FOR THE STUDENT/ATHLETE:

Substance Use & Athletic Performance
Alcohol & Drugs
...erasing the effects of your workouts, reducing your endurance, and compromising your mental game.

As an athlete, you know that achieving optimal performance involves practicing hard, hitting the weight room, and being on top of your game, both mentally and physically.

However, many athletes tend to under-estimate the way in which alcohol use, or drug use, can nullify your hard work by erasing the effects of your workouts, reducing your endurance, and compromising your mental game.

The goal of any athlete is to be at the peak of performance. Your body is the instrument of performance, so treat it with care.

This brochure will educate you on:

- The negative effects of alcohol and other drugs on muscles, learning, and nutrition
- How to recognize at-risk behavior by using checklists and scenarios
- How to help yourself or a friend by using the resources provided

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How Alcohol Affects Muscle Development and Recovery

**Alcohol use cancels out gains from your workout.** Everyone knows that working out while under the influence of alcohol is dangerous because of the likelihood of injury. However, few athletes realize that 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—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” or HGH. HGH is part of the normal muscle-building and repair process and the body’s way of telling itself your muscle needs to grow bigger and stronger. Alcohol, however, can decrease the secretion of HGH by as much as 70 percent! Also, when alcohol is in your body, it triggers the production of a substance in your liver that is directly toxic to testosterone. Testosterone is essential for the development and recovery of your muscles.

**Alcohol use depletes your source of energy.** Once alcohol is absorbed through your stomach and small intestine 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.

Alcohol also reduces energy sources by inhibiting a process known as gluconeogenesis in which glucose is formed from substances other than glucose. When alcohol is oxidized by alcohol dehydrogenase (an enzyme), it produces an elevation of NADH, which ultimately reduces the amount of a coenzyme that is essential in the production of ATP. This 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 ability to learn new information. Any athlete knows that preparation, such as learning 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. Unfortunately, it is not as simple as just not drinking while studying plays and before team meetings. Memory formation is a complex process that takes a long time. Many of your memories are solidified when you are not thinking about the material. In fact, much of 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 five or more alcoholic beverages in one night can affect brain and body activities for up to three days.
- Two consecutive nights of drinking five or more alcoholic beverages can affect brain and body activities for up to five days.
How Alcohol Affects Nutrition and Endurance

Alcohol use constricts metabolism and endurance. Being physically fit and well-conditioned is the hallmark of a champion. However, no matter how many wind sprints and laps 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.
Taking a Look at Your Own Alcohol Use

Many people can use alcohol in a low-risk way without negative effects. There are some people, however, who use alcohol and experience a variety of problems, some of which can be quite serious or life threatening. If you use alcohol, it is important to periodically take a look at your drinking behaviors and the effects that go with them to determine if you are at risk.

**Answer the following questions to evaluate your drinking habits:**

**In the past 12 months**

- Have you skipped a meal prior to drinking or drunk on an empty stomach? 
- Have you consumed alcohol while on medication (prescription or over-the-counter)?
- Have you been unaware of the alcohol content of your drinks?
- Have you participated in drinking games?
- Have there been times when you have used alcohol to deal with stress?
- Have you ever used alcohol to escape depression?
- Have you participated in drinking games?
- Have there been times when you have used alcohol to deal with stress?
- Have you ever used alcohol in response to an argument or problem in a relationship?
- Have you ever drunk for the effect or the “buzz” when you are alone?
- Have most (60 percent or more) of your weekend social experiences included drinking?
- Have you tended to drink quickly for the effect when you first arrive at a party?
- Have you and your friends encouraged excessive drinking or drunken behavior?
- Do you regularly consume alcohol with the intention of getting drunk?
- Have you embarrassed yourself while drinking or done things you later regretted?
- Have you participated in high-risk activities (driving, boating, skiing) while drinking?
- Have you ever used alcohol to deal with stress?
- Have you damaged property while drinking—either on purpose or accidentally?
- Have you engaged in unwanted or unsafe sexual activity when drinking?
- Have you experienced a blackout or memory loss while drinking?
- Have friends or family members worried or complained about your drinking?
- Is it difficult for you to control or limit your drinking after you’ve had a few drinks?
- Do you believe that your drinking is causing problems in your life?
- Have you missed class because you were recovering from a hangover?
- Has drinking interfered with your ability to get schoolwork done on time?
- Have friends or family had to care for you when you were intoxicated or passed out?
- **At Any Time**
  - Have drinking caused a marked change in your personality (verbal cruelty, fighting)?
  - Have you been cited for abusive drinking or violation of the alcohol policy on campus?
  - Have you ever been ticketed for an alcohol-related offense pertaining to being a minor?
  - Have you ever been arrested for an alcohol-related offense (DUI, Disorderly Conduct)?

Each of these questions represents a “red flag” that may suggest the presence of difficulties with alcohol or the development of an alcohol problem. Answering “yes” to any of these questions may suggest you are experiencing some problems with alcohol that you might not have realized, so it is a good idea to be aware of it to make sure it does not get worse. If you have answered “yes” to three or more of the questions, this suggests that there are several red flags present when it comes to your alcohol use. In this case, you may want to talk to a professional to gain a better understanding of your situation (see On Campus and Philadelphia Area Resources at the end of this brochure).
Drugs

All drugs have short and long term effects on the user. As an athlete, competition can be overwhelming at times but taking any type of drug in an attempt to improve performance and relieve pain or stress can have many negative short-term and long-term impacts on your brain, your body and your future. Many athletes rationalize the use of steroids or pain medication as a necessity but taking drugs will never provide the gains that a healthy mind and body can. The goal of any athlete is to be at the peak of performance; your body is the instrument of performance so treat it with care.

The NCAA bans the following classes of drugs:

- Stimulants
- Anabolic Agents
- Diuretics and other Masking Agents
- Street Drugs
- Peptide Hormones and Analogues
- Anti-estrogens
- Beta-2 Agonists
- Alcohol and Beta Blockers (for rifle sports only)

NOTE: Any substance chemically related to these classes is also banned.

It is your responsibility to check with the appropriate Sports Medicine staff before using any substance. This includes herbal supplements or other types of “holistic” products.

Drug Testing at SJU

As an athlete, you will be subjected to two forms of random drug testing. The NCAA conducts random testing where a positive test results in the student-athlete being banned for one calendar year from competition and practices. The full policy is available at www.ncaa.org.

The SJU Institutional policy is not primarily punitive but educational as well. The first offense requires that athletes contact Wellness, Alcohol and Drug Education (WADE) for an assessment and follow the direction of the WADE staff. The second offense requires the athlete to attend counseling sessions with CAPS and a 50% loss of the competitive season. If an athlete tests positive for a third time they are permanently suspended from their sport and will lose any related athletic scholarship. For each offense, parental notification is required. The full policy is available at: http://www.sjuhawks.com/auto_pdf/p_photos/schools/stjs/sports/m-baskbl/auto_pdf/InstitutionalDrugPolicy.
Anabolic Steroids

So everyone knows that steroids help increase muscle size quickly but did you know they also cause males to have shrunken testicles and breast development while decreasing breast size in women and increasing body hair? The primary medical use for steroids is to treat delayed puberty, some types of impotence, emaciation and other medical conditions. Some athletes still take the risk and illegally use steroids in an attempt to beat their opponents causing many effects that last well beyond the end of their season or career.

Doses taken by abusers can be up to 100 times greater than doses used for treating medical conditions.

Steroids cause joint pain and muscle weakness as well as heart attack and strokes. Consequences of steroid abuse range from some that are unattractive to some that are life threatening. When an adolescent abuses steroids, artificially high sex hormones can prematurely stop bone growth. This results in short stature and can be detrimental for some sports. Adverse effects may also include joint pain and muscle weakness. In athletes under 30 years of age, the abuse of steroids can lead to cardiovascular diseases, such as heart attacks and strokes. Steroid abuse also affects the liver, potentially causing liver tumors and cysts, which may rupture and cause internal bleeding.
Marijuana

Marijuana is the most frequently used illicit drug and is prevalent among young adults. Marijuana use affects the brain, body, and overall physical health and has contributed to more than 374,000 emergency department visits in the United States. The short and long term affects of marijuana use can greatly impair one’s ability to perform in athletics.

Marijuana use impairs ability to form new memories and to shift focus. THC alters how information is processed in the hippocampus, a brain area responsible for memory formation. A recent study found that the ability for heavy marijuana users to recall a list of words was still impaired one week after they quit using. So remembering plays, strategies, and team tactics could be compromised with marijuana use. Also, the ability to make mental adjustments during competition is adversely affected.

Marijuana use disrupts coordination and balance. Marijuana use disrupts parts of the brain that regulate balance, posture, coordination, and reaction time – all of which are needed to play any sport. Complex tasks become harder because the THC binds to receptors in the cerebellum causing the user to react slower and be unable to remain balanced and coordinated.

Marijuana is linked to respiratory problems
The smoke of marijuana contains a toxic mixture of gases and particulates that can be harmful to the lungs. Regular use can induce respiratory problems including; daily cough and phlegm production, acute chest illness, and greater risk of lung infections. Also, colds and illness last much longer for those who are frequent marijuana users.

Marijuana is linked to apathy and lack of motivation. The typical “pothead” stereotype is based in fact. Although marijuana produces euphoric effects, after a while the euphoria dissipates and users may feel tired and depressed. Over time, marijuana use causes users to feel unmotivated and lazy and, as an athlete, being lazy is not conducive to optimal performance.
Prescription Drugs

Vicodin. Oxycontin. Percocet. These are all types of opioids, a prescription medication used to relieve pain and are quite commonly prescribed for sports related injuries. There are many benefits of prescription medications and when prescribed by a doctor can be helpful. However, these drugs are from the same class of heroine, and can be very addicting as well as dangerous if used without a prescription.

In 2007, prescription pain medications were involved in more overdose deaths than heroin and cocaine combined.

Taking prescriptions not prescribed are typically not the right dose for you.

All medications come in different varieties and doses; doctors prescribe based on weight, gender, tolerance and allergies to name a few. People react differently to certain dosages and taking someone else’s prescription can cause serious health risks.

Prescription pain medication is extremely addicting.

Even short-term use of opioids can make the body physically dependent as they are extremely addicting. Once a user tries to stop taking the pill, withdrawal symptoms like muscle and bone pain, diarrhea, vomiting, or cold flashes will occur.
How Can You Tell if One of Your Teammates Is Having Difficulties with Alcohol or Other Drugs?

Many people can use alcohol in a low-risk way without experiencing difficulties. However, there are those people who use alcohol and have a variety of negative experiences, which may suggest a more serious problem.

Any use of drugs can easily turn into a problem. Figuring out when a teammate has developed a problem can be tricky at times, especially since some people think there is a stigma associated with having alcohol and other drug problems. In fact, it is not uncommon for your friend to do everything he or she can to explain away or hide a problem.

Check below for some signs you can look for to help you decide if a teammate’s alcohol use has become high-risk.

- Your teammate may say something like “I can stop drinking or doing drugs anytime,” yet does not.
- You may notice that the teammate begins to lie about things, especially how much alcohol or drugs he or she has consumed.
- He or she may be getting drunk or doing drugs on a regular basis.
- He or she may be passing up things to do such as parties, dances, sporting events, or hanging out with friends because alcohol/drugs will not be present.
- Your teammate may be consuming alone or hiding his or her drinking/drug use from others.
- You notice he or she need more of the substance to get the same high experienced in the past.
- Your teammate may pressure others to drink/use drugs.
- Conversations, stories, and social activities always involve alcohol/drugs.
- Drinking or drug use occurs before practice or classes.
- Your teammate may drive after drinking/using drugs.
- You notice that he or she passes up on meals, studying, or other activities because of hangovers.
- He or she may have been in trouble with the University or coaches, or may have been arrested.
- Your teammate may have difficulty remembering what happened the night before while drinking or using drugs.
- He or she has unexplained cuts or bruises, or is rundown and sick most of the time.
- You may notice a new tendency in your teammate to be depressed and to lack motivation.
How to Help a Friend

**Decide to do something.** Doing nothing or ignoring a problem will not help the person. By doing nothing you are silently allowing this problem to perpetuate by not attending to it. Show your friend how much you care by talking with him or her.

**Here are some ways to approach your friend:**

- Let your friend know that you are worried that their behavior is negatively affecting your relationship and could impact his or her status on the team and at school.
- Make sure the timing is right. Make sure your friend is sober and you have some privacy.
- Don’t accuse your friend of being an alcoholic or addict or place blame for the problem. Doing so may make him or her defensive or want to tune you out.
- Stick to known, specific behaviors. The purpose of talking is to encourage your friend to seek help. You can do this by being very specific about those things you have witnessed that concern you. Try to avoid making judgments or discussing rumors about behaviors.
- Share with your friend that you are worried about his or her behavior.

**Don’t try to help your friend on your own.** Share your concerns in private with another person who is knowledgeable and reassuring. Talking with someone else is not being disloyal or breaching your friend’s confidence. Use this time as an opportunity to gather information about alcohol problems and ways in which you can help your friend seek help. You do not have to mention any names; you can talk generally about the problem. You also may want to speak with a counselor on campus or in the community to assist you with this difficult issue; counselors can help you formulate a plan and rehearse what you want to say.
Help your friend take responsibility for his or her behavior. Make sure you do not “cover” for your teammate so that he or she can avoid negative consequences. Sometimes it is the very consequences that people want to avoid which spur them to seek help.

Be prepared for a variety of responses. The person could become defensive or deny everything you are pointing out. He or she may become upset or have no response at all. Stay calm and continue to focus on the problem behavior. Make it clear that you dislike the behavior, not him or her. If it feels as though your discussion seems to have no effect on your friend, recognize that you may have planted a seed that will grow later on. You also may want to try again at a later date. If nothing else, rest assured that you let the person know how his or her behavior is affecting you.

Know where to go to seek help and share these resources with your friend. Even if your friend decides to not change, have a list of resources to share just in case he or she decides later to get more information or help. Often, people do not want to “lose face” or “look like a fool” so they stand by their behaviors even if they are destructive. If your friend does decide to make a change, it may happen later when you are not around. By giving your friend information, you offer the opportunity to continue reflecting on this issue and provide resources for help. Even after you have spoken, continue supporting your friend, such as by agreeing to go along to get help if he or she desires.

Set limits. Until the person decides to deal with the issue, you may need to set limits on what you will or will not do with them. It is recommended that you not drink or do drugs with him or her anymore.

Help yourself. Although you may not be the one with the difficulties, having a friend with a substance problem can be hard on you. The situation may have left you feeling lonely and afraid. You may be worried about losing your friendship or about your friend getting into trouble. It is hard to keep these worries to yourself. Talking with someone can help lighten your load. Your University counseling center is a great place on campus where you can talk to someone. Also, there are support groups in the community, such as Al-Anon or Alateen meetings (www.al-anon.alateen.org), where people who are trying to help a friend go to talk about their concerns.

...decide to help a friend.
Resources

National Treatment Options

The Caron Foundation (Penn.) (800) 678-2332 . . . . . . caron.org
Sierra Tucson (Ariz.) (800) 842-4487 . . . . . . sierratucson.com
Phoenix House (N.Y. and Calif.) (574) 631-7336 . . . . . . phoenixhouse.org
Hazelden (800) 257-7810 . . . . . . hazelden.org
(Chicago and other locations)

Find Help

Alcoholics Anonymous (AA) (212) 870-3400 . . . . . . alcoholics-anonymous.org
(National Office)
Adult Children of Alcoholics (ACOA) (310) 534-1815 . . . . . . adultchildren.org
Al-Anon Information (888) 425-2666 . . . . . . al-anon.org
Find Help alcoholscreening.org/getHelp/index.asp
Smart Recovery (440) 951-5357 . . . . . . smartrecovery.org

References

Some material adapted from:


How to Help a Friend With a Drinking Problem, Bacchus and Gamma Peer Education Network


The Effects of Alcohol on Nutrition and Athletic Performance, developed by Karen Newhard, George Mason University
Self-Help Materials: Web Sites

Self-Assessment

The Drinker’s Check-Up
drinkerscheckup.com

Alcohol Screening
alcoholscreening.org

Collegiate Alcohol Use

Examining the Culture of College Drinking
collegedrinkingprevention.gov/students

Facts On Tap
factsontap.org

B.R.A.D.
(Be Responsible About Drinking, Inc.)
brad21.org

Higher Education Center for Alcohol and other Drug Prevention
www.edc.org/hecl

Peer Education

BACCHUS & GAMMA
Peer Education Network
bacchusgamma.org

Alcohol Information – General

Join Together
jointogether.org

National Institute on Alcohol Abuse and Alcoholism (NIAAA) Web Site
niaaa.nih.gov/

SAMHSA National Clearinghouse for Alcohol and Drug Information
www.health.org/

Self-Help Materials: Books

The Addiction Workbook: A Step-by-Step Guide to Quitting Alcohol and Drugs
by Patrick Fanning and John O’Neill

When AA Doesn’t Work for You: Rational Steps to Quitting Alcohol
by Albert Ellis and Emmett Velten

The Miracle Method: A Radically New Approach to Problem Drinking
by Scott D. Miller and Insoo Kim Berg

Changing for Good by James O. Prochaska, John C. Norcross, and Carlos C. DiClemente

Sober for Good by Anne M. Fletcher

Happy Hours: Alcohol in a Woman’s Life
by Devon Jersild

Under the Influence: A Guide to the Myths and Realities of Alcoholism
by James Robert Milam, Mel Schulstad, and Katherine Ketcham

Rational Recovery: The New Cure for Substance Addiction by Jack Trimpey

The Small Book: A Revolutionary Approach to Overcoming Drug and Alcohol Dependence (Rational Recovery Systems) by Jack Trimpey and Albert Ellis


The Thinking Person’s Guide to Sobriety
by Bert Pluymen

Twelve Steps and Twelve Traditions, Alcoholics Anonymous, Inc.
On Campus

Student Outreach and Support
Wellness Alcohol and Drug Education (WADE)
Campion 212
610-660-3462
www.sju.edu/WADE

Counseling & Psychological Services (CAPS)
Merion Gardens A-504
610-660-1090
www.sju.edu/CAPS

CAPS Walk-In Office
LaFarge Hall 54
610-660-1090

SJU Student Health Center
Sourin Hall
610-660-1175
www.sju.edu/studenthealth

Athletes

Sports Medicine
Athletics Center
610-660-1711

Philadelphia Area Treatment Options

Rehab After Work
1420 Walnut St, Philadelphia, PA
215-546-2200
www.rehabafterwork.com/

Malvern Institute
940 King Road, Malvern, PA 19355
888.643.3869
www.malverninstitute.com/

Livengrin Foundation
4833 Hulmeville Road, Bensalem, PA 19020
800.245.4746
www.livengrin.org/

Victim Service Center (advocacy for victims of violence)
Montgomery County
888.521.0983
24 hours

Self-Help Meetings

Narcotics Anonymous
http://portaltools.na.org/portaltools/MeetingLoc/

Alcoholics Anonymous
South Eastern Pennsylvania InterGroup
www.sepennaa.org/

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