



Adventure Racing

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About Adventure Racing

Adventure races are ultra-endurance races that cover a variety of distances, durations and terrain. They typically range from 1 to 10 days and require navigation and choice of route. This article will only cover races over 24 hours duration which are mostly team-based events.

The events are usually 'continuous' and all adventure races include more than one discipline, commonly trail-running, off-trail trekking, mountain-biking and kayaking or canoeing. They require an ability to negotiate varied terrain such as caves, cliffs, snow, ice and/or rivers and thus may also include other disciplines such as white water rafting, coasteering, horse riding, rock climbing or abseiling. Weather conditions, water availability and "dark zones" (mostly white water sections out of bounds in designated night period) are often a major consideration. Participants may have a support crew or may have to carry their own supplies including food, fluids, tents and clothing. Due to the amount of variation between events it is important to research event requirements; most races will have websites containing such information.

Athletes in these races range from those who are well seasoned and highly trained to recreational athletes who enter to enjoy or complete the event. This is one of the few sports where the elite line up with everyone else at the starting line.

Adventure races are popular around the world, in New Zealand and the United States and are gaining popularity in Australia. The extreme physiological demands place large strains on the body in preparation for, and during the race itself.

This is predominantly due to the high usage of carbohydrate for fuel. As the race cycle is all year round most competitors will limit themselves to a few key races per year and should cycle their training programs to include sufficient recovery. An example event is the Southern Traverse in New Zealand.

Training Diet

For many athletes who compete in Adventure Racing, a busy schedule often consisting of two training sessions per day, multiple days per week across all the different disciplines is quite common. As a result of increasing training distance, time for effective eating and meeting increased nutrition requirements is challenging.

Carbohydrate requirements are high for Adventure Racing as this is the main fuel for endurance activities. Not only should Carbohydrate sources be included at every meal they will most often be required around training sessions including prior to, during and after the sessions depending on the length and intensity of sessions. Although supplement products such as sports bars, gels, liquid meal replacements and sports drinks can be useful, everyday food such as cordials, sweets, muesli bars, and dairy foods can also achieve similar results.

For most athletes a combination of the two may prove beneficial particularly when practical issues (for example consuming foods on the bike) are considered. Depending on volumes, frequency and intensity of training, daily carbohydrate requirements range from 8-12g/kg body weight.

Protein requirements are also heightened to meet daily protein turnover needs, assist in muscular repair and in part supplement energy intake. Good quality sources of protein include meats, dairy foods, nuts and seeds, dried peas and beans, and eggs. To meet high requirements, ideally these should be consumed at every meal. For example, a dairy product in the morning, some meat and nuts at lunch time and a lean meat in the evening. Protein supplements may also be utilized, but should be considered in line with overall goals. Great foods to use around exercise include both protein and carbohydrate, such as a dairy snack, peanut butter sandwich or nut-containing muesli bar. Daily requirements for protein range from 1-1.6g/kg body weight.

A high intake of fruit and vegetables is important to maintain vitamins and mineral intakes and other functional nutrients such as phytoestrogens and antioxidants. Fruit or starchy vegetables as a source of energy around training (such as fresh fruit, dried fruit, tinned fruit, fruit juices, smoothies, potatoes, corn) can be a useful way to meet a variety of nutrition goals. It is good practice to include a fruit source with breakfast and as snacks, some vegetables at lunch and at dinner. A high fibre intake prior to racing or competing, however, is not recommended due to potential gut side effects.

Good training programs will cycle and vary training types, intensities and times and include sufficient recovery. It is good practice to include recovery foods immediately after training sessions – particularly when there is another training session within 12 hours.

1 to 1.5g CHO per kilogram body weight should be consumed within 1 hour of exercise where possible and a small protein intake (e.g. 10 to 20g) is ideal. Nutrition intake should always be adapted to current requirements, and may need to be altered when injuries occur.

To have suitable foods on hand, the key is to plan and conduct regular shopping trips and buy easy and portable meals and snacks.

Fluid Needs

One of the challenges of an adventure race is to maintain hydration throughout the event. Particularly in hot conditions and at times when race pace is relatively high, it is easy to become dehydrated. As it is generally difficult to monitor hydration during an event and because thirst is not always an ideal indicator of fluid requirements, it is important to evaluate sweat losses and fluid needs in training, and well ahead of race day. (Due to the complexity of hydration as a separate issue, please refer to [Fluids for Sport](#) fact sheet for general guidelines). For high sweat rates, sodium intake may require additional attention, especially over several days. Utilise electrolyte containing fluids, and pack sodium containing foods such as soups and vegemite.

Adventure racing participants will also need to take into account the ability (particularly in terms of safety) to drink from streams along the way and to balance carrying weight with minimum water intake requirements due to the carrying capacity of fluids for long sections without refill possibilities.

What should I eat pre-event?

Food and fuel needs, and meal scheduling will depend on the event and the number and type of stages. In races where athletes carry their own food there is a need for energy rich food sparing weight.

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Carbohydrate loading (10+gCHO/kg /day on the three days prior to the event) offers some advantage; however the key will be to maintain food and fluid intakes during the race and to eat while fatigued or exhausted. A carbohydrate-rich meal should be consumed 2-4 hours before the beginning of the event. Food should be familiar and low glycaemic food may be a worthwhile consideration. Take care with the level of fibre as too much may contribute to stomach upsets. This meal is primarily a personal choice and should be practiced with training. Some popular ideas include cereals with fruit and low fat fruit yoghurt, tinned spaghetti or baked beans on toast, eggs on toast, porridge and banana, toast with honey, crumpets, bagels and smoothies.

Start the event in a well hydrated state by drinking approximately **500ml of fluid approximately 2-4 hours pre-event**. When competing in hot climates, continue fluid consumption up to race start.

What should I eat during the event?

- Have a **planned approach** to food and fluid intake during the race and practice during your longer training sessions.
- **Use opportunities** like transitions, rest stops and equipment repairs to rehydrate and refuel. While it is important to follow a regular schedule of eating and drinking, this can become a major challenge when athletes are sleep deprived, as is common during extreme events. Some athletes use their watch alarm to remind them to eat and drink. CHO requirements vary, depending on the nature of the event, and the athlete's body weight. A carbohydrate intake of 30-60g CHO/hour will meet the requirements of most athletes in a wide range of race settings.
- **Popular carbohydrate food choices** include food and sports bars, dried fruit, sandwiches, sweets, chocolate, baking products, crackers, breads, pasta, rice, potato, rolls, breakfast cereals and porridge. Other items that contribute to CHO intake are sports drinks, soft drinks such as cola, meal supplements and higher fat, savoury products such as pizza or crisps may also be used.
- **Fluid needs vary** with the nature of the event and environmental conditions. Sweat rate assessments carried out in training will provide an indication of likely fluid needs and should be used in conjunction with urine indices (colour, frequencies and volumes) and thirst. Pale urine passed at regular intervals in reasonable volumes, together with absence of thirst indicates good hydration. Fluid intake must be adapted to the weather conditions and time of day.
- For events lasting several days **include treat foods for motivation** and variety (chocolate bars and potato crisps). Close consideration for the energy content per unit of weight is needed where food supplies must be carried.
- **Consider freeze dried food** that requires the addition of hot water (or cold water which takes longer depending on the food). These must be tested in training. Individual servings (pre-packed) may be useful.
- **Suitable foods** to consider: freeze dried meals (just add hot or cold water), prepared meals (heating only), instant dehydrated foods, sports drink powder, sports bars, muesli bars, dried fruit and nuts and meal replacement formulas. Pack tinned or UHT food at predetermined locations (casseroles, canned rice, fruits, milk) for ease of consumption.
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- Your **mouth and tongue** can become ulcerated and sore over a long race from always having food in your mouth, drinking out of camelbacks and bottles, and from rough foods like muesli bars. Softer, gel type foods are sought after more 4 or so days into a race. Also being able to brush your teeth in transitions helps, as does chewing gum.

What about recovery?

Depending on the length and intensity of the race, and your ability to meet the food and fluid requirements during the race, you will quite likely have some degree of dehydration and depletion in glycogen (fuel) stores. Some competitors may have lost significant amounts of body fat over a period of a few days. Post race, the immediate concern is aiming to eat some carbohydrate- and protein-containing foods as soon as possible post race - this may be dependent on what you "feel like". This time is particularly valuable for replacing depleted glycogen stores.

Aim to replace fluid deficit by drinking fluids to match sweat losses is a good practice, though this may be hard to quantify in reality. As many competitors will require a few days of rest, particularly following a longer event, the focus on recovery should not only be the initial intake of food and fluids post race but should be extended over a few days.

Other nutrition tips

- Some multi-sport events are unsupported whilst others allow support teams. In many of the unsupported events organisers **check the competitors' equipment** before the start.

- Any nutritional plan should be attempted **under training conditions before competition**. Athletes should be encouraged to test-pack their food, water and equipment well before the event to check weight and size of pack required and to practice so they have an idea of how much they eat per hour.
- Athletes should be reminded to check with race organisers what the **supply and quality of drinking water** is like on the course and at camp sites. In some places it may be safe to use water from streams and water courses while in other places water needs to be treated before using/drinking. Water can be boiled, treated with iodine tablets or chlorine drops (milder tasting) or filtered using a portable water filter.
- Adventure racers often complain about **taste fatigue**, i.e. they get bored with eating the same type of food. This often occurs with sweet tasting foods. Your **sports dietitian can advise you** on a wide range of suitable food choices.
- **Practice eating while performing** skills required; for example while cycling and kayaking so you know which foods are suitable.
- Consider an **appointment with a sports dietitian** to fine tune your needs and requirements specific to the event you are entering.

How to get involved

- NZ www.sportshub.co.nz is an excellent site with lots of race info and links to races on.
- Adventure Racing Australia - www.adventureracing.com.au

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