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TORQ EVENT PREPARATION GUIDE

THE DAYS LEADING UP TO THE EVENT

THE DAY BEFORE THE EVENT

THE MORNING OF THE EVENT

DURING THE EVENT

AFTER THE EVENT

ONGOING TRAINING



**Please feel free to phone TORQ Australia on 1300 857553
for any fitness or nutritional advice.**

NUTRITION FOR TRAINING AND ADAPTATION:

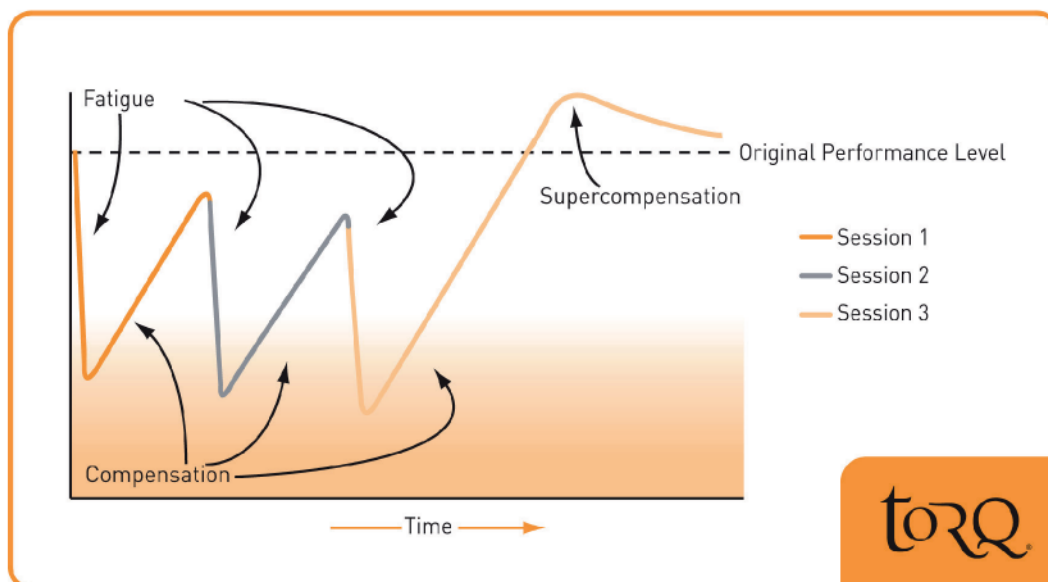
If you take your fitness seriously, having a thorough understanding of Performance Nutrition is going to be essential to your success, but we accept that in-depth training and nutritional information isn't everyone's cup of tea. To that end, we've got a simple remit and that is to keep these 'nutrition' pages as easy to understand and un-cluttered as possible.

If after reading these pages, you're not entirely satisfied, worry not. TORQ have produced a comprehensive Performance Resource, which sells on our website at \$12.50 per copy, but you can download an environmentally friendly e-version by emailing us (enquiries@torqaustralia.com.au) resource provides a whole host of valuable information ranging from the fundamentals of training theory right through to hot/ cold climate fuelling scenarios.



THE DAYS LEADING UP TO THE EVENT:

If you want to perform at your best on the day of the event, you'll need to be well rested and nicely loaded up with carbohydrate. This means that you should taper your riding/training for the week leading up to the event so that you're doing much less than normal. I guess the flip side of this is that you should have been doing 'more than normal' in the few weeks preceding the event to build up your fitness. The diagram below should give you some idea as to how the principle of tapering works.



The objective behind tapering is that you build up a trough of fatigue by training hard and allowing inadequate recovery over a few weeks and then as you back off on the approach to the event, your body 'Supercompensates'. Taking advantage of this Supercompensation or peaking in form will give you your best performance.

THE DAY BEFORE THE EVENT:

So, you're well rested and peaked, which means there are no training sessions you can do now that are going to boost your performance the next day, or are there? Well really, the biggest single focus for you is to 'Carbo Load' because the more carbohydrate you can cram into your muscles, the longer you're going to last tomorrow and the faster you'll be able to ride. To carbohydrate load successfully, the obvious procedure would be to eat a lot of carbohydrate-rich foods the day before the event and this is indeed true, but there is also a little training session you can do to boost carbohydrate storage further.

There have been various protocols investigated over the years for successful carbohydrate loading, some of which have been quite painful and unpopular, but this one discovered by the Australian Institute of Sport in the 90's showed record levels of carbohydrate storage for relatively little effort.



So what does the procedure involve? Approximately 24 hours before the event begins, give yourself a 5-10 minute warm up, have a good stretch and then find a hill or flat stretch of uninterrupted road/trail that will allow you to unleash 3 minutes of maximal effort. If you own a turbo trainer or exercise bike it's even easier. Make sure that your 3-minute effort is absolutely maximal so that you feel a real 'lactate burn' in your legs afterwards and then for the next 24 hours you need to rest and eat, eat, eat. The vast majority of your calories should be carbohydrate, keeping protein intake moderate and fat very low. Fat will delay the absorption of carbohydrate and your event performance will never be limited by lack of fat stores however skinny you are, you can be assured of that, so fat will be a hindrance at this time. If you're eating dry forms of carbohydrate, make sure that you drink plenty of water too, because for every gram of carbohydrate you store, you will also retain 3 grams of water and without the fluid, you won't store the carbohydrate.

Successful carbohydrate loading will leave your legs feeling quite heavy on event day, but as you use the carbohydrate up (as the event unwinds) you'll feel better and better. Having muscles full of carbohydrate effectively bolsters your fuel supplies so that your time to exhaustion is increased (you'll be able to ride for longer before you run out of energy). Combining this approach with a solid fuelling strategy on the day (to be discussed next) will pay huge dividends.

Carbohydrates come in 2 forms, starches (polysaccharides) and sugars (mono and disaccharides). Here are some examples so that you can plan your loading effectively:

Polysaccharides: Pasta, rice, potatoes, chickpeas, lentils, bread, couscous.

Mono/Disaccharides: Sugar, wine gums, fruit pastels, sugary drinks (non-diet), honey, jam.

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Breakfast cereals tend to be a good mix of both types, as do baked beans. In fact there are many products that contain both types of carbohydrate, but you just need to make sure that you make choices that don't contain much fat. Chocolate or cakes are bad choices for instance. The advantage of Mono/Disaccharides over polysaccharides from a carbo loading perspective is that they are lower in bulk and richer in carbohydrate calories than polysaccharides. From a long term health perspective, polysaccharides are favourable, because they contain dietary fibre, some protein and various vitamins and minerals. In essence, for one day, a gorge on the less healthy carbohydrates isn't going to have a significant impact on your health and will make loading easier, but be aware that carbo loading is quite a unique proposition.

TORQ products can be used as part of the carbo loading process, because they're rich in carbohydrate and low in fat, but it would be wrong for us to suggest that they're going to do a better job than normal food. Where TORQ products will really help will be during the event itself and immediately afterwards, which will be discussed shortly.

One product that you could consider for the carbo loading process is our 'TORQ energy – Natural Unflavoured'. We have a standard version and an ORGANIC version, but they both effectively do the same thing. They are a polysaccharide, but they have the density of a mono/disaccharide, which means that although they have the density and carbohydrate concentration of sugar, they have no sweetness. This product can be added to all sorts of sweet and savoury foods like cups of tea or soup without altering the flavour. It is used extensively by professional tour riders as an invisible calorie to help with carbo loading and refuelling after exercise, because 3 level scoops has the same carbohydrate content as a large bowl of pasta. If this is of interest, please visit the following link on the TORQ website (remember, it's the Natural and Natural Organic products that we're referring to here, not the flavoured drink mixes):

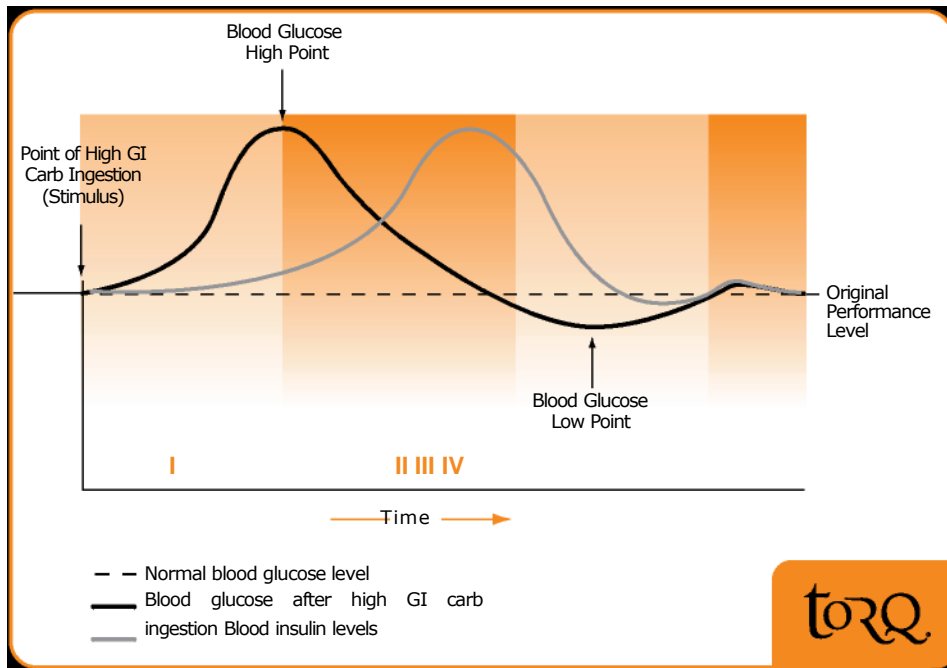


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THE MORNING OF THE EVENT:

It is our firm opinion that there's nothing much you can do on event day morning other than make poor dietary choices that can ruin your performance. You should be carbo loaded at this point, so the effect of further carbohydrate intake on event morning is going to have a negligible effect. In fact, if you consume a significant quantity of high glycaemic index (High GI) carbohydrate in the hour before exercise, this can leave you feeling lacklustre and unfocussed on the start line. The diagram below shows how high GI carbohydrate sources will cause a rapid rise in blood glucose followed by a proportional rise in insulin, which in turn lowers blood glucose. This panic response actually sends blood glucose (and your mental responsiveness) to a low point and it's not a great place to be when you're about to start a big endurance challenge.



So the key to optimal nutrition on race morning is to make sure that you have a mix of high & Low GI carbohydrates for Breakfast so you don't get an exaggerated insulin response. If you want to learn more about high & Low GI sources, do a google search, because there's far too much info to put into this article, but effectively more processed carbohydrate have a higher GI, because the body breaks them down more easy. Raw husky organic carbohydrates tend to have a lower GI.

It's a good idea to consume some lean savory protein Breakfast if you fancy it, because this is going to be the last satiating meal you'll have for a while. And this triggers the final point "lean" choosing low fat is going to be a key concept to remember if you're going to get through the day in respectable shape. Within reason, you can celebrate and do what you like when you've finished, but don't drop a ball now. The reason fat intake is such an issue on event day is because it takes so long to digest and in its dietary form it's metabolically useless. We all have plenty of fat to metabolise stored under our skin and around our organs, so there's no fuelling benefit to taking it on board within your food on the day of the event anyway. Fat will also slow the passage of food through the gut and impede the absorption of carbohydrate, so it's really not a good thing. In addition to this, if you have a fatty breakfast, you could start taking the perfect energy products on board from the start of the ride and they'll all sit on top of this plug of fat. You'll struggle to digest the good stuff and then you'll feel nauseous and get all sorts of gastric problems as the ride progresses. This won't be because of the energy products you've consumed; it'll be due to your earlier fat intake.

It's important to note here that fat does carry certain essential omega oils and vitamins A,D,E and K which are fat-soluble, so you certainly don't want to omit fat from your diet altogether, but you don't need it on event morning, or as you'll read in the next section, during the event itself.

As an aside, an excellent TORQ-recommended pre-ride breakfast is beans on toast with no butter on the toast and if you fancy it, a rasher or two of lean bacon (with all the fat trimmed off). This ticks all the boxes as far as we're concerned.

DURING THE EVENT:

It's during the event where TORQ products are meant to be used. You could use low fat forms of carbohydrate like jelly babies and jam sandwiches as fuel, because these are essentially delivering carbohydrate to your blood stream, but this isn't an optimal approach and quite frankly, we wouldn't have a business if our products couldn't do a significantly better job and get you home quicker and more comfortably.

Before the turn of the millennium, research had proven that glucose-based products delivered energy quicker than any other whilst exercising and specifically a special polymer of glucose called 'Maltodextrin'. Using maltodextrin-based products, it was deemed possible to deliver approximately 60 grams of carbohydrate per hour, which basically meant that 60 grams of stored carbohydrate was 'spared' per hour of exercise. As carbohydrate is stored in limited supply within the working muscles, fuelling at this rate was (and still is) considered to be hugely beneficial to endurance performance.

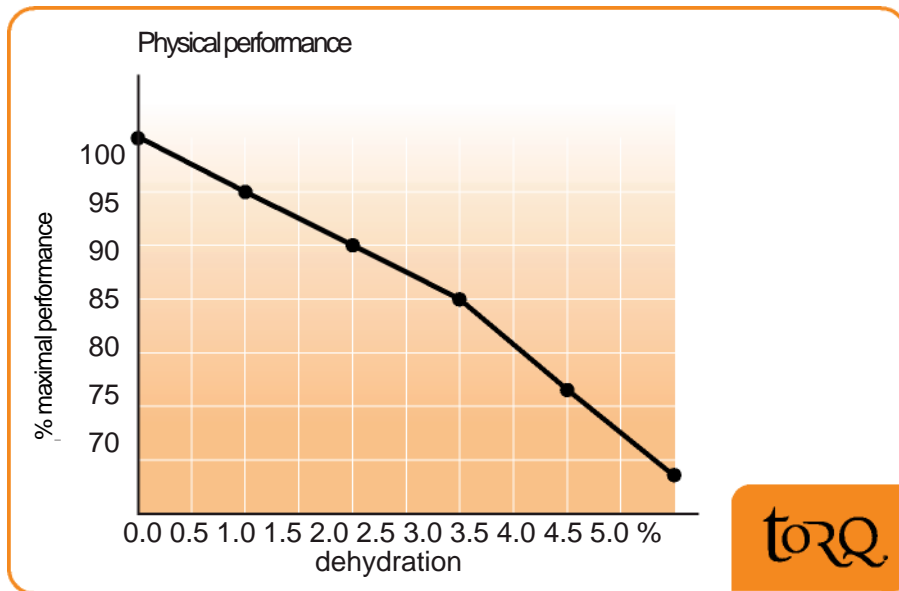


In 2005, new research found that by mixing maltodextrin with fructose (fruit sugar) at a 2:1 ratio, carbohydrate delivery was increased by 40% and this had huge implications for the prescription of fuelling for endurance events. This and other studies suggest that a 2:1 maltodextrin:fructose formulation allows the user to consume and use up to 90 grams of carbohydrate per hour. The implications of being able to deliver and use 30 grams more carbohydrate than previously considered possible has significant implications to endurance performance. In short, it gives you 40% better carbohydrate-sparing than using maltodextrin alone, which is quite a staggering finding. This extremely fast delivery of carbohydrate also means that the product isn't in the gut for long, so stomach problems from these formulations are extremely rare. Suffice to say, all of TORQ's energy products are formulated using 2:1 maltodextrin:fructose and to further ease gastric emptying, the philosophy of the company is very much about keeping the products natural. We also have Soil Association Organic Certification on two of our products and Fairtrade Certification on four of them.

So, whether you decide to use TORQ, another brand or just jelly babies for your ride, you should be taking on board a minimum of 40 grams of carbohydrate per hour, up to a maximum of 90 grams per hour depending on your fuel choice. As we're the nutritional sponsor of this event, let's assume for the sake of argument that you are in fact going to use TORQ and it'll make the following example much easier to explain. TORQ products have been designed in 30 gram doses to make life easier for everyone:

500ml TORQ energy (6% standard recommended mix) = 30 grams carbohydrate (1 TORQ unit)
 1 X TORQ gel = 30 grams carbohydrate (1 TORQ unit)
 1 X TORQ bar (new 45g size) = 30 grams carbohydrate (1 TORQ unit)

Let's assume that you want to be more cautious for your first event and want to run with 60 grams of carbohydrate per hour instead of 90. This means that you need to consume 2 TORQ units per hour, but which units do you take? The diagram below shows the effect of dehydration on physical performance, so drinking enough is also clearly a consideration.



In a nutshell, if perspiration rates are high, more of your TORQ units should come from energy drinks as opposed to bars or gels, because these will simultaneously fuel and hydrate you. TORQ's energy drinks also contain 5 electrolytes at high levels, so the more of these you drink, the higher the level of essential salt replacement too. These will prevent cramping and aid the hydration process.

In cooler conditions when perspiration rates are lower, you'll want at least some of your TORQ units to come from either bars or gels, because although the drinks will supply adequate fuel if you drink enough of them to satisfy your fuelling needs, they'll also fill your bladder and if you have to stop too often, you're not going to get a very good event time! Whether you take a bar or a gel is up to you. A bar will feel more like 'food' if your stomach is asking for something to work on, but gels are much easier to get down in a hurry and are functional when you're not necessarily hungry.

Our suggestion is that you start with 2 TORQ units per hour and then practice with 3. If you're over 70kg, you really shouldn't have a problem with 3 TORQ units per hour.

This probably doesn't need repeating, but I think it's important to reiterate the 'low fat' discussion point from the previous section, because any fat consumed during the ride will affect:

- a. Carbohydrate delivery
- b. Gastrointestinal comfort
- c. Performance (the sum of the above 2 factors)

So, if an energy bar has a chocolate or yoghurt coating, it will be quite high in fat and therefore we don't consider it an energy bar. There are also plenty of apparently healthy flapjack-type products on the market masquerading as 'energy bars', so **CHECK THE FAT CONTENT**. Ideally it'll be close to 2 grams of fat per 100g of product and they should be very high in carbohydrate.

The final point to get across is that you should **NEVER** wait until you're hungry or thirsty. You need to assume the mantle of 'eating/drinking machine' right from the gun, because the carbohydrate calories you take on board at the start of the ride will save you towards the end. If you run out of carbohydrate, it's a phenomenon in cycling known as 'bonking' and it's not very pleasant at all. If you've carbo loaded and fuelled properly throughout however, bonking is almost impossible, so do the right thing.

AFTER THE EVENT:

One school of thought is that once you've finished your event, you have every reason to reward yourself with a beer and some high fat indulgences. Whilst we can't argue with this perspective, there is a compromise. Within 15 minutes of finishing, you should ideally consume a proper recovery drink, because the correct nutrients at this time will perform a huge amount of work and it'll mean that you'll be able to walk and function relatively normally the following day. Once you've absorbed your recovery drink, hey of course, chill out, have a beer and eat some of the stuff you've not been allowed to for the last couple of days.

The main function of a recovery drink is to restore muscle carbohydrate (glycogen) levels to normal as soon as possible, enabling you to exercise again sooner. Other components within a good quality recovery drink will aid muscular/biochemical repair and support your immune system. Our opinion is that recovery drinks are best used during high load periods of training (like you might have done in the lead up to this event), because they increase your resilience to training and allow you to perform a higher training volume. After an event like this, they certainly help you to feel less fatigued the next day, but presumably you'll be giving yourself a few days off the bike anyway as a reward, so how necessary is it? The choice is yours.

TORQ's recovery product isn't available in a single sachet, because the dose you need is bodyweight dependent and we don't believe in selling someone a product that doesn't work properly. We sell small tubs (4-7 doses) and larger tubs (12-20 doses). Once again, there's the subject of fat content. If a recovery product is high in fat, it's going to delay carbohydrate and protein absorption and the whole point of a recovery drink is to get the correct mix of calories into your blood quickly whilst enzyme activity is elevated (enzymes are the chemicals within your body that do the graft of storing and building). TORQ recovery has 0.7g fat per 100g of powder, which is



extremely low fat. Remember that with pre-mixed recovery drinks, most of the product is calorie-less water, so this can distort your perception of fat levels. For instance, 0.7g fat per 100ml of ready-to-drink is actually quite high fat.

TORQ recovery also contains whey protein to facilitate carbohydrate absorption as well as providing the building blocks for muscular repair and Ribose, HMB and L-Glutamine, which are extremely potent natural ingredients specifically chosen for their recovery/immune enhancing properties. Ribose in particular is very unique to TORQ.

ONGOING TRAINING:

If you'd like to be fitter and faster for the next event, take a look at TORQ's Fitness Consultancy services online at:

www.torqaustralia.com.au Alternatively, please feel free to phone on 1300 857553 for any fitness or nutritional advice.