

Nutrition for Motor Racing

The Driver

Motor race driving is a demanding sport. Drivers experience physiological stresses similar to other sports and, like other athletes, they need to give serious consideration to nutrition in order to perform optimally. Drivers need to be fit in terms of speed and strength in short bursts, and also to maintain a high level of aerobic endurance and concentration.

Physical training for drivers will include strength and conditioning routines, plus endurance activities such as triathlon, cycling or running.

Good nutrition will underpin all aspects of training, racing and recovery.

Weight Management

If there is a need to lose or maintain weight, a sensible nutrition plan will help to integrate this aspect into everyday life.

Hydration

Mental fatigue and a loss of concentration while driving are commonly caused by dehydration. The physical exertion of race driving, in conditions where the body experiences hot (>25°C) temperatures, can easily lead to sweat losses of 1-2 litres, or more, per hour. When dehydration levels reach 2% (e.g. sweat losses of 1.3lt for a 65kg driver, as would easily be incurred in a race lasting ~45mins at 25°C), concentration and cognitive abilities are impaired.

The single most important nutritional intervention for race driving is to ensure adequate hydration levels by drinking before, during (if possible) and immediately after a race.

Your actual sweat loss can be estimated by weighing yourself before and after a race – don't forget to do this without the sweaty clothes! For every kg (i.e. litre) lost, 1.5lt of recovery drink is needed for full rehydration.

Energy levels

Good race day nutrition will provide more energy in the car. The correct timing of meals and the choice of healthy options should make the driver feel energised at the right times.

Endurance athletes require a high carbohydrate diet to maintain stamina and to support recovery after events; race drivers have the same needs. It is recommended that 55-58% of energy is supplied by carbohydrates, 25-35% by fats and 12-15% by protein. Where training regularly involves resistance work, the protein component should be a little higher and the fat correspondingly lower.

Recovery

In addition to rehydration, it is very important to consume carbohydrate-rich foods / drinks within 30 mins of the end of a race, in order to enable the body to restore glycogen (energy) stores. Ideally, these low fibre foods and drinks (which are readily absorbed) should also be taken again after two and four hours to maintain a steady replenishment. Combining a small amount of protein with these

foods will improve the glycogen restoration and support muscle tissue repair. Muscles will have suffered micro-level damage during the race, even if no injury is apparent.

Practical steps

Training and every-day nutrition

Essentially, race drivers should follow a healthy eating plan in which one third of each meal comprises vegetables and fruit, one third is made up of starchy foods (e.g. bread, rice, pasta, potatoes) and one third includes milk and dairy foods, other protein (meat, fish, eggs, beans) and foods high in fat and/or sugar (e.g. cakes, biscuits, confectionery, fizzy drinks). The high fat/sugar foods portion should be, by far, the smallest.

Ideally, eat smaller meals every 3 to 4 hours, starting with breakfast. Breakfast is the most important meal of the day as it provides fuel and therefore prevents your body drawing on its reserves. Variety is good – eating a varied diet will help to provide all required nutrients.

Hydration plan

It is important to drink adequate amounts of fluid in the days preceding a race, to ensure that the body is fully hydrated. On race day, drink 500ml fluid 2 to 3 hours before the race (thus providing time to urinate any excess) and the equivalent of a small glass immediately before the start. If available, use a fluid delivery system regularly throughout the race, rather than waiting until thirsty. After the race, drink 1.5lt for every litre lost as sweat (i.e. for every kg weight lost).

The choice of what to drink on race day depends on the amount of salt (sodium) lost in sweat. This varies between individuals and water may be adequate for many people, however a sports drink containing electrolytes will also provide sodium replacement and this will aid rehydration in those who have lost significant amounts of sodium. Some people also find sports drinks more palatable than plain water.

Race day meal plan

The pre-race meal is designed to maintain energy levels throughout the race. The choice of meal is an individual one and needs to suit the driver; don't try new foods just before a race.

Eat low-GI foods such as whole grain cereals (e.g. porridge) or sandwiches made with whole wheat bread 2 to 3 hours before the race start. Timing is important, the closer to the start, the smaller the meal. Avoid bulky foods, raw vegetables, dry beans and other foods which may stimulate bowel movements and/or gas formation. Don't forget to drink in order to ensure hydration.

The recovery meal is best divided into several smaller intakes. Within 30 mins of finishing the race, a recovery drink is probably the easiest solution. Proprietary recovery drinks are convenient but a pint of semi-skimmed milk and a source of carbohydrate such as whole grain cereal is equally effective in providing fluid, carbohydrate and protein. This should be followed by further small meals at 2 hour intervals, such as a tuna sandwich, until the next normal (healthy) meal.

Travelling and competing

Eating and drinking for optimum nutrition and performance when travelling and competing will take some planning. This is not a good time to change dietary habits and just go with the flow, so drivers should ensure that they have adequate supplies of small meals for the whole event. Meal

replacement shakes, smoothies and bars are very useful as a fallback and should be kept handy in case of delays and other unforeseen schedule changes.

Some specific dietary things to look out for

Protein

Choose lean meats, fish or vegetable proteins and aim to include a small amount with each meal (don't forget that dairy products also contain protein, e.g. milk or yoghurt can provide protein at breakfast).

Fat

A low fat diet is healthy, but not all fats are the same. Avoid hydrogenated fats, found in processed foods (e.g. many cakes, ready meals), and reduce saturated fats in favour of mono- or poly-unsaturated fats found in seeds, nuts, vegetable oils and avocados. In addition, there are some essential fatty acids (Omega 3 and Omega 6) that the body cannot create. Omega 6 fatty acids are found widely in most diets however Omega 3 fatty acids are obtained primarily from oily fish, hence the 'healthy eating' message that everyone should eat 2 portions of oily fish per week.

A very low fat diet is not healthy, however, as some essential vitamins require fat in the diet in order to be absorbed. In addition, components of the nervous system require fat in order to remain healthy.

Caffeine (coffee, tea, colas and energy drinks)

Caffeine is a stimulant but its effects are short-lived. Too much caffeine can adversely affect motor functions. Ideally, don't take caffeine at all on race day. A habitual caffeine drinker may feel the need to maintain levels but this should be managed carefully.

Alcohol

Resist the temptation of a celebratory drink at least until after the post-race meal and rehydration. Remember that alcohol may interfere with post-race recovery and care should be taken during weekend events.

Alcohol may exacerbate bruising or injury by increasing swelling and bleeding, thereby delaying recovery. Ideally, avoid alcohol for 24 hours following any soft tissue bruising.

Finally

Good nutrition will support the levels of strength, fast reflexes and cardiovascular fitness required for the development of technical skills in a good driver. Nutrition will also support optimum performance on race day, followed by rapid and effective recovery.

This level of nutrition can be achieved from a healthy diet, without the use of supplements however if supplements are used, ensure that they are obtained from reputable sources.

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