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## Triathlon preparation guidelines:

### The final week countdown!

The final countdown week can be different for everyone. For some individuals involved in a hectic schedule of triathlons and endurance events this is another event in the middle of many others. Other athletes choose this event as their main peaking event of the summer. So how aggressively you attack this, your final week of preparation, can depend on a number of factors:

#### - Recovering from a recent event?

If so you will need to keep especially focused on your sleep, nutrition and recovery this week in preparation for the coming event so that you not only recover and repair any muscle trauma and damage from the previous event; but you then glycogen load the muscles optimally for the coming physical challenge. Recent endurance events that result in muscle soreness, inflammation or stiffness further complicate the glycogen restoration process as damaged muscle cells do not re-load as quickly or efficiently; so you may need to consider further raising your carbohydrate intake over your normal pre-event loading intake.

**Anti-inflammatory foods** such as ginger, turmeric, colourful fruits and vegetables, green tea, garden herbs and omega 3 rich fish will also benefit. Preparation also should address hydration and recovery of intramuscular fat stores.

#### - Planning on training right up to the event?

If so it is recommend that you raise your total energy intake and carbohydrate intake to ensure that you not only refuel and recover from every training session but that you sufficiently load liver and muscle glycogen stores such that you are optimally prepared for the event. I would suggest a minimum of 10-12g carbohydrates per kg body weight for this. Total energy intake is also important to ensure that the carbohydrates consumed are used for refueling and glycogen storage and not partitioned elsewhere.

If your liver and muscle glycogen stores are low prior to the start of the event you are on a losing battle to maintain ideal blood glucose levels sufficient to fuel a decent pace, performance and time; not to mention the mental consequences of hitting the wall also termed bonking.

#### - Planning on tapering training prior to the event?

This is recommended if you are new to triathlon of this distance. Most definitely avoid over-training at the last minute; trust in your training preparation!

In addition to tapering your training it is recommended that you raise your total daily carbohydrate intake for 36 to 72 hours pre-event to refuel and possibly even super-compensate muscle and liver glycogen stores. Additionally, pay heed to all the recommendations given here regarding fluid, electrolyte and medium chain triglyceride intake.

If I may add one final comment, it is that **it has been found in studies that women tend to veer on the more cautious side of carbohydrate and energy intake during training** so if you have a hectic Summer event schedule or plan on training the week leading up to an event, it is highly recommended that you embark on at least 2 days of higher carbohydrate intake (this means 8-10g carbohydrate per Kg at least). If you pay heed to keeping unwanted fat (processed and saturated) intake low then your energy intake need not be excessive. **The crucial point is that you refuel, recover and load muscle glycogen levels such that you have fast pace, stamina and endurance in the tank for that finishing time you are chasing.**

As you draw close to the big event, your nutrition, sleep and stress management become increasingly important. You have put in the hard graft in your training. Now is the time to apply that dedication to your training recovery and nutrition preparation. If you were driving in the grand prix you would pay heed to your engine, fuel and oil.... Your body is no different. Ceases to amaze me how many athletes leave nutrition to chance. If you realized that once you go past the 90 minute mark (approximately); your body starts to run low on muscle glycogen and becomes increasingly reliant on an external source of energy to maintain pace and performance you wouldn't be so blaze about how good training will get you through in record time. **Race pace** has also been related to initial glycogen store levels; hence emphasizing the importance of your pre-race carbohydrate strategy. Furthermore your ability to maintain blood glucose levels and prevent or delay the development of hypoglycemia and **fatigue** is also related to your pre-race glycogen stores.

**Your nutrition is a key part of your race preparation.** The good news is that, even if you haven't been as saintly regarding what went on your plate for the past months as you did getting your behind out for training sessions; you can still earn those angel wings by getting things right this week and making the most of your nutrition countdown strategy.

Before we go full steam into race preparation tips I want to add one observation of mine from many years of experience working with the best of our Irish athletes. **The most successful athletes prepare themselves not only nutritionally and of course physically, but most importantly, mentally.** I have been absolutely overwhelmed by the power of self belief more than once. I truly believe that mental strength and self belief is at the true core of every successful athlete and every single successful athletic performance. When the most talented genetically gifted athletes all line up together... it is the mentally toughest athlete with the greatest level of self belief that most often pulls that extra percent out of the bag to grab the best performance of their lives. **Never underestimate the power of your mind.** And although I am not a sports psychologist, I urge you to mentally prepare yourselves for not only this event, but every event. There is a lot to be said for visualizing yourself as you compete (visualize the race course), feeling good, enjoying it and all the while performing well.

## Preparation guidelines:

Your race nutrition strategy is to optimise the delivery of fuel to the mind and body whilst avoiding bloating, fullness, cramping, nausea or vomiting.

Pre- and during-endurance event nutrition is vital for a number of reasons:

- ✘ To make sure that you are fully recovered from any previous training sessions.
- ✘ To ensure liver and muscle glycogen stores are full. Important to maintain during exercise blood glucose levels to fuel optimum physical and mental performance.
- ✘ To fuel your pace.....pre-race muscle fuel stores are believed to dictate initial race pace and your ability to maintain pace.
- ✘ To keep you mentally tuned in for the start + duration of the event; poor nutrition affects concentration, mood, and motivation.
- ✘ To optimise reaction speeds, keep the muscles strong, maintain correct joint form and movement, and hence prevent the likelihood of an injury/ tripping/ going over an ankle/ falling on an uneven surface/ an accident.
- ✘ To maintain most efficient biomechanical form – correct form and posture improves efficiency. Delaying or limiting muscle fatigue is an important strategy to improve efficiency and therefore your final time.
- ✘ To provide you with consistent energy levels, prevent during race hypoglycaemia and subsequent fatigue.
- ✘ To prevent / limit muscle damage and reduce post-event soreness and stiffness.
- ✘ To support your immune system and prevent post- event coughs and colds; getting your nutrition right will also limit post-race immune and inflammatory consequences.
- ✘ To prevent serious heat-related illness, hyponatraemia or a Do Not Finish

*"The will to win means nothing without the will to prepare."*

*- Juma Ikangaa, Tanzania*



**Pre-event nutrition starts at least 3 days before the endurance event and will be most effective if you taper your training.**

- 1. Carbohydrate load for days -3, -2, -1 prior to race day. As a general guide a carbohydrate intake of 10g per Kg body weight is recommended.**
- 2. Keep things simple and stick with what works for you; once you find a routine that works for you, then it is best to avoid unusual food additions. Many things can go wrong on the day, so it makes sense to practice and fine-tune all competition strategies well in advance. Make a plan and then stick to the plan...if the plan works then use it the next time!**
- 3. It will take a little time to discover the right pre-event and event-day food routine for you. I recommend that you review what you eat on event day immediately after each event and then tweak the format with improvements until you settle on the best strategy for you. A good start is to implement the following recommendations as best you can.**
- 4. When going through the following options bear in mind food availability, transport, preparation, and weather conditions (i.e. bring food with you; I don't recommend leaving it to chance).**
- 5. Carbohydrate loading can leave the muscles a little stiff so the inclusion of ginger, turmeric, herbs and spices as recommended in the menu plans may ease these sensations.**
- 6. If you have been following a low-wheat or wheat-free diet then it may be advisable to continue to do so; in fact I recommend limiting wheat products as they tend to cause more bloating and gastro upset in some persons, and instead opt for oats, rice or other wheat-free carbohydrate foods.**
- 7. Add salt (sea salt or Himalayan sea salt) to your meals to aid electrolyte intake and support hydration balance.**
- 8. When carbohydrate loading, some athletes are particularly sensitive to milk containing foods (may cause diarrhoea), wheat containing foods (causes bloating), or certain fruits and vegetables such as onions, garlic, apples, oranges, and so on (may cause discomfort, wind and bloating), as well as the quirky food sensitivities and superstitions that frequently occur in certain individuals...Try to become more aware of these unique and potential pitfalls, make a note of them and avoid if necessary...**
- 9. Pre-race nerves can lead certain athletes to get extremely nauseous prior to race day. This affects not only food intake but sometime also fluids intake. In these situations regular small feedings of bland foods, smoothies or meal replacements may work. It is important to work out a strategy that works for you.**
- 10. Avoid meals that your system is not used to, to avoid an upset stomach on event day. Pack your own safe foods for travel to the venue if necessary.**

**The key to carbohydrate loading is to:**

- Base each meal and snack around carbohydrate foods.
- Be smart with your carbohydrate choices; include several types and forms of carbohydrate in each meal and snack; e.g. banana and dried fruit in your oatmeal, hummus with your lunch, home-made juice with your snack, peas and noodles in your soup, potato in your omelette, squash in your curry, etc.
- Strive for low GL (Glycemic load) meals based on foods in their natural state
- Add small portions of protein to each meal.
- Add limited amounts of the healthy immune and inflammation modulating fats to your meals.
- Aim to include food rich in antioxidant and anti-inflammatory compounds.
- Avoid excess fibre or fibre fortified foods.

MCT fats from coconut oil and supplements may also be useful in your pre-race strategy.

**11. Recommended carbohydrates:**

Basmati rice  
Pasta – esp. spelt, kamut, wholegrain  
Gluten-free pasta – brown rice, quinoa, millet, corn, multi-grain, etc.  
Rice noodles  
Soba noodles  
Quinoa  
Couscous  
Breads – don't over-rely on bread  
Pita breads and bagels  
Home-made pancakes

Flour wraps  
Potatoes, sweet potatoes, squash  
Breakfast cereal – esp. oat based  
Rice pudding  
Yoghurts  
Fruit and home-made juices  
Sports drinks  
Smoothies  
Health and sports bars  
Fruit – fresh, dried, stewed, frozen  
Root vegetables

**12. Protein:**

**Limit heavy protein especially meat; it is important to include some protein in your carb loading plan just keep the portions small to moderate.** Vegetarian proteins such as beans or lentils are also fine so long as they don't make you uncomfortably windy!

Chicken  
Turkey  
White fish  
Cold water omega-3 rich fish  
Beans  
Tofu and fermented soya products

Eggs – whole or white  
Nuts and seeds  
Cottage cheese  
Condiments such as hummus, bean, fish, tofu or cottage cheese dips

**13. Limit your fruit and vegetables to small portions that add flavour and interest;** especially if you don't have a large appetite. Large portions of fruit and vegetables may fill you excessively and limit your intake of more concentrated carbohydrate foods. More carbohydrate dense options include dried fruit, fresh fruit juices, banana, root vegetables, potatoes, and peas. Fruit is generally a higher carbohydrate option than vegetables but excess intake can bloat.

I suggest that fruit is added to meals, yogurt, or smoothies rather than eaten alone. **Fresh herbs like parsley, coriander, rosemary, oregano and thyme and dried herbs provide valuable antioxidants.**

Fruit and vegetables may be added to **juices and smoothies** to raise your carbohydrate, nutrient and antioxidant intake. **Root vegetables and substantial soups** are nutritious high carbohydrate choices. Try sweet potatoes, mashed potatoes, sweet potato, parsnips, celeriac, squash, beetroot, carrots, pumpkin, and sweet corn and soups like minestrone, parsnip, chicken noodle, etc. These should accompany, but not dominate the meal.

14. **Choose high antioxidant foods** such as herbs, spices, ginger, and dried herbs to add antioxidant nutrition while not filling you up excessively.
15. **Regular meals and snacks (e.g. every 3 hours)** are crucial to achieve your carbohydrate goals, while also supporting balanced blood sugar levels.
16. Meals on high carbohydrate pre-event days need not follow the traditional format....eat what you fancy and what suits your needs....i.e. more than one breakfast type meal is fine.
17. **Don't neglect your fluid intake**; sip on fluids and herbal teas throughout the day. Preferably in between meals to optimise digestive function.
18. **It is preferable to choose foods that are low on the Glycemic index and to combine these with a small portion of protein and a small intake of healthy fats.**
19. **Limit saturated fat in all forms** (this means butter, cheese, chocolate and fatty sauces). Watch out for hidden fats: e.g. toasted breakfast cereal, some brands of sports bars, some brands of pasta or curry sauce, muffins, croissants, fried foods, red meat, certain sandwiches, certain pasta dishes such as lasagne or fast food curries and pasta dishes.
20. Enjoy desserts such as yoghurts, low-fat frozen yoghurt or low-fat rice pudding, fruit salad, grilled fruits, pancakes/ sweet waffles, fat-free fruit crumble or fat-free fruit loaf/ malt bread/ sprouted wheat bread/ home-made fruit breads/ home-made fat reduced muffins. Be cautious of sweet foods that you haven't prepared yourself as they may contain high quantities of fats. Don't go over board on fruit as it is mostly water; dried fruits are a better option.
21. *Consider taking **fish oil, joint supplements, ginger, glutamine, low-dose creatine, branched chain amino acids and HMB** as part of your pre-race strategy. In particular pre-race and post-race use of HMB may limit muscle trauma and hence post-race stiffness, pain and inflammation (i.e. 7 days pre, on race day and post-race). Cysteine or N-Acetyl-Cysteine (NAC) may also be helpful based on recent research regarding muscle trauma and immune system function. However, any of the above strategies are secondary to your pre-, during- and post-race nutrition strategy.*
22. **The following charts contain carbohydrate loading menu templates for the three days pre-race. Please note that this is a guide; everyone is unique in what does and does not work for them.**
23. ***I have tried to sneak in some of the very nutritious foods and condiments that may improve the ability of the body to withstand the stress of the endurance event....do your best.***

## Sample carbohydrate loading menus

quantities are only as a rough guide.

<b>700g approx (= 10g per Kg for 70 Kg athlete. If you are heavier than this then raise your carbohydrate intake slightly further again).</b>	<b>600g approx (= 10g per Kg for 60 Kg athlete). If you are lighter than this or you prefer to carb load at 8g per Kg body weight then drop the volume of carbs eaten slightly.</b>
<p><b>Breakfast</b>            250ml apple juice mashed with 1-inch fresh root ginger in the blender OR home-made fruit and veg juice            1 large bowl porridge oats            + low-fat or dairy-free milk            + 2 tblsp raisins/ dried fruit + handful of blueberries            2 thick pieces wholegrain bread/ home-made pancake/ pancake made from Orgran gluten free pancake mixture            + honey (NO butter or spreads!)</p> <p>Optional: Green tea or decaff tea....no coffee!            Advised: 1 boiled egg or 1 scoop protein powder. 1 serving Solgar lecithin granules</p> <p><b>Morning snack:</b>            250ml tall glass Grape/ Pomegranate juice (high in carbohydrates and antioxidants)            4 oatcakes + 2 teaspoons honey (i.e. mini sandwiches)            Optional: few nuts or seeds or unsweetened coconut flakes</p> <p><b>Lunch:</b>            250ml diluted Ribena or Cherry Active concentrate            Salad made from the following:              1 ½ cups cooked rice/ Basmati rice/ Quinoa/ Couscous              4 tablespoons sweetcorn              2 tablespoons raisins/ sultanas              2 tablespoons approx toasted pine nuts (for flavour)              Chopped red pepper              3 tblsp red kidney beans              1 tblsp chopped parsley              Dressing: 1 tblsp extra virgin olive oil + lemon juice            2 Jacobs Fig Rolls OR 1 health bar OR 3 large figs</p> <p><b>Afternoon snack:</b>            250ml homemade fruit + ginger + veg juice OR sports drink such as Gatorade/ Lucozade sport etc            1 large cinnamon bagel + 2 teaspoons Philadelphia Extra Light + 2 teaspoons honey/ jam/ fruit puree (home-made health bread or healthy sports bar may be substituted)            If you prefer savoury then have some carbohydrate rich soup and top your bread with hummus instead of jam</p> <p><b>Dinner:</b>            250ml home-made fruit + vegetable juice OR watermelon whizzed in the blender with root ginger            250g cooked pasta / rice noodles/ gluten-free pasta or rice (large serving)            Tomato pasta sauce + red onion + garlic + mixed dried herbs + 1 tblsp chopped parsley            +85g chicken stirred into the pasta sauce (a small breast)</p> <p><b>Evening smoothie containing (for example; predominantly carbohydrate):</b>            300ml apple juice            2 tblsp Kretschmer wheatgerm            1 banana            Pineapple or papaya or berries            2 tablespoons Solgar lecithin granules            3 tblsp low-fat natural yoghurt or <u>full fat coconut milk</u>            2 dried apricots</p>	<p><b>Breakfast</b>            250ml apple juice mashed with 1-inch fresh root ginger in the blender            1 bowl porridge made with water            + low-fat or dairy-free milk + 2 teaspoons honey or maple syrup            + 2 tblsp raisins/ dried fruit + blueberries            + 2 tblsp Kretschmer wheatgerm            Optional: Green tea or decaff tea....no coffee!            Advised: 1 boiled egg/ egg-white or 1 scoop protein powder. 1 serving Solgar lecithin granules</p> <p><b>Morning snack:</b>            250ml tall glass Grape/ Pomegranate juice (high in carbohydrates and antioxidants)            4 oatcakes + 2 teaspoons honey (i.e. mini sandwiches)            Optional handful of coconut flakes (unsweetened)</p> <p><b>Lunch:</b>            250ml diluted Ribena or Cherry Active            Salad made from the following:              1 cup Brown rice/ Basmati rice/ Quinoa/ Couscous              3 tablespoons sweetcorn (high carb)              2 tablespoons raisins/ sultanas              2 tablespoons approx toasted pine nuts (for flavour)              Chopped red pepper              3 tblsp red kidney beans              1 tblsp chopped parsley              Dressing: 1 tblsp extra virgin olive oil + lemon juice            2 Jacobs Fig Rolls OR 1 health bar OR 3 large figs</p> <p><b>Afternoon snack:</b>            250ml sports drink such as Gatorade/ Lucozade sport etc.            1 large cinnamon bagel (4 ½ inch diameter) + 2 teaspoons Philadelphia Extra Light + 2 teaspoons honey/ jam/ fruit puree (home-made health bread or healthy sports bar may be substituted)</p> <p><b>Dinner:</b>            250ml home-made fruit + vegetable juice OR watermelon whizzed in the blender with root ginger            250g cooked pasta / rice noodles/ gluten-free pasta or rice (large serving)            Tomato pasta sauce + red onion + garlic + mixed dried herbs + 1 tblsp chopped parsley            + small portion chicken stirred into the pasta sauce (a small breast and NO more)</p> <p><b>Evening smoothie containing (for example; predominantly carbohydrate):</b>            300ml apple juice            2 tblsp Kretschmer wheatgerm            1 banana            Fresh pineapple or papaya or berries            2 dried apricots            2 tablespoons Solgar lecithin granules            3 tblsp low-fat natural yoghurt or <u>full fat coconut milk</u></p>

Please note that tablespoon and teaspoon quantities are FLAT.

Approx total calories: carbohydrates = 70%, protein = 10%, fat = 19%.

890g approx (= 10g per Kg for 89 Kg athlete).	Alternative menu for 600g carbohydrate content
<p><b>Breakfast –</b>  200g watermelon mashed with 1-inch fresh root ginger  1 large bowl Muesli or shreddiees or oatibix or plain cooked rice  + low-fat milk or dairy-free milk  + optional 2 tablespoon Kretschmer wheatgerm  + 2 teaspoons honey  + 4 prunes/ 2 figs (<i>chop them up to make them a easier to eat</i>)  2 thick 4”pancakes (made from mix like Aunt Jemimas or Orgran gluten-free pancake mix) + 2 tablespoons maple syrup  Optional: Green tea or decaff tea....no coffee!  Advised: mix 1 scoop protein powder and 1 serving Solgar lecithin granules into the pancake mixture or breakfast cereal</p> <p><b>Morning snack:</b>  250ml tall glass cranberry or pomegranate juice or even better home-made fruit + vegetable juice  2 thick slices bread + 4 teaspoons jam (<i>preferably a berry jam; home-made bread is optional</i>)  OR 200g approx steamed baby potatoes tossed in coconut oil and mixed herbs or topped with hummus</p> <p><b>Lunch:</b>  250ml orange or other juice or sports drink  150g basmati rice stirred through with  + green peas  + few chunks of ham/ turkey/ chicken  + optional soya sauce/ oyster sauce/ blue dragon sauce for flavour  + optional chopped coriander for flavour and antioxidants</p> <p><b>Afternoon snack:</b>  500ml sports drink such as Gatorade/ Lucozade sport etc.  1 PowerBar Performance bar (<i>or other high carbohydrate bar such as Clif, Garden of Life, Nakd, or Ethic Sport</i>)</p> <p><b>Dinner:</b>  250ml apple juice mashed with 1-inch fresh root ginger  1 pita bread toasted and eaten with 30g approx fresh hummus</p> <p>2 cups cooked Basmati/ white rice  A mild, tomato based curry (<i>moderate portion; spices are anti-inflammatory</i>)  1 tblsp chopped coriander or similar  + small portion chicken/ white fish/ turkey chopped into sauce</p> <p><b>Evening smoothie containing (for example; predominantly carbohydrate):</b>  300ml low-fat milk/ dairy-free milk/ ½ quantity coconut milk  1 banana  75g large dates (<i>as many as you can handle....they are v high in carbohydrates!</i>)  2 tablespoons lecithin granules  Optional: cinnamon for flavour.</p>	<p><b>Breakfast</b>  200g watermelon mashed with 1-inch fresh root ginger  1 large bowl Muesli  + low-fat or dairy-free milk  2 tablespoon Kretschmer wheatgerm  + 2 teaspoons honey  + 4 prunes (<i>chop them up to make them a bit easier to eat</i>)  Optional: Green tea or decaff tea....no coffee!  Advised: mix 1 scoop protein powder and 1 serving Solgar lecithin granules mixed into the breakfast cereal</p> <p><b>Morning snack:</b>  250ml tall glass cranberry or pomegranate juice or even better home-made fruit + vegetable juice  2 thick 4”pancakes (made from mix like Aunt Jemimas OR Orgran wheat-free range) + 2 tablespoons maple syrup  Optional handful of unsweetened coconut flakes</p> <p><b>Lunch:</b>  250ml orange juice or other juice or even better home-made veg + fruit juice (or sports drink if preferred)</p> <p>Baked potato (200g approx = fairly large; choose rice if you prefer)  Filled with baked beans (small tin) + chopped fresh coriander or parsley + dried herbs + ½ to 1 teaspoon dried turmeric for anti-inflammatory effect (try your best to mix these spices and herb into the baked beans; they exert beneficial effects)</p> <p><b>Afternoon snack:</b>  250ml sports drink  ½ PowerBar Performance bar (<i>or other high carbohydrate bar such as Garden of Life, Clif, Nakd, or Ethic Sport</i>)</p> <p><b>Dinner:</b>  200ml apple juice mashed with 1-inch fresh root ginger  1 pita bread toasted and eaten with 30g approx fresh hummus</p> <p>1 cup cooked Basmati/ white rice  A mild, tomato based curry such as Fruity Chicken Curry (<i>moderate portion; spices are anti-inflammatory</i>)  1 tblsp chopped coriander or similar  + small portion chicken/ white fish/ turkey chopped into sauce</p> <p><b>Evening smoothie containing (for example; predominantly carbohydrate):</b>  300ml low-fat milk/ dairy free milk, ½ quantity coconut milk  1 banana  75g large dates (<i>approx 4....they are v high in carbohydrates!</i>)  2 tablespoons lecithin granules  Optional: cinnamon for flavour.</p>

## Food suggestions for carbohydrate loading days:

- ★ Muesli, porridge, Shreddies, Sultana Bran, toasted muesli (be careful as many brands are excessively high in fat), Weetabix, Oatibix, Cornflakes, Heritage Grains brand cereal, Chia cereal, cooked ½ porridge + ½ millet flakes, healthy gluten-free multi-grain cereals, cooked millet flakes or rice flakes. Cooked rice is a gentle and very useful cooked breakfast and can be treated as your would breakfast cereal; top with fruit, seeds, etc.
- ★ Wheatgerm, dried fruit, chopped banana, stewed fruit, berry jam, marmalade, honey (local unprocessed is best), manuka honey, maple syrup, rice syrup.
- ★ High fruit content Fruit juice (vary grape, orange, cranberry, pomegranate, tropical, apple, etc), fruit + ginger juice, fruit + fruit juice blends, Fruit + vegetable juices, pureed fresh fruit (e.g. watermelon).
- ★ Fruit smoothies made from foods such as low-fat milk/ dairy-free milk, coconut milk (full fat has higher MCT content), yoghurt, banana, dried fruit, frozen berries, tropical fruit, lecithin granules, wheatgerm, added oat-flakes or oatibix.
- ★ Mûllerice, yoghurts, yoghurt drinks, low-fat Ambrosia Creamed Rice, tapioca, semolina, hot chocolate or malted drink made with low-fat milk.
- ★ Bagels/ thick sliced bread/ home-baked bread or fruit loaves, pancakes/ gluten-free pancakes with honey, jam, fruit puree, lemon and sugar or maple syrup.
- ★ Oatcakes, PowerBar Performance Bars, Clif bars, Nakd bars, Garden of Life bars, Ethic sport bars, NutriGrain bars, crackers, pretzels, fig roll bars, fig rolls, Ryvita bars, Go raw bars, etc. **A-C health solutions stocks a range of these bars.**
- ★ Breads, bagels, pita breads, flour wraps, bread rolls, muffins (home-made, low-fat), pancakes, malted loaf, sprouted wheat bread, baked potato, steamed baby potatoes, potato cakes, baked squash/ sweet potato ....
- ★ Sports drinks, Natural confectionary company sweets, jelly beans, fruit pastilles – all best taken as part of a meal to prevent upsetting blood sugar levels.... I prefer real foods are eaten but these are an option.
- ★ High Carbohydrate Recovery Drinks or Loading drinks (i.e. 4:1 carbohydrate to protein or add banana etc.).
- ★ Cold salad made from Basmati rice/ quinoa/ couscous/ rice noodles/ pasta/ soba noodles with sweetcorn, raisins/ apricots/ grapes, chopped pepper, toasted pine nuts/ walnuts/ sunflower seeds, chick peas or kidney beans, chopped fresh parsley +/- Olive oil + Lemon juice/ Balsamic vinegar/ balsamic vinegar syrup.
- ★ Basmati rice/ pasta/ quinoa + tomato pasta-sauce + small amount of veggies and very small amount of protein (chicken, fish, eggs, tofu).
- ★ Basmati rice/ rice noodles with Blue Dragon stir-fry sauce of choice plus a small amount of vegetables and a small portion of chicken/ fish/ egg/ tofu.
- ★ Basmati rice/ quinoa/ couscous served with a low-fat tomato-based curry sauce (lots of ginger, turmeric and curry) and a small portion of chicken/ fish/ egg/ tofu.
- ★ **Don't forget that small portions of protein are important; to stabilise blood sugar levels and also to provide important amino acids.**
- ★ **Aim to add small amounts of the following foods to meals:** small quantities of beans and lentils; garlic, ginger, chopped parsley, dried mixed herbs, curry spices, turmeric, coconut milk, coconut flakes.
- ★ *(Baked potatoes are not as high in carbs as pasta/ rice/ etc so don't rely on potatoes as main carb choice).*

## Endurance Event Food and Hydration:

- \* **Carbohydrate intake during exercise delays the onset of fatigue or the occurrence of hypoglycaemia (low blood glucose) and helps to maintain optimum performance and a faster pace, for a significantly longer period when exercise extends over 90 minutes.**
- \* **Caffeine and small amounts of Protein or Branched chain amino acids** may also have a performance effect, limit muscle damage, and limit or delay mental fatigue.
- \* Foods +/- specialist sports drinks +/- water may be used; **I personally recommend the use of water, gels, blocks or chews, and electrolyte containing sports drinks/ solutions if you have a fast race pace;** these are specialist endurance nutrition products designed for athletes.
- \* **30 to 60g carbohydrates per hour are required to maintain muscle and brain energy levels** (i.e. stable blood glucose levels) throughout an endurance event; 50 to 60g carbohydrate per hour is ideally recommended.
- \* **Start to refuel (carbs and fluids) early into the event so as to prevent fatigue rather than treat fatigue later.....**early re-fuelling from the start will help you maintain your race pace and prevent mental fatigue or slowing down. As the race progresses you may switch your focus to fluids.
- \* Refuel to a plan rather than good luck and as practiced in training.
- \* **Moderate to severe dehydration may cause gastrointestinal upset and impaired gastric emptying (and rehydration therefore impeded).** If you let yourself get dehydrated (more than 3-4% of Body Weight in our Irish climate) you may find it difficult to drink or suffer from discomfort or stomach cramps....*don't blame your sports drink when it may have been your own fault for drinking too little, too infrequently or too late! Dehydration is a hidden cause of many problems; keep race finish dehydration to 2-4% body weight or less.*
- \* Endurance nutritionist specialist and sports scientist **Tim Noakes recommends that the over-consumption of water and fluids is to be avoided and that hydration is ad libitum (or according to desire and thirst).** A broad guideline is that fluids are ingested at a **rate of 400-800ml per hour** (most of us fall into the 500-600ml per hour category; with a goal of 800ml per hour if you tend to sweat a lot).
- \* Depending on your rehydration needs **sports drinks or a combination of sports gels and water generally achieve the target goal of fluid and carbohydrate replenishment.....**and are your best option as they are less likely to cause gastrointestinal effects.
- \* **Drink 200ml to 300ml of fluids over each ½ hour of running depending on your pace to give a total fluid intake of 400ml to 600ml per hour; those of you with a high sweat rate perhaps require 800ml fluids per hour intake.**
- \* **I recommend that you drink small volumes regularly,** rather than trying to replace very large volumes on a couple of occasions to allow you to compete comfortably.
- \* Fluids are best **cool but not cold** and are easier to drink if you like the flavour.
- \* **The fuller the stomach is with fluids then, the greater the absorption rate of the fluids (and therefore energy from sports drinks).** Start exercise with a comfortably filled stomach by drinking 300ml to 400ml before the start of the event (i.e. within 1 hour pre-event, preferably drink sports drinks or water containing electrolytes as these are retained better).
- \* **Time lost drinking is generally made up for in pace.**

- \* **Slower athletes are more prone to over-drinking, and faster paced athletes from under-drinking;** tailor your intake to your individual needs and ignore everyone else. Remember you have practiced this and know your individual requirements.
- \* **The bike phase is a useful phase to take fluids, race fuel and especially more carbohydrate dense foods such as bars, gels or dried fruit on board.** Take advantage of the fact that there is less chance of stomach joggling and upset while on the bike. I recommend that you pay heed to getting in sufficient carbohydrates during this phase so that you can focus on fluids during the running leg of the event.
- \* **You must drink adequate fluids when eating solid foods or gels to prevent stomach cramping.**
- \* **I do not recommend using gels and sports drinks together at the same time as they may be too concentrated for your stomach to handle. The general rule is you consume sports drinks OR gels/ bars/ food + water.**
- \* Avoid eating too many sweet foods such as dried fruit or sweets as occasionally they cause stomach upset.
- \* **It is important to avoid over-drinking of water alone and to consider the use of electrolytes, or an electrolyte containing sports drink or gel to maintain ideal hydration and electrolyte balance.**
- \* **Although unlikely to happen in our Irish climate..... Remember that high temperatures and relative humidity raise your fluid, electrolyte and carbohydrate requirements.**



**Don't forget to apply sunscreen if it is likely to be a sunny day!!!**

## It is recommended that you:

**Take on board 50 to 60g carbohydrate per hour of competing** (minimum 30g), starting quite early into the event (remember that you have to absorb the liquids and digest and absorb the food before it can give you energy!).

Drink 200ml to 300ml of fluids over each ½ hour of running depending on your pace to give a total fluid intake of 400 to 600ml per hour (heavier athletes that sweat a lot may require higher fluid intakes of 800ml per hour; slower runners require less conservative amounts).

Use Sports Drinks/ electrolyte solutions/ electrolyte + carb chews and/ or gels+water early on into the event and preferably for the duration of the event as they are less likely to cause stomach upset. Take advantage of the bike stage of the event to hydrate and top up blood glucose levels. Solid foods (taken with water) are best tolerated on the bike but best reserved for longer duration events.

Remember that it takes fluids approximately 40 minutes to hydrate you!

Consider using caffeine ½ hour before and then during the event or starting mid-way during the event (best trialled in training).

## Suitable foods that providing 30g carbohydrate or as otherwise indicated:

**Use one to two options in every hour of your race; start early and taper intake off...**remember to keep getting those fluids in!!!! It is important to alternate Water with Sports Drinks to ensure adequate Sodium, Potassium and Chloride intake or simply add electrolytes to your water. Use time as a guide rather than mileage. Fast pacers don't forget to drink.....slow pacers don't drink too much! Fluid requirements are individual....prepare well and know your needs.

Aim to mix the quick sugar releasers with the slow to prevent big fluctuations in energy levels or stomach upset.

- \* **500ml Sports Drink (6% carbohydrate per 100ml)**
- \* **250ml Endurance Sports Drink (12% carbohydrate per 100ml) (better tolerated on bike)**
  
- \* **Ethic Sport Energia Rapida (1 serving = 31g)**
- \* **Ethic Sport Energia Rapida professional (1 serving = 30g)**
- \* Ethic Sport Tecnica bar = 18.6g
- \* Ethic Sport Tecnica Orange bar = 22.6g
- \* Ethic Sport Tecnica Red bar = 23.4g
- \* Ethic Sport Tecnica Green bar = 23.8g
- \* Ethic Sport Performance Sete (1 serving = 19.2 g)
  
- \* Clif bar (1 serving = 44g; therefore eat ¾ bar)
- \* Clif Shot Electrolyte drink (1 serving = 19g)
- \* **Clif Shot Bloc = 24g per 3 blocs**
- \* Clif luna bar (1 serving = 25g)
  
- \* PowerBar Performance Bar (1 serving = 42g, therefore eat ¾ bar)
- \* **PowerBar powergel = 27g**
- \* 1 Accelgel (= 20g carbohydrate + 5g protein; good option)
- \* 1 HammerGel (22g), GU gel (25g), SiS GO gel (25g)
  
- \* 7 dried apricots
- \* 40g raisins (use the 1.5 oz = 40g approx raisin boxes)
- \* 1 large banana
- \* 3 figs (=50g weight); 3 dates (= 45g approx); 5 dried prunes (= 50g approx)
- \* 3 fig rolls approx; 1 fig roll bar (just under 30g at 26g)
- \* 1 Nutrigrain bar (just under at 27g)
- \* 4 oatcakes
- \* 30g approx Natural Confectionary Company sweets; 30 Jelly beans

best used during  
longer duration  
endurance or  
adventure racing  
events