

HHH - PLAN FOR SUCCESS

7 Mistakes commonly made by endurance athletes:

People get so excited that they just over do it. They want to maximize everything.

- (1)-Consume over 300 calories per hour in a hypertonic solution
- (2)-Liquid intake exceeds 30 fluid ounces
- (3)-Electrolyte intake is insufficient
- (4)-Athlete's race pace exceeds training pace

People make some bad choices

- (5)-Consume fructose, sucrose, glucose and other simple sugars (mono- and disaccharides) and or solid food

People's training is incomplete

- (6)-Lack training using specific with fuels, fluids, and electrolytes in like race conditions and pace.
- (7)-Lack of distance training

(1)-Consume over 300 calories per hour in a hypertonic solution

1 gram of carbohydrate or 1 gram of protein = 4 cal (Kcal)

Nutrition-per hour: **The sum of what you ingest**

24 oz of water (1 large water bottle)*

85-90 gms complex carbohydrate

OR

55-70 gms simple sugars

12-20 gms protein *

Electrolytes:200 mg NaCl*

100 mg calcium*

50 mg magnesium*

50 mg potassium*

* more inter-individual variation

If some is good, isn't more better?

Can result in:

- stomach cramps,
- dehydration (because your digestive system will draw fluids from the rest of your body)
- possible cramping of the working muscles

(2)-Liquid intake exceeds 30 fluid ounces

Stomach emptying rate while exercising is 16-24 ounces per hour. If one drinks too much water, they may experience dilutional hyponatremia with stomach discomfort, bloating, extra urine output. Having said this, there are individuals that consume quite a bit more water in an hours time, but they do not successfully add more calories with the extra water over the long haul.

(3)-Electrolyte intake is insufficient

Many times individuals ignore electrolytes completely when deciding on how to meet their nutritional needs. Gatorade falls short on quantity and the spectrum of electrolytes. Old-fashioned salt tablets are usually sodium chloride-there are better products out there.

Electrolyte consumption:

To be mixed with the fluids you consume. These can be in a variety of forms from capsules to powders or tablets that you add to a drink or liquids.

		Personal best without problems
Sodium Chloride-	100-300 mg/hour	1000mg/hour
Calcium-	50-150 mg/hour	500mg/hour
Magnesium-	25-75 mg/hour	250mg/hour
Potassium-	25-75 mg/hour	250mg/hour
		This was under extreme conditions

The amounts vary greatly depending on weather conditions, level of fitness, adaptations to the particular conditions on race day, and the weight of the individual. Try out a formula in your training and see how you respond to it.

(4)-Athlete's race pace exceeds training pace

The harder you go, the lower the concentration of carbs and protein in water that will pass through your stomach before it is absorbed.

Consumption while exercising

Nothing	water only	water Carbohydrate	water carbohydrate Protein	water carbohydrate protein fat
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Length of time exercising/racing

0-30min	30min-60min	60min-5hrs	2.5 hrs-12 hrs	4 hrs- sleep
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Pace while exercising

Sprint	Anaerobic	Century ride
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threshold

(5)-Consume fructose, sucrose, glucose and other simple sugars (mono- and disaccharides) and or solid food

- Can widen the gap between what you expend and what you can absorb.
- Blood sugar level may start to fluctuate and your sense of well being with it
- Solid foods- although a comfort-take longer to deal with than liquids. Net effect You get less of what you need over time

(6)-Lack training using specific fuels, fluids, and electrolytes in like race conditions and pace.

You need to find out how you respond to fueling at race pace=training pace, and under race weather conditions (which we can only guess at). Experience through practice puts us in the best position to formulate and alter a race plan.

(7)-Lack of distance training

Won't be a problem!

Recovery - be your best every time you train.

Consume maltodextrin or complex carbohydrates right after you train. (Take advantage of the highest glycogen synthase activity in the first hour after you train. This way you can re-supply your muscle with glycogen that was used during training. The quality of your training will be high if you have the fuel you need to complete the session.)

Grams of carbohydrate consumed **daily** based on body weight and hours of training

Body weight (lbs)	Hours of training		
	2	4	6
110	300	500	700
132	400	600	800
154	500	700	900

176
198

600
700

800
900

1000
1100

A **154 lb athlete** doing a **two hour workout** will want to **consume 500 grams that day (that's 2000 cal (Kcal) that day)**. 100 grams in the first hour post exercise- 125 grams in the next three hours- and 275 grams the remainder of the day. **THESE ARE GUIDELINES.**

Along with the carbohydrates, one should consume **1 gram of protein for every three to four grams of carbohydrate**. This will further aid recovery. Remember, recovery is the time when we overcompensate for the work that we have done. This is the time when we get stronger-more fit.

Suggestions for a pre-race meal: (practice this too!)

- Take a pre-race meal of 220-400 calories at least 3 hours before the start of the event. Multiple days of practicing is advantageous.
- Focus on complex carbohydrates, starches, and a little protein for the meal
- Avoid high fiber (and the yikes at race time), simple sugars, and high fat in your meal.
- Lay off the pre-race fueling-wait until 5 minutes before the start if you can't help it.
- Make sure you re-supply your muscle glycogen by getting a good recovery meal within thirty minutes of your workouts.