

# Carnegie Mellon SPORTS MEDICINE

## Performance News

### **Alcohol and the Athlete**

Alcohol is a commonly used substance on today's college campuses. It can be found at nearly any social gathering. The choice to drink is left up to the individual, but for athletes, this choice can have serious consequences. It affects, not only the individual, but also the team as a whole.

The effects of alcohol do not just last for the day after. Imbibing alcohol on a given night will affect performance for up to 72 hours. Drinking on successive nights will lengthen that effect by 24-48 hours. Alcohol has acute effects on motor skills, strength and power, and aerobic performance.

#### **Motor Skills**

Low amounts of alcohol (0.02-0.05g/dL) result in:

- slowed reaction time
- decreased hand-eye coordination

Moderate amounts of alcohol (0.06-0.10 g/dL) result in:

- further slowed reaction time
- decreased hand-eye coordination
- decreased accuracy and balance
- impaired tracking, visual search, recognition and response skills

#### **Strength and Power**

- a decrease in overall performance levels
- slowed running and cycling times
- weakening of the pumping force of the heart
- impaired temperature regulation during exercise
- decreased grip strength, decreased jump height, and decreased 200- and 400-meter run performance
- faster fatigue during high-intensity exercise

#### **Aerobic Performance**

- dehydration and significantly reduced aerobic performance
- impaired 800- and 1500-meter run times
- increased health risks during prolonged exercise in hot environments

Alcohol, when consumed in amounts typical with binge drinkers (most common among college athletes), can dramatically decrease serum testosterone levels. Decreases in testosterone are associated with decreases in aggression, lean muscle mass, muscle recovery and overall athletic performance. This can also cause testicular shrinkage, breast enlargement, and decreased sperm development in males. In females, this may cause an increase in the production of estradiol, (a form of estrogen) which may increase the risk of breast cancer.

**\*Athletes who drink alcohol at least once per week have an elevated risk of injury as compared to athletes who do not drink.**

**\* Consuming alcohol regularly depresses immune functioning and slows the healing process for sports-related injuries.**

**\*Consuming alcohol following acute injuries will increase swelling, delaying the healing process.**