

FACT SHEET

FOOD FOR YOUR SPORT – MOUNTAIN BIKING

ABOUT MOUNTAIN BIKING

Mountain biking (MTB) is divided into cross-country and downhill disciplines. Within each discipline there are an array of competitive events. Most athletes specialise in one discipline due to the diverse physiological demands.

Cross-country races involve riders completing laps of a 5-9km circuit, including hill climbs and technical descents either solo or in teams of 2-10. An ability to maintain a high aerobic capacity over a prolonged duration is essential. Races include short course (maximum 6km circuit laps); Circuit (minimum 6km course; 1-2hrs & 12-24hrs); Enduro (1 or more days of different events); Point to Point (different start & finish; 25-100km)

Downhill races typically involve riders competing at maximal intensity for a race of 2-4 minutes. A high degree of strength is required for the high power outputs required to be successful as well as an advanced anaerobic capacity. Races include downhill (solo; 1.5-3.5km; technical; 2-5 min); 4-cross (4 riders pass a series of gates; 30-40 sec); Dual Slalom (elimination runs; 2 riders, 20-45 sec).

The year usually encompasses a pre-season phase, competition phase and off-season each varying in length according to an athlete's schedule. Cross-country riders aim to develop an endurance base over the pre-season using a combination of cross-country and road rides. Downhill riders predominantly on the trails. Resistance training is also incorporated in both disciplines, especially during pre-season, to enhance strength and power. In Australia, the focus of the season is the World Cup Series (Apr-Sept) encompassing six races. Prior to this, riders will compete in five National Series (Nov-Feb/Mar) races and other events before the World Championships (Aug/Sept).

Physical characteristics depend on the discipline. Cross-country riders typically have less muscle mass and body fat levels. This helps to attain a higher power-to-weight ratio, beneficial for hill-climbing. Downhill riders are generally bigger and have more muscle mass in order to produce larger power outputs during training and racing.

TRAINING DIET

Individual nutrition requirements will be determined by training load, specific athlete needs, training goals, body composition goals, health and adjustment for growth. The training diet should focus on a variety of nutrient-dense carbohydrates (e.g. wholegrain breads, fruits, vegetables), along with regular serves of lean meats, poultry, fish, eggs, legumes and dairy for protein, calcium and iron.

Carbohydrate needs should complement training loads to optimise performance and recovery. Frequent meals and snacks can help fulfill energy and carbohydrate needs when requirements are high, such as on hard training days or back to back racing. Including a snack rich in carbohydrate and protein ideally within 30-60 minutes after training sessions or races helps to ensure adequate refueling and maximise muscle repair and adaptation processes, especially when another demanding session is within 8 hours or during demanding competition. If training or racing away from home, this may require packing a portable, non-perishable snack (e.g. liquid meal supplement, flavoured milk tetra, creamed rice, nuts, sandwiches, baked beans).

Protein requirements depend on the stage of strength training and energy intake. The spread of protein intake across the day is more influential than the amount.

For those aiming to reduce body fat, limiting energy-dense foods/fluids (e.g. 'junk foods', alcohol) and timing training to finish around normal meal times can help to limit the need for additional snacks. Additionally, undertaking easy (not interval or threshold) morning sessions in a fasted state may assist greater use of fat stores.

FLUID NEEDS

Mountain bike riders should aim to drink enough fluids each day to replace fluid losses, adapting to factors which increase fluid losses such as temperature, sweat rate, exercise intensity, duration and altitude.

It is not necessary or practical to replace 100% of fluid losses during a training session or race, but instead to aim to replace 150% of the fluid volume lost over the 4-6 hours after the session.

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EATING AND DRINKING BEFORE COMPETITION

As carbohydrate is main source of fuel during high intensity exercise, muscle fuel stores should be topped up over the 24-36 hours before competition to optimise performance on competition day. Depending on the duration of the event, a cross-country rider may schedule a rest or light training day before the event while following a carbohydrate loading plan to maximise muscle glycogen stores. Eating lower fibre foods during the 12-24 hours before the event may reduce the chance of gut upset.

The pre-event meal is a vital opportunity to top up glycogen stores (especially in the liver) and optimise hydration status. For an early morning race, where time is scarce, a light, low fibre carbohydrate-rich snack can be consumed 1-2 hours before the race. A later race time might allow for a larger meal 3-4 hours beforehand, followed by a small snack or carbohydrate containing fluid prior to the race start. These meals should be practiced in training before a long ride.

Suitable pre-competition meals and snacks include:

- Porridge with banana
- Weet-bix with milk and fruit
- Rice or pasta dish
- Sandwich/roll with light fillings or banana
- Baked potatoes
- Creamed rice
- Crumpets or toast with jam or nut butter
- Sports bars

To prevent dehydration and a consequent reduction in concentration and performance, increasing fluid intake in the days before and meal prior to the race is important

EATING AND DRINKING DURING COMPETITION

During a race, food and fluid requirements depend on the distance, pre-race meal choice and practical challenges of eating and drinking while competing. In short high-intensity events, a small amount of carbohydrate (such as swilling sports drink in the mouth for 5 seconds) may provide a performance benefit.

For races over 60-90 minutes, consuming 30-60g of carbohydrate per hour can help to prevent muscle fatigue, maintain pace and cognition and benefit performance.

Experimenting during long, hard training sessions or lead up races will help determine an athlete's carbohydrate and fluid capacity and tolerance to products, as well as identify any gastrointestinal problems. A combination of sports foods and wholefoods can be included depending on individual preferences and tolerance. The following carbohydrate rich foods are commonly used during mountain bike races: bananas, sports bars, gesl, fruit cake, savoury muffins, jam/vegemite sandwiches, sports drink, dates, jelly beans.

During the race, it is not possible nor necessary to replace 100% of fluid losses during the event. Understanding individual sweat rates will help to determine an appropriate fluid intake plan for racing – an Accredited Sports Dietitian can help with this.

RECOVERY

After training sessions and races eating a meal or snack containing a combination of carbohydrate and high quality protein will enhance muscle refueling and protein synthesis to promote muscle recovery. Fluids and electrolytes should also be included to help with rehydration.

Nutrient rich-choices are more valuable than nutrient-poor choices to meet overall nutrient goals (e.g. protein, micronutrients) and healthy fats to reduce inflammation and strengthen immunity. Suitable recovery foods include:

- Omelette or eggs on toast
- Yoghurt with nuts and fresh fruit
- Wraps with lean protein, avocado and salad
- Homemade beef or chicken burgers + salad

When energy needs are high and appetite is low, fluids with a combination of carbohydrates and protein may be preferred (e.g. smoothie, flavoured milk, liquid meal drink).

OTHER NUTRITION TIPS

- **Supplements** May appeal to MTB riders to gain a competitive edge over their opponent. Many supplements are not supported by scientific evidence and are only useful as an addition to quality training and a good diet. Creatine and caffeine may be beneficial for MTB riders who have already optimised their nutrition plan. Seek the advice of an Accredited Sports Dietitian.