

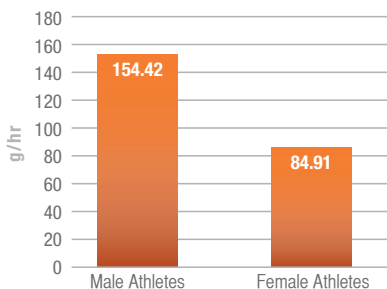


CARBOHYDRATE USE DURING EXERCISE

GSSI scientists tested 44 athletes in the Gatorade Performance Lab over a one year period. Scientists measured the endogenous carbohydrate utilization for energy after a four-hour fast during a submaximal, graded exercise test on either a bike or treadmill. Respiratory gasses were analyzed using a metabolic cart. This data can be used as an educational tool to provide recommendations on carbohydrate needs to fuel performance.

35 male athletes and nine female athletes were tested, and results were shared with them immediately after the test. The data proved the need for carbohydrate during exercise. Average results (g/h) for the intensities of 70-80 percent HR max are shown in the graph to the left. The athletes were presented with a graph showing carbohydrate use in g/min versus heart rate. Scientists used this data to underscore the importance of carbohydrate as an energy source for exercise. It was suggested that the athlete:

**Carbohydrate Use per Hour
70 - 80% HRmax**



The data shown in this chart was taken from substrate utilization tests performed on 45 professional and performance athletes from various sports including football, basketball, baseball, soccer, volleyball, running and multi-sport.

- 1) **Consume enough carbohydrate in his/her diet to maximize glycogen stores.**
- 2) **Consume 30-60 grams of carbohydrate during exercise to help spare glycogen.**