

There are three phases of recovery...

1. During athletic events and endurance training or competition lasting more than 75 minutes, the athlete needs to restore depleted glycogen (carbohydrates).

- Ideally the athlete should consume 20 to 30 grams (80-120 calories) of carbohydrate every 20 to 30 minutes. This target intake of carbohydrate will increase blood glucose levels and may improve stamina and endurance.
- This recovery practice may vary from one athlete to another. As a guideline, athletes weighing less than 150 lb (68 kg) should try to consume a minimum of 20 grams (80 calories) of carbohydrate every 20 to 30 minutes whereas, athletes weighing more than 150 lb should try to consume 30 grams (120 calories).
- The athlete that cannot tolerate solid foods during exercise should then focus their attention on getting those 20 to 30 grams of carbohydrate from liquid sources.

The following are 80 to 120 calorie easily digested and ready available solids and liquids:

Item	Serving	Calories
Gatorade	16 oz	100
Banana	1 medium	109
Plain Bagel	½ bagel	125
Sports Energy Bar	½ bar	120
Soft Pretzel	½ pretzel	85
Orange	1 large	80
Bread	1 large slice	80
Peanut Butter & Jelly Sandwich	¼ sandwich	85

2. Between events... On days of multiple events such as soccer tournaments, baseball & softball double headers, and track and swimming events, the athlete needs to be consuming foods and fluids.

- If you are going to be at an event for three to six hours, you must pack 500 to 1000 easily digested, nutrient dense carbohydrate calories. It is important to eat small amounts of food frequently. For example, 100 calories every 30-60 minutes
- If the athlete has two to three hours between events, he or she may then have a medium size meal (400-600 calories) immediately after the one event. This should allow plenty of time for the meal to digest before the next event.
- Keep in mind, carbohydrate rich foods are more readily available than high fat/high protein foods. Carbohydrate foods are often digested and absorbed within 30 minutes to two hours after ingestion. High fat and high protein foods may take three to six hours for complete digestion and absorption.

3. Immediately after exercising, the athlete should consume 100 grams (400 calories) of carbohydrate within the first 30 – 60 minutes of exercise. The muscles are 2 to 3 times more receptive to restoring glycogen immediately following exercise than when carbohydrate intake is delayed for 2 hours. **THE SOONER THE BETTER!** This process of glycogen replacement should be repeated 2 hours later and then again 2 hours later.

For re-fueling the body, the general “rule of thumb” is to consume a ½ gram to ¾ gram of carbohydrate per pound of body weight. The amount of carbohydrate the athlete consumes following exercise is relative to the type, intensity, and duration of the activity. Athletes participating in field and court sports should eat ½ gram per lb of body weight whereas, the endurance athlete should eat about ¾ gram.

The following are the grams of carbohydrate and calories needed at various body weights within 30 to 60 minutes following exercise

Body weight lb	kg	Carbohydrate grams needed after	Calories needed after
100 lb	(45 kg)	50- 75	200-300
110 lb	(50 kg)	55-83	220-332
120 lb	(55 kg)	60-90	240-360
130 lb	(59 kg)	65-98	260-392
140 lb	(64 kg)	70-105	280-420
150 lb	(68 kg)	75-113	300-452
160 lb	(73 kg)	80-120	320-480
170 lb	(77 kg)	85-128	340-512
180 lb	(82 kg)	90-135	360-540
190 lb	(86 kg)	95-143	380-572
200 lb	(91 kg)	100-150	400-600
210 lb	(95 kg)	105-158	420-632
220 lb	(100 kg)	110-165	440-660
230 lb	(105 kg)	115-173	460-692
240 lb	(109 kg)	120-180	480-720
250 lb	(114 kg)	125-188	500-752
260 lb	(118 kg)	130-195	520-780
270 lb	(123 kg)	135-203	540-812
280 lb	(127 kg)	140-210	560-840

Note: One gram of carbohydrate yields 4 calories

Re-fuel the body with nutrient dense carbohydrate beverages and foods (commercial sports drinks, fruit juices, breads, pasta, rice, pancakes, cereal, fruit, and vegetables). **For endurance athletes**, it may take 1 to 2 days of consuming high carbohydrate foods and a day of rest to replace the depleted muscle and liver glycogen.