race as a final effort to top up energy levels.

## What should I eat during competition?

Major regattas usually run for a week with rowers having only one race per day. Smaller regattas may be held week to week where rowers may race up to three or four events leaving little time for rest and recovery. Eating throughout the day of competition can be difficult, when nerves and a busy schedule take over! Practising competition eating during training sessions will help to identify food choices that will suit you best. Examples below:

**If less than 30 minutes between races try:** sports drinks, sports gels, fruit or glucose lollies (as they are rapidly digested from the gut)

**If 30-60 minutes between races try:** sandwiches with honey/jam/banana, sports bars, cereal bars or muesli/cereal bars

**If 1-2 hours between races try:** pasta, rice or noodle-based dishes with low fat sauce/toppings or sandwiches or rolls

**If more than 2 hours between races:** a more substantial meal or meal replacement can be eaten (with adequate of fluids, of course!)

Rowers need to **be prepared** with snacks as regatta courses can be some distance away from shops. An Esky™ packed with fluids and snacks like cereal bars, fruit and sandwiches can be a handy way of keeping food cool and safe by the water.

## What about recovery?

Left to chance, recovery eating may take a back seat to loading the boat trailer, meetings, stretching, watching races or the trip back home or the team hotel.

Handy recovery snacks that can be consumed simultaneously with these activities include sports drinks, liquid meal supplements (e.g. Sustagen® Sport), fruit, sandwiches and cereal bars as quick options. A substantial meal should follow within 2-4 hours of finishing for optimal recovery. This is especially important during a regatta that is held over a few days or during weeks of heavy training.

If celebrating a victory, rowers need to ensure that nutrition recovery goals are met before any drinking starts! If there isn't time for a substantial meal, a snack containing carbohydrate, protein and fluids should be consumed as soon as possible after the event.

## Other Nutrition Tips

- Lightweight rowers often face **special challenges** fuelling for training sessions and managing weight targets simultaneously. Specialist advice from a sports dietitian can help to minimise health risks and maximise performance. For tips on making weight, click here to see our fact sheet or go to [Find a Sports Dietitian](#) for individualised advice.
- **Iron levels:** Some rowers may have problems with low iron levels, especially females and/or lightweight rowers with restricted intakes. Iron levels should be checked regularly during heavy training or if fatigue levels are unusual. See our fact sheet on [Iron Deficiency in Athletes](#) and speak to a Sports Dietitian on increasing iron in your diet.
- Although supplements may be tempting to try, it is important to speak to a sports dietitian first before taking anything to ensure that it is safe to take.

**Authors: Teri Lichtenstein & Bronwen Lundy, Sports Dietitians (NSW)**