

ALCOHOL & ATHLETIC PERFORMANCE

HOW ALCOHOL AFFECTS MUSCLE DEVELOPMENT AND RECOVERY

- **ALCOHOL USE CANCELS OUT GAINS FROM YOUR WORKOUT**
Consuming alcohol after a workout, practice, or competition can cancel out any physiological gains you may have received from such activities. Not only does long-term alcohol use diminish protein synthesis resulting in a decrease in muscle build-up, but even short term alcohol use can impede muscle growth.
- **ALCOHOL CAUSES DEHYDRATION AND SLOWS DOWN THE BODY'S ABILITY TO HEAL.**
Speeding the recovery of sore muscles and injuries is integral to optimal performance. Alcohol is a toxin that travels through your bloodstream to every organ and tissue in your body, causing dehydration and slowing your body's ability to heal itself.
- **ALCOHOL USE PREVENTS MUSCLE RECOVERY.**
In order to build bigger and stronger muscles, your body needs sleep to repair itself after a workout. Because of alcohol's effect on sleep, however, your body is robbed of a precious chemical called "human growth hormone" (HGH). HGH is part of the normal muscle-building and repair process and the body's way of telling itself your muscles need to grow bigger and stronger. Alcohol, however, can decrease the secretion of HGH by as much as 70 percent!
- **ALCOHOL USE DEPLETES YOUR SOURCE OF ENERGY.**
Once alcohol is absorbed through your stomach and small intestines and finally into your cells, it can disrupt the water balance in muscle cells, thus altering their ability to produce adenosine triphosphate (ATP), which is your muscles' source of energy. ATP provides the fuel necessary for your muscles to contract. A loss of ATP results in a lack of energy and loss of endurance.

HOW ALCOHOL AFFECTS YOUR ABILITY TO LEARN NEW PLAYS AND STRATEGIES

- **ALCOHOL USE INHIBITS YOUR ABILITY TO LEARN NEW INFORMATION.**
Any athlete knows that preparation, such as learning new plays and sound strategies, is essential to peak performance. However, alcohol can have a devastating effect on this process. When there is alcohol in your system, your brain's ability to learn and store new information is inhibited due to compromising of the hippocampus, a structure deep in the brain vital to the formation of memories. If you cannot form new memories, you cannot learn.
- **ALCOHOL USE HAMPERS MEMORY AND RETENTION.**
Much of your memory formation occurs while you sleep. Alcohol affects your sleep cycle by

disrupting the sequence and duration of normal sleep, reducing your brain's ability to learn and retain information. Even drinking up to six hours before you go to sleep will negatively affect your sleep cycle. For example, if you drink after a day of classes, studying, or learning new plays, you are not getting 100 percent out of your efforts because of the effects of the alcohol you drank.

CONSIDER THIS:

- Consuming 5 or more alcoholic beverages in 1 night can affect your brain and body for up to 3 days.
- Two consecutive nights of drinking 5 or more alcoholic beverages can affect brain and body activities for up to 5 days.

HOW ALCOHOL AFFECTS NUTRITION AND RECOVERY

- **ALCOHOL USES AND CONSTRICTS METABOLISM AND ENDURANCE.**

Being physically fit and well conditioned is the hallmark of a champion. However, no matter how many wind sprints you do, drinking alcohol constricts your aerobic metabolism and endurance.

- **ALCOHOL USE REQUIRES INCREASED CONDITIONING TO MAINTAIN WEIGHT.**

Alcohol holds very little nutritional value to the athlete. The relatively high calories in alcohol are not available to your muscles. Alcohol calories are not converted to glycogen, a form of stored carbohydrates, and thus are not a good source of energy during exercise. Each drink contains approximately 100-150 empty calories. The body treats alcohol as fat, converting alcohol sugars into fatty acids.

- **ALCOHOL USE INHIBITS ABSORPTION OF NUTRIENTS.**

Not only is alcohol devoid of proteins, minerals, and vitamins, it actually inhibits the absorption and usage of vital nutrients such as thiamin (vitamin B1), vitamin B12, folic acid, and zinc:

- **THIAMIN** (vitamin B1) is involved in the metabolism of proteins and fat and the formation of hemoglobin. It is also essential to optimal performance for its role in metabolizing carbohydrates.
- **VITAMIN B12** is essential to good health. It helps maintain healthy red blood and nerve cells.
- **FOLIC ACID** is an integral part of a coenzyme involved in the formation of new cells; a lack of it can cause a blood disorder called "megaloblastic anemia," which causes a lowering of oxygen carrying capacity and thus negatively affects endurance activities.
- **ZINC** is also essential to your energy metabolic processes. Since alcohol depletes your zinc resources, the effect is an even greater reduction of your endurance.