

FACT SHEET

FOOD FOR YOUR SPORT – TRACK CYCLING

ABOUT TRACK CYCLING

Track cycling involves racing around a velodrome (usually 250-500 metres in circumference) on a fixed gear bike without breaks. There are a range of individual and team events that require a combination of speed, strength, speed endurance, technique, flexibility and tactical skill.

Events include pure sprint events such as the individual or team sprint (lasting 1-3 laps); middle distance events such as 1000m time trial; Kieren (2000m); individual and team pursuits (3000-4000m); and endurance events such as the Madison (50km), scratch race (10-15km) and points race (25-40km). These events range from 15 seconds to an hour reaching speeds of 60km/hour. Often multiple events or heats and finals are raced on the same day or evening. The omnium involves completing six different events over two consecutive days.

Sprint track cyclists predominantly train at the velodrome or on specialised watt bikes or trainers focusing on short, high-intensity repetitions (anaerobic efforts) with long recovery 3-4 times a week and may compete on the weekend. Resistance training, technical drills, plyometrics and flexibility work are also undertaken, especially during the off-season, to build lean body mass and explosive power. Training for the middle distance events involves longer sessions as well as endurance rides. Often endurance trained road cyclists compete in the longer track events during their off season as these require a good endurance base and short periods of sprint training. Some strength training will also form part of their program.

Typically sprinters have a high lean body mass with muscularity particularly in their lower bodies to generate explosive power over short distances. Weight is observed in an attempt to maximise power to weight ratio, however, this is more prominent in the last 1-2 weeks before a major event rather than all season as with more endurance trained cyclists. Pre-competition training tapering is not as significant for sprinters compared to middle-distance or endurance track or road cyclists as training is focused on quality rather than quantity.

TRAINING DIET

Sprinters require a carefully planned, balanced training diet to promote performance and lean muscle mass and minimise high body fat levels. The training diet should focus on a variety of nutrient-dense foods (e.g. wholegrain breads and cereals, fruits and vegetables), along with regular serves of lean meats, poultry, fish, eggs, legumes and dairy to meet protein, calcium and iron requirements.

Carbohydrate needs are lower compared with endurance cyclists. Carbohydrate intake should be periodised over the week and over the year to adapt to different sessions and complement different phases of training. Carbohydrate should be prioritised around key training sessions for maximal adaptations and recovery. Priming carbohydrate stores before key sessions and well-timed snacks and meals will help refuel muscles and supply protein for recovery.

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. Athletes in the early stages of intensive resistance training need to eat more protein compared to well-trained athletes. Those restricting energy also benefit from an extra protein to manage appetite and muscle mass loss.

FLUID NEEDS

Fluid requirements will vary according to the conditions. For example, prolonged and intense sessions in indoor velodromes in summer will cause high sweat losses. This will be less likely in cooler weather unless in outdoor, windy velodromes where wind can reduce sweat loss.

During competition, fluid intake should match sweat loss as well the conditions (e.g. during warm-up, events, humidity), as dehydration can reduce concentration and performance. Athletes should also avoid excessive fluid intake as over-hydration can cause bloating and gut discomfort. After training and competitions, rehydrating over several hours, rather than a large volume at once, will promote greater fluid retention and more efficient rehydration. Training sessions can be used to determine ideal strategies for replacing fluid losses.

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EATING BEFORE COMPETITION

Typically single sprints will not deplete muscle glycogen stores. In these races, since an athlete's fuel stores are not a limiting factor to performance there is no need to carbohydrate-load or eat a large-pre event meal before a competition as the extra weight (from glycogen and water in the muscle) may impede performance. Nevertheless, fuel stores should still be primed for competition (in a similar way to how the athlete would fuel up for key training sessions) with a light but strategic carbohydrate top-up.

The pre-competition meal is typically eaten approximately 2 hours before the warm up. The nutritional goals of the this meal are to ensure the athlete is hydrated, maintains blood-sugar levels and feels comfortable – avoiding hunger but not risking discomfort on the stomach so that they can push themselves to maximal intensity.

Any pre-event meals or snacks should be low in fat and fibre, easily digested enjoyable and previously tolerated in training. For longer track endurance events, the pre-event meal/snack should include sufficient carbohydrate and fluids, similar strategies to a criterium or short road race.

EATING AND DRINKING DURING COMPETITION

Where events span over the day or evening, cyclists should focus on consuming sufficient food and fluid to maintain peak condition and ensure gastrointestinal comfort throughout the event. Eating of frequent snacks that are palatable, easy to digest and contain carbohydrate and a small amount of protein is recommended. Some suitable examples include:

- Fresh, dried or canned fruit
- Sandwiches
- Milk drinks or yoghurt
- Muesli or sports bars
- Fruit bread or buns
- Crackers or rice cakes

If time is limited or nerves affect food intake, gels, sports bars, liquid meals and sports drinks may be useful.

Careful planning and organisation is essential. Scheduling times for eating and drinking around activities for warm-ups, events and cool-downs is a useful strategy. Taking portable and non-perishable food supplies rather than relying on the venue's catering is important. Training sessions or club-level races can be used to practice and fine-tune competition nutrition plans.

Travelling interstate or overseas will require further planning to maintain competition nutrition goals, such as:

- Taking and supplementing with own supplies
- Being cautious with food safety and water hygiene
- Eat according to needs rather than eating out of boredom - consider energy needs with less training
- Consider unseen fluid losses (e.g. air-conditioned vehicles, plane cabins) and changes in time zone
- Be assertive at catering outlets by asking for what you need (e.g. low fat, additional carbohydrate)

RECOVERY

Recovery following training and competition is crucial for adaptation and to maximise muscle repair, rehydration and refueling. High-intensity track sessions and resistance training result in protein breakdown so consuming protein immediately after exercise promotes muscle repair and recovery. A protein-carbohydrate snack/meal after a workout will not only muscle but also deliver carbohydrate fuel to restore muscle glycogen. Nutrient rich-choices are valuable than nutrient-poor choices to meet overall nutrient goals (e.g. micronutrients) and healthy fats can reduce inflammation. When energy needs are high and appetite is suppressed or gastrointestinal problems occur following exercise, low-fibre food choices or fluids may be preferred (e.g. smoothies, flavoured milk, liquid meals supplements). As travel to velodromes is often required packing a snack for the way home is valuable for starting recovery.

OTHER NUTRITION TIPS

- **Supplements** may appeal to track cyclists to gain a competitive edge over their opponent, however many supplements are not supported by scientific evidence and all supplements are only useful as an addition to quality training and a good diet.