Sports Nutrition for Youth: Alcohol and Sports Performance Module

Alberta Health Services

Developed by Registered Dietitians

Healthy Eating Starts Here

Introduction

The information contained in this module has been adapted from Sports Nutrition for Youth: A Handbook for Coaches, www.albertahealthservices.ca/assets/info/nutrition/if-nfs-sports-nutrition-for-youth.pdf. The information in the handbook is based on current research and best practice in sports nutrition at the time of publication. These modules aim to support coaches who work with recreational athletes, rather than elite athletes. Coaches should always consult a sports dietitian for young athletes who compete at an elite level or who need special nutrition advice.

The purpose of the sport nutrition modules is to share key sport nutrition information packaged into shorter learning modules to assist coaches in educating their athletes and parents. These modules can be delivered in the dressing room, on the bench or in a classroom style setting. No technology is required. There are a total of six sport nutrition modules available and they include:

- What to Eat Before During and After Activity
- What to Drink Before During and After Activity
- Choosing Healthy Drinks
- Planning for Tournaments, Competitions and Travel
- Nutrition Supplements and Sports Performance
- Alcohol and Sports Performance

How to use this module

Key teaching points: These spotlight the main nutrition messages from the module to share with athletes and parents.

Background information: provides more detail and research about the topic of each module. This section explains the ‘what’ and ‘why’ behind the key messages.

Materials for athletes: These tools and resources include websites and handouts that can be passed along to your athletes and parents to provide extra ideas to support healthy eating for athletes.

Time to deliver the module: The module could be delivered in 5–15 minutes depending on how much time you have with your athletes and how much detail you want to go into with them. If you only have a few minutes, the key teaching points could be delivered in about 5 minutes and then you could provide your athletes and parents with the handouts for further information. If you were to go through the teaching points as well as the background information it could take about 10–15 minutes.

Alcohol and Sports Performance

***Note*:** For more detailed information on alcohol, please refer to pages 79-86 of *Sports Nutrition for Youth: A Handbook for Coaches.*

Key teaching points

1. Athletes who use alcohol *before* they train or compete will not perform well due to dehydration, broken sleep patterns, headache, fatigue and lower levels of alertness.
2. Drinking alcohol *during* activity can lead to injury, less endurance, poor coordination, slower reaction time and poor balance.
3. Having alcohol right *after* competition or training will impair athletes' ability to refuel, repair and strengthen body tissues.
4. The use of alcohol impairs sport performance for many days and increases the risk of injury when athletes train and compete.
5. Frequent use of alcohol causes the body to break down more muscle tissue and makes it harder for the body to develop new muscle.
6. Teens cannot handle alcohol as well as adults because they often have less body weight, blood volume and liver enzymes to dilute and break down the alcohol.
7. It is never safe to mix alcohol with caffeine or medications.

Background information

The impact of alcohol on health, growth and safety

- The teen brain is at higher risk of damage from alcohol than the adult brain due to complex changes during growth and puberty.
- The area of the brain that supports impulse control and safe decisions is not fully developed until age 24, so alcohol use at an early age can lead to a greater risk of alcohol addiction as an adult.
- Drinking alcohol at a young age can lead to major learning and memory problems.
- Teens who drink too much alcohol report more health problems such as appetite changes, weight loss, eczema, headaches, poor sleep and muscle pain.
- Heavy drinking can lead to liver disease, nerve damage, weak heart muscles, bone loss, stomach ulcers, sexual health problems and memory loss.

The impact of alcohol on athletic performance

- Athletes who drink alcohol even once per week have a higher risk of sports injury due to impaired judgment and coordination.
- When *adults* have five or more drinks in one night, they have a decrease in mental and physical performance for up to three days. This is likely worse for youth because their bodies cannot break down alcohol as well.
- If an adult drinks five or more drinks two nights in a row, their performance can suffer for up to five days. This is likely worse for youth because their bodies cannot break down alcohol as well.

Body System	Negative Effects of Alcohol
Muscles	• Decreases muscle strength and force • Increases muscle cramps • Makes muscles weaker • Increases muscle pain • Decreases ability to control body movement
Temperature Control	• Causes blood vessels to dilate which leads to poor performance in hot climate • Reduces core temperature which leads to poor performance in cold climate
Fluid Balance	• Increases urine output which could lead to dehydration • Increases sweating which could lead to dehydration
Blood Sugar	• Causes blood sugar to drop which leads to low energy and poor mental function • Impairs the muscles' ability to refuel with carbohydrate during activity and recovery
Digestion & Metabolism	• Absorb less of some nutrients, such as B vitamins • Use up or excrete more of other nutrients, such as zinc • Break down more muscle • Build less muscle
Central Nervous System	• Acts as a mood depressant • Slows reaction time • Impairs balance • Causes headache • Impairs fine motor skills • Causes upset stomach • Impairs memory • Leads to feeling dizzy • Impairs hand-eye coordination • Disturbs length and quality of sleep • Reduces alertness • Increases fatigue • Causes shaking

Alcohol, energy drinks and medications

When people mix alcohol with energy drinks, they tend to consume more alcohol, more quickly because the high levels of caffeine excite the mind and mask the way alcohol slows down brain function.

- The mix of alcohol and medication can lead to death because alcohol blocks or weakens some medications while making other medications stronger or more toxic.

- Common medications which cause harmful physical or mental problems when mixed with alcohol include: sleeping pills, antidepressants, antibiotics, pain killers and epilepsy or seizure drugs.

Other drugs

- Other drugs will also have a negative effect on sports performance, such as balance, focus and precision.

- Using drugs before or during sports will increase the risk of injury.

- Many drugs impact an athlete's food choices, taste preferences and fluid intake. This can have a negative effect on sports performance.

- The ongoing use of drugs can lead to unhealthy weight gain or weight loss and to changes in metabolism.

Materials for athletes

- Alcohol Hangover: Explains the negative effects of alcohol to teenagers. http://educalcool.qc.ca/wp-content/uploads/2012/09/AH.pdf