

During-Exercise/Competition Nutrition

Any activity that lasts for 1 hour or longer places sufficiently high demands on an athlete's stored energy level that carbohydrate consumption during activity will delay fatigue and improve performance. There is even some recent energy strongly suggesting that power athletes and those involved in stop-and-go activities can benefit from consumption of carbohydrate-containing sports beverages, even if the activity is less than 1 hour. The type of activity determines whether the carbohydrate should be in liquid or solid form. Several studies clearly demonstrate the improved performance potential of providing carbohydrates during activity, so this should be an important strategy for all athletes involved in regular physical activity.

MODERATE INTENSITY ACTIVITY causes a somewhat reduced (60%-70% of normal) blood flow to the stomach, but the athlete is still able to digest food in this state. Long-distance bicyclists, skiers, and ultra-marathon runners who are working at moderate intensity over long distances, often show a preference for both solid foods (bananas, bread, etc.) and sports beverages combined. Moderate intensity activity that involves bouncing (running, etc.) may leave athletes uncomfortable if solid food is consumed.

HIGH INTENSITY ACTIVITY dramatically reduces blood flow to the stomach (20% of normal), so solid foods are not well tolerated. These athletes should plan on consuming sports beverages to maintain energy and hydration status.

Some athletes do not like consuming sports beverages or foods during activity because they fear this will cause stomach problems. However it has been demonstrated that inadequate energy and fluid intake is more likely to cause GI distress. Athletes should *learn* to consume carbohydrate-containing sports beverages during physical activity to assure that hydration state is maintained and to keep a constant flow of carbohydrate entering the system.