

Features

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The effects of alcohol on physical performance

According to the American College of Sport Medicine, alcohol use by athletes often starts at the junior high school level and can start even earlier. Among high school students, male athletes are more likely not only to use alcohol regularly, but also to abuse it. Alcohol consumption is high enough for alcohol to have been named the most abused drug in collegiate sports by the NCAA and in professional and Olympic sports by the NFL and the United States Olympic Committee.

Some people have used alcohol in preparation for endurance events or to replenish nutrients following competition because of a mistaken belief that it provides nutrients. However, it is actually an "anti-nutrient nutrient" because of its negative effects on nutrient intake, digestion, absorption, metabolism and excretion. Orange juice actually supplies four times the potassium plus almost three times the carbohydrates as beer, and it would take 11 beers to obtain the B-vitamin recommended daily allowance. Also, because alcohol is very high in calories, it is very often associated with weight gain. Each gram of alcohol provides 7 calories, compared to 9 for fat and 4 for carbohydrate and protein.

Alcohol also is not a good source of energy for an athlete because the body can metabolize alcohol only at a fixed rate. When there is a sharp increase in energy demand, such as during exercise, alcohol metabolism is unable to meet it, making alcohol useless as an energy source to the athlete.

Alcohol has a wide spectrum of negative effects, from societal to physiological, and accounts for approximately 100,000 deaths yearly in the U.S. In terms of fitness and wellness, alcohol can cause negative effects on motor skills and physical performance, including muscle damage and weakness. Alcohol affects every system in the body and can cause liver cirrhosis, ulcers, heart disease, diabetes, bone disorders and mental disorders. The muscle damage that occurs also affects the heart muscle. In addition, the body of the alcohol user will have a strong tendency to store body fat and a very hard time gaining or maintaining lean body mass. An alcohol user's energy, strength and endurance levels will drop, hindering the desire to exercise, further complicating the problem.

What happens if you exercise with an elevated blood-alcohol level? Even low to moderate amounts of alcohol result in:

1. Increased hand tremors
2. Slowed reaction time
3. Decreased hand-eye coordination
4. Decreased accuracy and balance
5. Impaired tracking, visual-search, recognition and response skills
6. Slowed running and cycling times
7. Weakening of the pumping force of the heart
8. Impaired temperature regulation during exercise
9. Decreased strength, power and muscle endurance
10. Decrease in grip strength, jump height and 200- and 400-meter run performance
11. Tendency to be easily fatigued during high-intensity exercise

12. Dehydration and significant reduction in aerobic performance
13. Impaired 800- and 1,500-meter run times
14. Increased possibility of exercise-induced anaphylaxis and asthma
15. Increased risk of injury when alcohol is consumed before water activities
16. Greater risk of increasing the severity of an injury because of the depressive effect of alcohol on the sensation of pain.

Any lingering effect of alcohol (e.g., a hangover) would especially hinder the physical conditioning progress. According to current research, drinking on the day or night before athletic activity hinders physical conditioning progress, and exercising with a hangover has been shown to significantly decrease aerobic performance capacity by as much as 11 percent. Furthermore, handgrip muscular endurance has been shown to suffer a delayed decline on the second morning following intoxication.

Whether you're an athlete or an everyday exerciser, you may want to ask yourself the following questions before drinking:

How important is my sport to me?

How important is it that I perform to the best of my ability?

How will drinking affect my ability to perform?

How will my body feel if I drink? How will I feel if I don't drink?

How will I benefit from my decision to drink or not to drink?

Will I violate team, university or state laws and regulations if I choose to drink?

Will I put myself or others at risk of impairment or health or legal problems if I drink?