

Nutrition Support: Sprint and Olympic Distance Triathlon

- 1) To achieve optimal performance, you must carbohydrate load before every race, including a sprint triathlon. **T/F**

- 2) Allow approximately one hour to digest every 200 calories prior to the race start. **T/F**

- 3) Taking two gel packets every 30 minutes during an Olympic distance triathlon accomplishes the goal of ingesting approximately the following:
 - a) 40-60 grams of carbohydrate per hour
 - b) 240 calories per hour
 - c) easily digested energy low in fat and protein
 - d) All of the above

- 4) A good guideline for hydration is to take in 24-32 ounces of fluids per hour. **T/F**

- 5) A sports drink with approximately 6% concentration reflects
 - a) 6 grams of carbohydrate per 8 ounces
 - b) 14 grams of carbohydrate per 8 ounces
 - c) 42 grams of carbohydrate per 8 ounces
 - d) None of the above

- 6) If you prefer to take in solid fuel, the best place to do so is during the following:
 - a) T1
 - b) A 15-30 minute period before the swim
 - c) The bike leg
 - d) None of the above; avoid all solid foods

- 7) After crossing the finish line, grab anything you can to eat and drink—you earned it! **T/F**

Answer Key

- 1) False: Carbohydrate loading may benefit athletes competing in races that are two hours or longer. Therefore, sprint distance triathlons do not require carbohydrate loading.

The period of carbohydrate loading begins at least a week prior to race day. As the volume of training decreases for the first three to four days, maintain your normal training diet in terms of carbohydrate, protein and fat (eg roughly 60%, 15%, 25% respectively). In the last three days shift your proportion of carbohydrate without dramatically increasing your overall energy intake. A general guideline is as follows:

- 5 grams of carbohydrate per kilogram of body weight
 - A 150-lb athlete would take in about 340 grams of carbohydrate
- 10 grams of carbohydrate per kilogram of body weight
 - A 150-lb athlete would take in about 680 grams of carbohydrate

Sample High Carbohydrate Day: 646 grams

Breakfast:

Item	Carbohydrate (g)	Calories
1 cup oatmeal	30	175
2 Tbs brown sugar	18	70
2 Tbs raisins	16	60
1 medium banana	30	110
1 non-fat vanilla yogurt	40	205
12 oz orange juice	39	170
TOTAL	173	790

Morning Snack:

Item	Carbohydrate (g)	Calories
2 Tbs peanut butter	7	190
1 large apple	30	110
1 cup skim milk	12	85
2 fat free Fig Newtons	31	135
TOTAL	80	520

Lunch:

Item	Carbohydrate (g)	Calories
2 oz turkey	0	110
1 (wheat) bagel	63	320
Lettuce and tomato	2	10
2 Tbs cranberry sauce	13	50
15 baby carrots	10	45
2 Tbs hummus	4	45
2 oz baked potato chips	46	220
1 cup applesauce	28	105
TOTAL	166	905

Afternoon Snack:

Item	Carbohydrate (g)	Calories
2 cups Honey Nut Cheerios	36	170
1 cup skim milk	12	85
1 cup sliced strawberries	15	50
TOTAL	63	305

Dinner:

Item	Carbohydrate (g)	Calories
3 oz chicken	0	125
2 cups (wheat) pasta	64	295
½ cup tomato sauce	9	50
1 cup steamed broccoli	4	20
1 cup minestrone soup	21	25
1 (wheat) dinner roll 3 oz	44	225
1 Tbs garlic olive oil	0	125
1 fat free pudding	46	210
TOTAL	188	1075

2) True: A general guideline is to have 200 calories per hour before exercise. That means having up to 400 calories 2 hours before practice or an event. Sample snacks or meals include two slices of whole wheat bread with a tablespoon of peanut butter and honey, or a Clif Bar and banana, or a bagel with a couple tablespoons of jam. If you prefer liquid fuel, more digestible for sensitive stomachs, mix a smoothie using banana, milk or yogurt, ice and honey or light chocolate syrup. :

Example: Sprint/Olympic Distance start time 8:00 am
Consume 400 calories by 6:00am

Breakfast 1: 3 ounce plain bagel (240 calories)
8 inch banana (120 calories)
8 ounce Gatorade (50 calories)
Total: 410 calories

Breakfast 2: Smoothie (liquid nutrition)
½ cup vanilla nonfat yogurt
4 inch banana
¾ tablespoon peanut butter
2 tablespoons chocolate syrup
½ cup skim milk
Total: 400 calories

3) D, all of the above. See following chart for nutrients per sample gel packets:

Sample Gels (per packet)

	Accel Gel*	Carb Boom	Clif Shot	Gu	PowerGel
Calories	100	110	100	100	110
Carbohydrate (g)	20	27	25	20, 25	27
Sodium (mg)	100	50	40	40-55	200
Potassium (mg)	50	50, 75	30, 60	35, 40	20, 40
Caffeine (mg)	--	0, 50	0, 25, 50, 100	0, 20	0, 25, 50

*Contains 5 g protein

4) True: Hydration is paramount for performance. Sports drinks are ideal as they provide energy (carbohydrate) and electrolytes (eg sodium and potassium). However, particularly for a sprint distance, you may be able to use plain water. Some athletes prefer to follow a schedule, such as taking in 8 ounces every 15 minutes; they may even set their watches to alert them every so often as a reminder.

5) B, 14 grams per 8 oz. To figure out the concentration perform the following calculation:

$$\frac{\text{grams of carbohydrate} \times 100}{240 \text{ milliliters}} = \text{\% concentration}$$

Example:
$$\frac{14 \text{ grams of carbohydrate} \times 100}{240 \text{ milliliters}} = 5.83\%$$

Sample Sports Drink (per 8 ounces, either pre-made or mixed with water)

	Accelerade*	Cytomax	Infinite	Gatorade	Gatorade Endurance
Calories	80	40	varies	50	50
Carbohydrate (g)	15	11		14	14
Concentration (%)	6.2	4.6		5.8	5.8
Sodium (mg)	115	60		110	200
Potassium (mg)	20	30		30	90
Caffeine (mg)	--	--		--	--

*Contains 4 g protein

6) C. The bike leg is the optimal time for digestion. Cyclists are typically less susceptible to gastro-intestinal discomfort as compared with runners. Cycling is not as jarring on the body and therefore less jostling of stomach contents occurs. If you would like to take in 200-300 calories per hour via solid fuel you can easily accomplish this with an energy bar such as Clif or Powerbar. You may want to switch to liquid fuel and water 30-60 minutes before the run to avoid gastro-intestinal distress.

Sample Bars (per bar)

	Clif Bar	Peak (Energy)	PowerBar Performance
Calories	230-250	~285	230-250
Carbohydrate (g)	40-45	~58	41-45
Sodium (mg)	100-210	~200	200-210
Potassium (mg)	220-370	~215	90-170
Caffeine (mg)	0, 50	--	--

7) False. Your priority is to hydrate. You will want to replace the fluid lost by 150%. If possible, choose a carbohydrate source such as a sports drink (which will also help replace lost sodium) or diluted fruit juice. You have a 30 minute window when your body is most efficient at absorbing nutrients. You should also aim to take in a small amount of protein. The optimal ratio of grams of carbohydrate to protein is 3:1. Some athletes find it convenient to bring a ready-to-mix recovery drink to the race. Others will seek foods or fluids to meet their needs. A simple solution found at a gas station, convenient store or venue such as a Dunkin' Donuts would be a chocolate milk.

Recovery Fluids

	MetRX*	Recoverite**	Chocolate Milk***
Calories	250	166	225
Carbohydrate (g)	20	32.5	42
Protein (g)	37	10	13
Fat (g)	2.5	0	0
Sodium (mg)	350	74	173
Potassium (mg)	900	19	573

*1 packet

**2 scoops mixed with 8-12 ounces water

***12 ounces non fat milk with 2 tablespoons Hershey's syrup