Coaches' Corner

Alcohol and Athletic Performance

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In the early 1900s, marathon runners were given brandy during races. Like strychnine, a deadly poison, alcohol was thought to enhance physical performance. Even today, some athletes believe that small doses of alcohol will aid their athletic performance by reducing tension and enhancing self-confidence. Unfortunately, many are poorly informed about the effects of alcohol on performance and health.

DOES ALCOHOL ENHANCE ATHLETIC PERFORMANCE?

Due to the quick absorption characteristics and the fairly high energy content, alcohol has been viewed as a potential ergogenic (work-enhancing) agent. In fact, just the opposite is true. Alcohol can diminish physiological functions needed in exercise and sports. In a recent study, nine healthy men (ages 21 to 26) drank in one hour, the legal limit for driving in most states. The result was a depression in left ventricle contractions of the heart; in other words, it was harder for the heart to get blood and oxygen out to the rest of the body. The researchers concluded that alcohol was toxic to the heart, even in young, healthy adults. Alcohol also slows the respiratory rate; it is classified as a depressant. This is just the opposite effect that the athlete wants.

WHAT EFFECT DOES ALCOHOL HAVE ON PERFORMANCE?

The American College of Sports Medicine has a position statement regarding the use of alcohol in sports. The two key points in the statement are that: 1) consuming a large amount of alcohol at one time can limit skills that require reaction time, balance, accuracy, hand-eye coordination; 2) and alcohol decreases strength, power, speed, muscular endurance, and cardiovascular endurance.

In the exercise recovery phase, alcohol has been found to interfere with the loading of carbohydrates in muscles (muscle glycogen synthesis), and to lengthen the recovery and rehabilitation from injury. In short, drinking alcohol will decrease an athlete's ability to train and play hard.

CAN ONE "CARBOHYDRATE-LOAD" WITH BEER?

Some athletes mistakenly believe that they can load up on carbohydrates by drinking beer. A 12-ounce beer provides 16 grams of carbohydrate – this is less than the amount found in some sports beverages and about a third of that found in 12 ounces of fruit juice. While beer may serve as a beverage during social functions, it and other alcoholic drinks don't serve the purpose of a carbohydrate-loading drink during the preparation for sports competition.

A major source of energy found in beer is alcohol, which is not found in sports drinks or juices. The truth is that although alcohol is absorbed quickly, the energy from alcohol is obtained slowly when it is metabolized in the liver, not in the muscle. For muscle energy, alcohol contributes little or nothing. And in general, alcohol is burned at a slow rate, whether one is sprinting or passed out on the floor.

ALCOHOL IS A POWERFUL DIURETIC

Because alcohol stimulates the kidneys to produce urine, alcohol consumption can make the body lose fluids and become dehydrated. For example, alcohol can produce a three percent loss of body weight (as fluid loss) within four hours of consumption. Such dehydration has a negative effect on performance, particularly endurance, and increases the risk of heat illness during exercise.

PERSONAL STRATEGIES

A major concern with alcohol consumption in certain groups of athletes is not only the amount of alcohol consumed, but also the drinking pattern. Binge-drinking, that is periodically consuming large amounts of alcohol (e.g., on weekends or after big competition), is common. One option available for athletes of legal age who like to celebrate following competition, is to choose non-alcoholic beverages. For those who enjoy champagne or beer, sparkling ciders and non-alcohol beers are now popular. Instead of drinking a cocktail, an athlete could drink tomato juice with a slice of lime and a stalk of celery, or sparkling water with a twist.

LASTING EFFECT

Most athletes who consume alcohol believe that once the "high" in over, so are the effects of alcohol on the body. Alcohol's adverse effects linger long after its blood concentration has fallen to zero. Reaction time, balance, coordination, strength, power and speed are a few of the physical capacities that remain compromised the morning after a night of drinking, even when the drinking is moderate.

Alcohol interferes with a multitude of chemical and hormonal reactions in the body. Understanding that alcohol in the performance arena is a metabolic poison will hopefully deter athletes from drinking and hurting their performance.

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