

FUEL YOUR RUN

Energise your race
week with our **Race
Week and Race Day
Nutrition Guide.**





RACE WEEK NUTRITION

Carbohydrate **intake and loading:**

Take your carbohydrate intake to approximately **50-70% of your daily calories for the last 2-3 days before your race**, while you are in your taper. Make sure to **decrease fat and protein amounts** while increasing your carbohydrates so you are not accidentally calorie loading as well. You just want to change the ratios of the macronutrients you are consuming.

It can also be wise to decrease your fibre intake as well to limit the chances of gastrointestinal distress during your race. This change in your eating ratios will increase your body's glycogen stores, giving you added fuel to use on race day.

Great forms of carbohydrate include white bread and cereals, white rice, pasta, flavoured milk, fruit and fruit juices, sports drinks, smoothies, honey, jam, meal replacement drinks and sports bars, gels and chews/chomps.

For every gram of glycogen, the body will hold 2.5 to 3 grams of water; thus, an athlete can experience a weight gain of up to 2 kilos when well CHO loaded. Your body will use this extra water during the race, too! **CHO loading has been shown to enhance endurance and postpone fatigue** in endurance exercise at a steady state. However, it does not help increase one's speed.

See Page 7 for more examples of what 30g of carbs can look like.

The week before a race is not the time to be dieting or calorie restricting as it will leave you short of fuel and energy for race day.





FLUID & HYDRATION

Hydration is key for **mental & physical** function.

- The body needs approximately 500 ml–1 litre for every hour of exercise, depending on your sweat rate, air temperature, humidity, sex, body size etc.
- Add this amount on top of your normal daily fluid needs.
- Rehydration of fluids and electrolytes lost in training should also be a focus. Aim to consume 150% of fluids lost from training over the next 2-4 hours once training has stopped.
- Having fluids and foods containing sodium will help to retain the fluids consumed.

Calculating your **sweat rate**:

- It's best to calculate your own sweat rate rather than guess your fluid losses.
- Weigh yourself before and after a 1-hour run at your approximate race pace. Each 1kg of weight lost equals roughly 1 litre of fluid. For example, a 500g loss = about 500ml/hour.
- Test this in different seasons, as sweat rates change with temperature. In Australia, conditions can vary wildly, so know your rates for both 20°C and 30°C.
- Aim to replace up to the amount lost — never exceed it. You don't need to replace it all while running; much can be replenished throughout the day.
- Avoid over-consuming fluids, as this can cause hyponatremia (dangerously low blood sodium), which can be life-threatening.
- Remember: sweat rates rise with faster paces and drop with slower ones — slower runners are most at risk of over-hydrating.



DEHYDRATION

Knowing the effects of dehydration:

Hydration **volume suggestions** are based on 'average' weather conditions. If you expect hot or humid conditions, the required volume of fluids (water) may increase.

Please be sure you familiarise yourself with the TCS Sydney Marathon course plans so you can note when and where to find hydration and nutrition.

- In sports, dehydration can lead to increased body temperature, which will shunt blood to the skin for cooling and leave the muscles and the brain short of blood flow.
- Dehydration affects mental functioning (concentration and skill) as well as increasing one's risk of gastrointestinal discomfort and reducing stomach emptying rates.
- It is wise to try the available sports drink and gel, Powerade and GU, well before race day to be aware of tolerance and taste. Consuming fluids during running sessions is a great way to 'train' your body to intake while running.





RACE MORNING NUTRITION

Carbohydrate intake:

The morning of a race can already be a nervous time, so to avoid stomach issues, it is best to **only consume tried and tested foods and fluids**. Never eat or drink anything new on race day, no matter how much someone talks up a product or meal idea.

The goal for your race morning breakfast is to replenish liver glycogen stores and to top up muscle glycogen pre-race. The timing of your pre-race meal will depend on the start time of your event. You should aim to **eat approximately two or so hours pre-race** to top up carbohydrate stores and fluid levels.

Don't sacrifice sleep for an earlier, larger meal, as your carbohydrate intake during the race will compensate for a smaller meal eaten pre-race. **A light meal of mainly carbohydrates is best at this time.**

- Aim for 1-2 grams of carbohydrates per kilogram of body weight. Thus, if you weigh 70 kilos, have a light meal of approximately 70 to 140 grams of CHO.
 - Eat at the smaller end of this scale if you only have a short window before the race; use the larger end of the scale if you have a few hours.
- The meal/snack should be high in carbohydrate with low fibre, fat and protein to decrease the chance of gastrointestinal upset.
 - Meal replacement fruit, drinks, sports bars and sports drinks/gels can be useful when nerves or time are a factor.
 - Great food choices can be white bread, crumpets, honey, jam, bananas, dates and smoothies.

What you typically eat pre-long training runs is often a good choice pre-race as well. Practising your race morning breakfast and fluid intake is great insurance for race day!



RACE MORNING NUTRITION

Fluid intake:

Maintaining good hydration strategies for adequate fluid levels in the day or two pre-race, and on race morning, is essential. However, do not go overboard in consuming fluids. **Too much fluid can be as dangerous as not enough.**

In the few days before the race, consume your average fluid amounts, plus make sure to replace losses from training. You do not need to 'water load' as your intake during the race will cover you if you have measured your fluid needs and practised this in training.

On race morning, you need around **400-500 ml water with your pre-race meal**, and you can have a further 250-350 ml 15 to 20 minutes before the race starts.

- It is okay to consume sports drinks, juice and other carbohydrate-containing fluids with the pre-race meal, but do not sip on these in the hour before the race as they could result in a hypoglycaemic/low blood sugar state before the race begins.
- Many athletes consume a carbohydrate gel with 250-300ml water or 300-400ml of sports drink 15 minutes before the race starts so that they have a 'top up' of carbohydrates in their blood when the race gets underway.
 - Consuming carbohydrates so close to the race start will not cause issues with blood sugar levels as you will be underway in the race before this makes it through your digestive system.





RACE NUTRITION

Carbohydrate and fluid intake:

Race day nutrition should be calculated and practised well in advance of race day to determine amounts of carbohydrates (CHO), types of CHO and fluids that an athlete needs and can tolerate per hour.

- The recommended amount of CHO to consume per hour in a marathon is between 30-60 grams for most people. This amount is known to reduce fatigue and to be rapidly absorbed.
- Fluid should be consumed at a rate as close as possible to one's sweat rate but never over it. The average runner will have a safe race if they keep their dehydration losses levels between 1-3%.

It is as dangerous to over consume fluids and a runner should never gain weight during a race. Slower runners are most at risk of over-consuming fluids. All runners should have calculated their sweat rate and be comfortable knowing how much they plan to consume, adjusting if the race day is unusually cold or hot in ambient temperature.

- Start consuming your fluids early and regularly to limit dehydration and to assist gastric emptying rates.
- Over-consuming fluids (weight gain during an event) can lead to hyponatraemia (low blood sodium), which is dangerous to your performance and health.
- Be aware, if consuming food or gels to consume them with water only. Consuming food/gels with sports drinks will slow/inhibit gastric emptying rates and decrease the delivery of both fluid and fuel to your working muscles.





RACE NUTRITION

On-course hydration & nutrition:

Powerade Mountain Blast –

The sports drink, on course, contains 5.6 grams of carbohydrates per 100ml if prepared according to the tub's instructions. Thus, a 250ml serving contains 14 grams of carbohydrates. Each 250ml serving also contains 118mg of sodium and 54mg of potassium. Therefore, on course, each 100ml of Powerade will provide 5.6 grams of carbohydrates, or 250ml will provide 14 grams of carbohydrates.

GU Energy Gel –

The carbohydrate gel, on the course, contains 25 grams of carbohydrates per packet. They also have a sports chew which contains 5 grams of carbohydrates per chew. Chews are not supplied on the course but are a great alternative to use in training if you want variety. Please remember that GU's and chews must be consumed with adequate water intake.

- During prolonged exercise (1.5 hours or longer), you should consider using a sports drink. This will supply the water, electrolytes and carbohydrates that the body needs to keep exercising. Alternatively, you could use water and a carbohydrate GU.
- You may also consider using solid foods if this is to your liking and your stomach's tolerance. Foods that are easily digested during racing and training include: bananas, sultanas, dates, honey, white bread, or jelly snakes.
- You must still aim for the right amount of carbohydrates per hour when consuming solid foods and always try new foods in training before using them on race day.



RACE NUTRITION

Example race day plan:

The intake of carbohydrates per hour should be between 30-60 grams on average. If you choose to consume 50 grams an hour, you will need to consume two gels per hour (GU = 25 grams of carb) plus adequate water.

- Alternatively, if you want to consume [Powerade Mountain Blast](#) you will need to consume approximately 500ml to obtain 28 grams of carbohydrates.
 - [Powerade Mountain Blast](#) will be mixed on race day to contain 5.6 grams of carbohydrates per 100 ml of fluid.
- Alternatively, you could choose to have 50ml of sports drink and 1 [GU](#) gel per hour to hit your close to your 50-gram target (48 grams specifically if 500ml Powerade and one [GU](#) gel).

Most individuals ingest carbohydrates every 20-30 minutes during a race, so make your calculations accordingly.

If choosing to consume sports drinks and gels, please remember not to have them simultaneously. You must alternate their intake not to inhibit your gastric emptying rate. Always consume gels/food with water!

Ultimately, your race nutrition plan must suit you and your digestive system. Some athletes will feel great on only 30 grams per hour, while others will prefer 60 grams of carbohydrate or more. The slower you are going, the less fuel you will burn and the less you will sweat. Make sure to adjust your intake accordingly.

If in doubt about your nutrition plan, please see a qualified sports nutritionist.





EXAMPLE MEAL PLAN

What a 1 day meal plan can look like:

For a 60 kilogram athlete wanting to eat 8g of CHO per kilo of body weight
= 480 grams day:

Breakfast

- 200 grams of vanilla yoghurt (45 grams CHO)
- 1 banana (30 grams CHO)
- 2 Tablespoon honey (30 grams)
- Sprinkle of seeds/nuts (minimal carb)

Snack

- Sports bar (45 grams CHO)
- Fruit juice 250ml (30 grams)

Lunch

- 2 pieces of bread (30 grams)
- Nut butter
- 2 Tablespoons jam (30 grams)
- 150 grams baked sweet potato (30 grams)

Snack

- 3 tablespoons hummus (6-7 grams CHO)
- 15 rice crackers (30 grams)
- Chocolate milk 350ml (35 grams)

Dinner

- Protein of choice
- 1.5 cups white rice (65 grams)
- Stir fry veggies (aprox 20-30 grams)

Snack

- 15 jelly beans (45 grams) or
- 1.5 hot cross buns (45 grams)

RACE WEEK MEAL IDEAS

BREAKFAST	LUNCH & DINNER	SNACKS	NOTES
Yoghurt with 1-2 piece of fruit and a sprinkle of seeds and nuts	120-150 grams protein such as: red meat, chicken, fish etc. plus vegetable stir fry (unlimited veggies) and white rice	Yoghurt with a piece of fruit and a tablespoon of honey (berries, banana, fresh dates etc.)	Fluids – best is water, mineral water and herbal tea to keep fluid levels topped up for race day
Smoothie – 20 grams protein powder or yoghurt, fluid of choice (juice, milk, coconut water etc.), 1 banana, ½ cup berries and honey	120-150 grams protein plus unlimited veggie salad and 1 of the following: toast, pasta, potato, sweet potato or rice	Hummus or guacamole and rice crackers or crumpets with honey	If you are short on CHO it is ok to add a few jelly snakes, honey, sports drink etc. to get to your CHO goals.
Porridge (oat or quinoa or rice) with a few sultanas or strawberries and some honey (not race morning)	Frittata (eggs and veggies use lots of potato and sweet potato) plus salad	Fresh fruit, dried fruit or dates and small amount of raw nuts	Best to avoid alcohol in the week before the race...beer is not good for CHO loading
2 eggs as you like them, 1/3 avocado and 2-3 pieces of low fibre toast or gluten free toast plus fruit or juice	Baked veggies plus 120-150 grams meat / fish / other protein source	Muesli bar, gluten free muesli bar, hot cross bun or a high CHO sports bar	Great to add a little extra salt to food in the few days before the race
2 eggs with spinach, fetta and mushroom sauté and 2-3 pieces toast or potato/sweet potato mash	Lasagna made with lots of veggies (in it) or with a salad	Jelly snakes or jelly beans	DO not over hydrate, but make sure to not be dehydrated.
150 grams of cereal (2 cups) plus milk, 1 banana and berries/dates.	Home-made slow cook stew/goulash with protein and tons of veggies, add potato, sweet potato or rice for increased CHO	Chocolate milk, fruit juice, sports drink, 4:1 recovery drink can all be great high CHO snacks	Any breakfast can be eaten for lunch or dinner and vice versa
Pancakes with maple syrup, yoghurt and fresh fruit	Wrap or sandwich with 120grams protein and plentiful veggies/salad or baked potato	Small smoothie – see breakfast recipe	Post training 4:1 Carb:Protein is your best recovery ratio! Within 30 minutes!
2-3 Crumpets with honey or jam and a nut butter	Recovery drink in a 4:1 (CHO:Protein ratio)	Rice pudding or sushi rolls with rice	If in doubt use a food diary app such as mynetdiary or myfitnesspal



Kira Sutherland is a Nutritionist and Naturopath who specialises in Sports Nutrition. With over 30 years of clinical experience, Kira is passionate about working with athletes of all levels. She is the previous recipient of the BioCeuticals Integrative Medicine Award for Excellence in Clinical Practice (Nutrition/Dietetics). She divides her time between lecturing at the undergraduate level, clinical practice and mentoring practitioners of complementary medicine in the application of sports nutrition.

Sincerely,

Kira Sutherland

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