Student-Athlete Health & Welfare

*Education Seminar for Student-Athletes*
Talking Points

- Personnel
- Heat & Hydration
- Sickle Cell Trait
- Sports Nutrition
- Concussions
- Nutritional Supplements
- Substance Abuse Testing
- Influenza Vaccination
Team Physicians

- Primary Care Sports Medicine-
  - Dr. Dan Hendrickson, MD
  - Dr. Amy Miller, MD
  - Dr. Jeff Housner, MD
Team Physicians

• Orthopedic Surgery –
  – Dr. Jim Carpenter, MD
  – Dr. Bruce Miller, MD
  – Dr. Asheesh Bedi, MD
Team Physicians

• Neurology -
  – Dr. Jeff Kutcher, MD
Physician’s Suite

• Schembechler Hall

• Hours-
  – M - F- 8:00am – 11:45am
  – T / Th- 1:00pm – 3:00pm

• Appointments
  – Contact your Athletic Trainer
  – (734) 764-0531

• Sandy Maupin
  – Medical Office Coordinator
  – Insurance Coordinator
  – skmaupin@umich.edu
Sports Dietitians

- sportsnutrition@umich.edu

- Caroline Mandel
  - chmandel@umich.edu
  - (734) 615-8637

- Joel Totoro (FB / MBKB / WBKB / Hockey)
  - totoro@umich.edu
  - (734) 763-4422
Athletic Counseling

- athleticcounseling@umich.edu
- Barb Hansen, Athletic Counselor
  - (734) 763-7991
- Greg Harden, Associate Athletic Director-Athletic Counseling
  - (734) 647-9656
- TBD, Athletic Counselor
Please report all injuries and/or illnesses immediately to your athletic trainer and/or a team physician.
Heat & Hydration

1) Monitor Fluid Intake-
   - Good Fluids = water, low fat or chocolate milk, Gatorade, fruit juices
   - Daily - 10 – 12 cups of fluid daily; drink on a schedule
   - Before Exercise - 16 – 20oz 2 – 3 hours before; 8 – 10 oz 20 minutes before
   - During Exercise - 8 – 10oz every 15 minutes
   - After Exercise - Fulfill thirst → Eat a good, nutritious meal → drink 16 – 20oz of water or Gatorade for every pound lost

2) Monitor Urine Color-
   - Urine Color Chart
# ARE YOU IN THE CLEAR?

<table>
<thead>
<tr>
<th>URINE COLOR</th>
<th>MEANING</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>↑</td>
</tr>
<tr>
<td>2</td>
<td>Properly Hydrated</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1 bottle of Gatorade or water</td>
<td>↓</td>
</tr>
</tbody>
</table>

## DEHYDRATION

<table>
<thead>
<tr>
<th>URINE COLOR</th>
<th>MEANING</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Impaired performance</td>
<td>1-2 bottles of Gatorade or water</td>
</tr>
<tr>
<td>5</td>
<td>Cramping Risk</td>
<td>1 bottle of Gatorade + Gatorlyte &amp; 1-2 bottles of Gatorade or Water</td>
</tr>
<tr>
<td>6</td>
<td>Heat Illness Risk</td>
<td>See your Athletic Trainer or Sports Dietician</td>
</tr>
<tr>
<td>7</td>
<td>Close Monitoring Necessary</td>
<td>See your Athletic Trainer ASAP</td>
</tr>
<tr>
<td>8</td>
<td>Medical Attention Needed</td>
<td>See a physician</td>
</tr>
</tbody>
</table>

## Body Wt Loss

<table>
<thead>
<tr>
<th>Body Wt Loss</th>
<th>Effects on Physical Performance</th>
<th>125 lbs</th>
<th>150 lbs</th>
<th>200 lbs</th>
<th>250 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>↑ strain on heart</td>
<td>1 # loss</td>
<td>1.5 # loss</td>
<td>2 # loss</td>
<td>2.5 # loss</td>
</tr>
<tr>
<td>2%</td>
<td>↓ Aerobic endurance</td>
<td>2.5 # loss</td>
<td>3 # loss</td>
<td>4 # loss</td>
<td>5 # loss</td>
</tr>
<tr>
<td>3%</td>
<td>↓ Muscle endurance</td>
<td>4 # loss</td>
<td>4.5 # loss</td>
<td>6 # loss</td>
<td>7.5 # loss</td>
</tr>
<tr>
<td>4%</td>
<td>↓ Strength ↓ Motor Skills Heat Cramps</td>
<td>5 # loss</td>
<td>6 # loss</td>
<td>8 # loss</td>
<td>10 # loss</td>
</tr>
<tr>
<td>5%</td>
<td>Heat Exhaustion Cramping Fatigue ↓ Mental Function</td>
<td>6 # loss</td>
<td>7.5 # loss</td>
<td>10 # loss</td>
<td>12.5 # loss</td>
</tr>
<tr>
<td>6%</td>
<td>Physical Exhaustion Heat Stroke</td>
<td>7.5 # loss</td>
<td>8 # loss</td>
<td>12 # loss</td>
<td>15 # loss</td>
</tr>
</tbody>
</table>

**PRE-PRACTICE:** 16 - 20oz fluid 2 – 3 hours before practice; 8 – 10 oz fluid 20 minutes before practice

**DURING PRACTICE:** 8 – 10 oz fluid for every 15 minutes active

**POST-PRACTICE:** Fulfill thirst → Eat a good, nutritious meal → drink 16 – 20 oz of water or Gatorade for every pound lost
Heat & Hydration

3) Check Weight Before & After Exercise
   ▪ 2% weight loss impairs performance
   ▪ Drink 16 – 20oz of water or Gatorade for every pound lost

4) Good Nutrition
   ▪ Low-fat, high carbohydrate, moderate protein
   ▪ Foods high in sodium & potassium  (bananas, pickles, ham & cheese, tomatoes, etc.)
   ▪ Fruits & vegetables
   ▪ Avoid fast food, caffeine, alcohol, & energy drinks

5) Communicate with your Athletic Trainer!
AM Fueling

“Grab & Go” Breakfast-

- ALL student-athletes
- Monday – Friday
- 6:00am – 10:00am
- Yost Ice Arena- State Street Entrance

- Individually packaged, high energy, nutrient-dense foods
Sickle Cell Trait

• Inherited condition: one gene for sickle hemoglobin, one for normal hemoglobin
• Is NOT a disease, will NOT turn into disease
• Not uncommon (> 3 million Americans)
• Can exist in persons of all races & ancestry (most predominant in African-Americans-8%, also other ancestries)
  – South/Central America, Caribbean
  – Middle and Far East, Mediterranean
  – Northern Greece & Sicily, Italy
• Sickle cells carry less oxygen
Sickle Cell Trait

• Is not heat related! Is intensity related!

• Usually benign, but during intense, sustained, maximal exercise-
  – RBCs can deform (sickle)
  – Sickled RBCs can accumulate & block normal blood flow
  – SA can experience pain, weakness, cramps, collapse, & even sudden death in as little as 2-3 minutes of sustained, maximal exertion
  – SCT is complicated by excessive heat, dehydration, asthma, illness, & altitude
Sickle Cell Trait

- NCAA requirement-
  - Show proof of a prior SCT test;
  - Be tested for SCT (lab test / bloodwork); or
  - Decline to be tested & sign a waiver

- You **WILL NOT** be excluded from participation in Athletics if you test +
  - Precautions → set own pace; gradual progression
Concussions

- Can occur in **ANY** sport
- Caused by a force to the head
- Disrupts brain function
- Range from mild to severe
- **Rarely** causes loss of consciousness
- Causes a varied constellation of signs & symptoms
Concussion Signs & Sx

- **SIGNS-**
  - Amnesia
  - LOC
  - Incoherent speech
  - Disorientation
  - Slowed response
  - Vacant stare
  - Photophobia (Light Sensitivity)
  - Disequilibrium (Balance Problems)
  - Emotional lability
  - Behavior change

- **SYMPTOMS-**
  - Headache
  - Nausea / Vomiting
  - Drowsiness
  - Unable to focus / concentrate
  - Feeling hazy / foggy
  - Dizziness
  - Blurry vision
  - Light / Noise sensitivity
  - Confusion
  - Not “feeling right”
Key Points

- Symptoms can occur immediately, or can occur hours or days after the injury.
- Symptoms can worsen or reappear with physical activity or mental activities (e.g. Studying, computer work, video games, etc.)
- Symptoms can last longer & be more severe with repetitive concussions.
Can occur in ... ANY SPORT!

Practice  
Competition  
Non-Sport-Related
U-M Concussion Policy

- Pre-Season baseline testing for all student-athletes:
  a) Concussion history obtained
  b) Michigan Standardized Assessment of Concussion (MSAC)
  c) Computerized Neurocognitive Test (Axon)
  d) Reaction Time Test
  e) Balance Test (BESS)
U-M Concussion Policy

- If a concussion is suspected, the SA will be removed from play & evaluated

- If diagnosed with a concussion → NO return-to-play during the same day

- Individualized, step-wise concussion management & return-to-play progression
  - Every SA has the same access to care
“I Think I Have a Concussion”

- **Don’t hide it!** – tell your athletic trainer / coach (also if you are concerned about a teammate)
- **Get checked out!** – be honest in reporting your symptoms to your athletic trainer & team physician
- **Take time to recover!** – your brain needs time to heal; follow the recommendations for a safe return;

Is better to miss one game, than entire season
SUPPLEMENTS & SUBSTANCE ABUSE TESTING
Supplements

• Marketed as “natural”, “legal”, & to “improve performance, muscle building, recovery, weight loss, sexual performance enhancer”

• Industry not well regulated
  – IOC study – 45 of 240 products contained substances not listed on label that would cause a positive drug test
  – Informed Choice Study – 13 of 52 over the counter supplements purchased in US had steroids not listed on label
Supplements

• NCAA – discourages the use of dietary supplements
• There is no list of “NCAA Approved” or compliant dietary supplements

Bottom Line – topic can be confusing, but penalty for testing positive for an NCAA banned substance is very clear:

ONE YEAR SUSPENSION!
Supplements

• YOU ARE 100% RESPONSIBLE FOR WHAT YOU PUT IN YOUR BODY!

• Please notify your athletic trainer, team physician, or sports dietician before you begin taking any supplement or medication.

• Resource Exchange Center-
  – (816) 474-7321
  – 1-877-202-0769
  – www.drugfreesport.com/rec
  – Password- NCAA1
Banned Substances

- NCAA banned drug classes*
  - Stimulants (i.e. Ritalin, Adderall, caffeine, ...)
  - Anabolic Agents
  - Alcohol
  - Diuretics and other masking agents
  - Street drugs - i.e. marijuana (THC), cocaine, ...
  - Peptide hormones and analogues
  - Anti-estrogens & Beta-2 Agonists
  - Any substance that is chemically related to a class of banned drugs is also banned

*No complete list of banned drug examples
Synthetic THC

- Sold as potpourri
- Also known as “Spice”, “K2”
- Illegal in Michigan & most states
- Banned substance by NCAA, Big 10, & U-M
- Very dangerous side effects- including death
- Included in drug testing panel → + test will result in the same sanctions
ADD / ADHD Medications

- Student-Athletes must have sufficient documentation on file in order to avoid possible sanctions as a result of a positive substance abuse test.

- Student-athletes should immediately notify a Team Physician and/or their Athletic Trainer to begin the process of obtaining the necessary documentation and approval process.

- The selling or sharing of stimulant medications is a FELONY!
Substance Abuse Testing

- **NCAA Drug Testing Program**
  - 1\textsuperscript{st} Positive -
    - Street Drugs: loss of competition during a minimum of 50% of a season
    - Banned Substances other than Street Drugs: minimum of a one (1) year suspension
  - 2\textsuperscript{nd} Positive: Loss of ALL eligibility in ALL sports

- **Big Ten Conference Drug Testing Program**
  - 1\textsuperscript{st} Positive: Minimum suspension of one (1) season of competition in all sports
  - 2\textsuperscript{nd} Positive: Loss of ALL eligibility in ALL sports

- **USADA Drug Testing Program**
  - More exhaustive list; requires forms be submitted in advance to allow use of certain medications

- SAs are eligible to be tested during traditional season, non-traditional season, summer, and at Championships.
U-M Substance Abuse Testing

- Not related to year-round substance abuse testing programs administered by the NCAA, Big 10 Conference, or USADA

- U-M SAs that test positive during a NCAA, Big 10, or USADA test will incur sanctions under the U-M policy in addition to any sanctions imposed by the NCAA, Big 10, or USADA

- Unethical Conduct (will be treated as a + result)
  - Attempts to adulterate a test sample;
  - Possession of a banned substance, even without a positive test result,
  - Test results that indicate a presence of a banned substance but may be below the confirmation cut-off level

- The Head Team Physician, head coach, and/or the Director of Athletics may impose more stringent disciplinary actions.
U-M Self-Referral Program

• Student-athletes may refer themselves for voluntary evaluation & counseling without team and/or Athletics penalties being imposed
  – Confidentiality will be maintained except on a need to know basis

• Contact any athletic trainer, Athletics Counselor, Team Physician, and/or member of the coaching staff or athletics administration

• Not a component of the NCAA, Big 10, and/or USADA Substance Abuse Testing Programs

• Eligibility-
  – Not more than one (1) time during student-athlete’s athletic eligibility
  – Not after student-athlete’s notification of an impending substance abuse test; and/or
  – Not after student-athlete’s documentation of a positive substance abuse test
  – Not after being accused or charged under applicable law or University policy with possession or illegal use of a banned substance

• Comprehensive treatment plan will be instituted
U-M Substance Abuse Testing

• **1st Offense**-
  – Mandatory substance abuse education, treatment, & counseling
  – Minimum suspension of seven (7) days from all team activities
  – Suspended from a minimum of the next 10% of contests

• **2nd Offense**-
  – Mandatory substance abuse education, treatment, & counseling
  – Minimum suspension of fourteen (14) days from all team activities
  – Suspended from a minimum of the next 33% of contests

• **3rd Offense**-
  – Mandatory substance abuse education, treatment, & counseling
  – Immediate suspension from ALL team-related activities & dismissal from the team
  – Immediate termination of ALL athletic financial aid
Vitamin D, Athletic Performance & Health

What is Vitamin D?
• Fat-soluble vitamin that acts as a hormone.
• Sources of Vitamin D include sunlight, natural foods (fatty fish, egg yolks), fortified foods (milk, yogurt, margarine and cereals), and dietary supplements.

Vitamin D’s Functions:
• Bone health
• Immunity
• Muscle function
• Athletic Performance

Vitamin D and Athletes:
• Many athletes do not consume adequate Vitamin D from food and/or have insufficient exposure to sunlight.
• Vitamin D supplementation may improve athletic performance and help prevent injury and illness.
Iron & Athletic Performance

What is Iron?

- Essential mineral that is required for the formation of RBC’s used to transport oxygen to ALL cells (brain, muscles)
- Dietary recommendations are 1.3-1.7 X higher for athletes than non-athletes; 1.8 x higher for vegetarians than meat eaters

Symptoms of Iron Depletion/Deficiency:

- HEALTH = Decreased immune function, impaired temperature regulation, poor concentration, lethargy, sleepiness, apathy, moodiness, paleness
- PERFORMANCE: Fatigue upon exertion, breathlessness, reduced endurance and aerobic capacity, cold intolerance (ice treatments)

Food Sources of Iron:

- HEME Iron = Animal protein: beef, lamb, pork, liver, fish, seafood, poultry); 15-35% is absorbed
- NON-HEME Iron = Plant foods: dark green leafy vegetables, iron-fortified grains and breakfast cereals; 2-15% absorbed
Influenza Vaccination

• “Flu season” → September – April
• Annual vaccination recommended for all persons aged 6 months and older starting in August
  – If age < 18, need parental permission to administer

• **Voluntary** but strongly recommended for those at high risk for flu complications →
  – chronic med conditions such as diabetes, asthma, heart, lung and kidney disease, & immune deficiency disorders
“THOSE WHO STAY...”
“He Who Stops Being Better Stops Being Good”
Oliver Cromwell
QUESTIONS
**WHAT IS SICKLE CELL TRAIT?**

**Sickle cell trait** is not a disease. Sickle cell trait is the inheritance of one gene for sickle hemoglobin and one for normal hemoglobin. Sickle cell trait will not turn into the disease. Sickle cell trait is a life-long condition that will not change over time.

- During intense exercise, red blood cells containing the sickle hemoglobin can change shape from round to quarter-moon, or “sickle.”
- Sickled red cells may accumulate in the bloodstream during intense exercise, blocking normal blood flow to the tissues and muscles.
- During intense exercise, athletes with sickle cell trait have experienced significant physical distress, collapsed and even died.
- Heat, dehydration, altitude and asthma can increase the risk for and worsen complications associated with sickle cell trait, even when exercise is not intense.
- Athletes with sickle cell trait should not be excluded from participation as precautions can be put into place.

**DO YOU KNOW IF YOU HAVE SICKLE CELL TRAIT?**

People at high risk for having sickle cell trait are those whose ancestors come from Africa, South or Central America, India, Saudi Arabia and Caribbean and Mediterranean countries.

- Sickle cell trait occurs in about 8 percent of the U.S. African-American population, and between one in 2,000 to one in 10,000 in the Caucasian population.
- Most U.S. states test at birth, but most athletes with sickle cell trait don’t know they have it.
- The NCAA recommends that athletics departments confirm the sickle cell trait status in all student-athletes.
- Knowledge of sickle cell trait status can be a gateway to education and simple precautions that may prevent collapse among athletes with sickle cell trait, allowing you to thrive in your sport.

**HOW CAN I PREVENT A COLLAPSE?**

- Know your sickle cell trait status.
- Engage in a slow and gradual preseason conditioning regimen.
- Build up your intensity slowly while training.
- Set your own pace. Use adequate rest and recovery between repetitions, especially during “gassers” and intense station or “mat” drills.
- Avoid pushing with all-out exertion longer than two to three minutes without a rest interval or a breather.
- If you experience symptoms such as muscle pain, abnormal weakness, undue fatigue or breathlessness, stop the activity immediately and notify your athletic trainer and/or coach.
- Stay well hydrated at all times, especially in hot and humid conditions.
- Avoid using high-caffeine energy drinks or supplements, or other stimulants, as they may contribute to dehydration.
- Maintain proper asthma management.
- Refrain from extreme exercise during acute illness, if feeling ill, or while experiencing a fever.
- Beware when adjusting to a change in altitude, e.g., a rise in altitude of as little as 2,000 feet. Modify your training and request that supplemental oxygen be available to you.
- Seek prompt medical care when experiencing unusual physical distress.

For more information and resources, visit [www.NCAA.org/health-safety](http://www.NCAA.org/health-safety)
# Are You in the Clear?

<table>
<thead>
<tr>
<th>Urine Color</th>
<th>Meaning</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>↑</td>
<td>Properly Hydrated</td>
</tr>
<tr>
<td>2</td>
<td>↓</td>
<td>1 bottle of Gatorade or water</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td><strong>DEHYDRATION</strong></td>
</tr>
<tr>
<td>4</td>
<td>↑</td>
<td>Impaired performance</td>
</tr>
<tr>
<td>5</td>
<td>↓</td>
<td>1-2 bottles of Gatorade or water</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Heat Illness Risk</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Close Monitoring Necessary</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Medical Attention Needed</td>
</tr>
</tbody>
</table>

## Body Wt Loss

<table>
<thead>
<tr>
<th>Effects on Physical Performance</th>
<th>125 lbs</th>
<th>150 lbs</th>
<th>200 lbs</th>
<th>250 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>↑ strain on heart</td>
<td>1 # loss</td>
<td>1.5 # loss</td>
<td>2 # loss</td>
</tr>
<tr>
<td>2%</td>
<td>↓ Aerobic endurance</td>
<td>2.5 # loss</td>
<td>3 # loss</td>
<td>4 # loss</td>
</tr>
<tr>
<td>3%</td>
<td>↓ Muscle endurance</td>
<td>4 # loss</td>
<td>4.5 # loss</td>
<td>6 # loss</td>
</tr>
<tr>
<td>4%</td>
<td>↓ Strength ↓ Motor Skills Heat Cramps</td>
<td>5 # loss</td>
<td>6 # loss</td>
<td>8 # loss</td>
</tr>
<tr>
<td>5%</td>
<td>Heat Exhaustion Cramping Fatigue ↓ Mental Function</td>
<td>6 # loss</td>
<td>7.5 # loss</td>
<td>10 # loss</td>
</tr>
<tr>
<td>6%</td>
<td>Physical Exhaustion Heat Stroke</td>
<td>7.5 # loss</td>
<td>8 # loss</td>
<td>12 # loss</td>
</tr>
</tbody>
</table>

## Fluid Intake

**Pre-Practice:**
16 - 20oz fluid 2 – 3 hours before practice; 8 – 10 oz fluid 20 minutes before practice

**During Practice:**
8 – 10 oz fluid for every 15 minutes active

**Post-Practice:**
Fulfill thirst ➔ Eat a good, nutritious meal ➔ drink 16 – 20 oz of water or Gatorade for every pound lost
WHAT IS A CONCUSSION?
A concussion is a brain injury that:
• Is caused by a blow to the head or body.
  – From contact with another player, hitting a hard surface such as the ground, ice or floor, or being hit by a piece of equipment such as a bat, lacrosse stick or field hockey ball.
• Can change the way your brain normally works.
• Can range from mild to severe.
• Presents itself differently for each athlete.
• Can occur during practice or competition in ANY sport.
• Can happen even if you do not lose consciousness.

HOW CAN I PREVENT A CONCUSSION?
Basic steps you can take to protect yourself from concussion:
• Do not initiate contact with your head or helmet. You can still get a concussion if you are wearing a helmet.
• Avoid striking an opponent in the head. Undercutting, flying elbows, stepping on a head, checking an unprotected opponent, and sticks to the head all cause concussions.
• Follow your athletics department’s rules for safety and the rules of the sport.
• Practice good sportsmanship at all times.
• Practice and perfect the skills of the sport.

WHAT ARE THE SYMPTOMS OF A CONCUSSION?
You can’t see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury. Concussion symptoms include:
• Amnesia.
• Confusion.
• Headache.
• Loss of consciousness.
• Balance problems or dizziness.
• Double or fuzzy vision.
• Sensitivity to light or noise.
• Nausea (feeling that you might vomit).
• Feeling sluggish, foggy or groggy.
• Feeling unusually irritable.
• Concentration or memory problems (forgetting game plays, facts, meeting times).
• Slowed reaction time.

Exercise or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse.

WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?
Don’t hide it. Tell your athletic trainer and coach. Never ignore a blow to the head. Also, tell your athletic trainer and coach if one of your teammates might have a concussion. Sports have injury timeouts and player substitutions so that you can get checked out. Report it. Do not return to participation in a game, practice or other activity with symptoms. The sooner you get checked out, the sooner you may be able to return to play. Get checked out. Your team physician, athletic trainer, or health care professional can tell you if you have had a concussion and when you are cleared to return to play. A concussion can affect your ability to perform everyday activities, your reaction time, balance, sleep and classroom performance. Take time to recover. If you have had a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have a repeat concussion. In rare cases, repeat concussions can cause permanent brain damage, and even death. Severe brain injury can change your whole life.

IT’S BETTER TO MISS ONE GAME THAN THE WHOLE SEASON.
WHEN IN DOUBT, GET CHECKED OUT.
For more information and resources, visit www.NCAA.org/health-safety and www.CDC.gov/Concussion.
What are Dietary Supplements?

Dietary supplements are:
- products that contain a vitamin, mineral, amino acid, herb, botanical, concentrate, metabolite, constituent, extract or combination of these substances;
- substances you eat or drink in the form of a pill, capsule, powder, liquid, soft gel, or gel cap;
- used to supplement (add to) the diet by increasing the intake;
- not considered a substitute for food.

Dietary supplements are marketed to athletes as “natural” and “legal” and are available both over-the-counter and on-line. Never rely on a company’s “Banned Substance Free” or “NCAA Compliant” statements. These statements are typically used for marketing and if the company is wrong, you will pay and not them. “All natural” does not mean “all right”; after all, testosterone is natural but banned by major sport organizations including the NCAA and WADA. There is no list of NCAA or WADA legal/ permissible dietary supplements.

Many dietary supplements claim to improve performance, recovery, muscle building, weight loss and more. Most have little or no scientific data to support their claims.

Is the Supplement Industry Regulated?

The supplement industry is under-regulated, with products often not containing the advertised ingredients, or sometimes containing unknown impurities not listed on the label which may result in a positive drug test. Many adverse effects have been reported:
- Androstenedione, DHEA, and norandro-stenedione are all banned precursors to anabolic steroids and can cause the many negative health problems caused by steroid use.
- Creatine has the potential to increase the risk of muscle cramping, muscle injury (tears such as “pulled hamstrings”), and dehydration leading to heat-related illness.
- Methylhexaneamine is a banned stimulant and may be mixed with other banned stimulants including caffeine, synephrine and/or octopamine. Adverse reactions include nausea, dizziness, nervousness, heart palpitations, increased blood pressure, panic attacks, the jitters, kidney toxicity, death, and failed drug tests. May be listed under several names.

Red Flags

- Avoid products with known banned substances on the ingredient list or products made by any company with products that handle prohibited substances.
- Avoid muscle building, weight loss, sexual enhancement, and “energy” supplements.
- Beware of products that have not been tested by a qualified third party.
- Go to: www.usada.org/supplement411 for more information.

Sports Supplement Warning:

- The International Olympic Committee (IOC) Study: 45 of 240 products (18.8%) contained banned substances not listed on the label.
- The Informed Choice Study (USA Today, 2008) found that out of 52 over-the-counter supplements purchased in the U.S., 13 products (25%) contained steroids and 6 products (12%) contained banned substances not listed on the label.

UM Athletic Department Policy:

Student-athletes who choose to use dietary supplements that are not provided by the department are encouraged to inform their staff certified athletic trainer, sports dietitian or team physician so that product evaluation and appropriate education can be provided regarding the use of the supplement including possible adverse effects.

Although the topic of dietary supplements can be very confusing and at times controversial, the penalty for testing positive for an NCAA banned substance* is very clear: a one-year suspension even if you claim no knowledge of ingesting the banned substance. The use of dietary supplements is at the student-athlete’s risk.

*Examples of NCAA Banned Substances:
- Stimulants (e.g. amphetamine; ephedrine/ma huang; bath salts; methylhexaneamine; caffeine if urine concentration >15 µg/ml)
- Anabolic Agents (e.g. androstenedione, testosterone)
- Diuretics and other Masking Agents
- Street Drugs (e.g. cocaine, marijuana, synthetic cannabinoids)
- Peptide Hormones and Analogs (e.g. HGH, erythropoietin).
- Anti-Estrogens (e.g. anastrozole, tamoxifen)
- Beta-2 Agonists (e.g. salmeterol, formoterol)
Source: www.ncaa.org/health-safety

Food First:

Proper nutrition based on scientific principles is one of the tenets to optimal athletic performance. In some situations, dietary supplementation to make up for a nutritional inadequacy may be necessary such as in the case of taking iron supplements for iron-deficiency anemia or calcium supplements for someone who is lactose intolerant. Athletes who do not consume adequate calories, carbohydrates, nutrients and/or fluid have impaired performance. Focus on a “food first” approach to reach your performance goals.

For more information about sports nutrition and dietary supplements, contact UM Director of Sports Nutrition Caroline Mandel MS, RD, CSSD: ☏ (734) 615-8637 ☀ (734) 395-2602 ✉ chmandel@umich.edu

Focus on a “food first” approach to reach your performance goals.
Student-Athlete Policy on Substance Abuse and Testing

The University of Michigan adheres to the principle that there is no place in intercollegiate athletics for substance abuse of any kind. Student-athletes are affected by substance abuse in a variety of ways, including, but not limited to a number of short & long-range medical, behavioral & social problems. Use of illicit substances may result in a variety of psychological and/or physical changes, such as impaired judgment; slowed reaction times; decreased pain perception; significant changes in blood pressure or other indicators of cardio-vascular function, to name a few. Any of these indicators has the potential to increase the risk of immediate physical harm to the substance abuser or those persons with or against whom s/he is practicing or competing. In addition to affecting the health & safety of student-athletes, substance abuse exacts a tremendous cost in its interference with the student-athlete’s ability to succeed in the classroom & performance in athletic competition.

The University of Michigan testing program is under the control & supervision of the Head Team Physician / Medical Review Officer, in consultation with the Director of Athletics & the Associate Athletic Director- Student-Athlete Health & Welfare. Student-athletes may be chosen for testing in one of four ways:

1. Random Testing- year-round random selection; all student-athletes are eligible for each test;
2. Reasonable Suspicion Testing- incident or objective sign(s), symptom(s), or behavior(s) that create a fact-based suspicion of suspected or apparent use of illegal substances;
3. Physician Directed Testing- medical test used to diagnose and/or eliminate a medical condition or issue;
4. Phase II Team Testing- team-wide testing implemented by the Head Coach, Director of Athletics, or Sport Administrator;

The number, timing, advanced notice of testing, & other procedures for testing will be determined by the Head Team Physician / Medical Review Officer. Testing will be primarily conducted in the form of urine collection; however, the Department of Intercollegiate Athletics also reserves the right to obtain a hair, sweat, saliva, blood sample, or other sample for analysis if indicated.

Substance abuse testing may include procedures for detection of any one (1) or any combination of the following substances:

1. all drugs or harmful substances prohibited as controlled dangerous substances under the Michigan Compiled Laws, Chapter 333, 1978 Public Act 368.
2. all harmful substances, the inhaling or smelling of which is prohibited by the Michigan Compiled Laws, Chapter 752, 1967 Public Act 119.
3. all prescription drugs which are prohibited under the Michigan Compiled Laws, Chapter 333, 1978 Public Act 368.
4. all harmful substances prohibited by NCAA By-law 312.3.1); and
5. all forms of steroids.

Student-athletes will be notified in person and/or by direct telephone communication prior to testing by the student-athlete’s coach, Athletic Medicine personnel, and/or an Athletics administrator. Notification should take place no more than twenty-four (24) hours before the scheduled test.

Failure to sign the University of Michigan Substance Abuse Testing Notification Form, the University of Michigan Substance Abuse Testing Roster Form, arrive at the collection station at the designated time without justification, and/or provide a specimen is cause for the same action(s) as evidence of use of a banned substance.

The University of Michigan Substance Abuse Testing Program is not related to year-round substance abuse testing programs administered by the NCAA and/or the Big Ten Conference. However, a University of Michigan student-athlete that tests positive for a banned substance during a test administered by the NCAA or the Big Ten Conference will incur sanctions under the University of Michigan Substance Abuse Testing Program in addition to any sanctions imposed by the NCAA or the Big Ten Conference.
Upon verification of banned substances & confirmation of a positive test result, the student-athlete will be required to have a confidential meeting with Athletics personnel. The student-athlete will be required to call his/her parent / guardian in the presence of the head coach & an Athletics Administrator & inform them of the positive test & subsequent sanctions & counseling requirements during this meeting.

Student-athletes can file a written request to have Specimen B analyzed at an independent laboratory. Such written appeal must be filed within 24 hours of the positive test notification meeting. ALL costs associated with the analysis of the “B” specimen will be the responsibility of the student-athlete & the analysis & interpretation of Specimen B will be final.

Positive Test Outcomes:

The following sanctions have been adopted by the University of Michigan Department of Intercollegiate Athletics for imposition upon student-athletes testing positive for the presence of a banned substance.

- Any attempt to adulterate or any actual adulteration of a test sample will be treated as a positive test result.
- Any test results which are below the University’s confirmation cut-off levels (e.g. THC / marijuana below 5ng/ml) will still be treated as a positive test result.
- Failure to comply in the specified time to a notice to appear for testing will be subject to the same sanctions as a positive test result.

The Head Team Physician / Medical Review Officer, the student-athlete’s head coach, and/or the Director of Athletics may impose more stringent disciplinary actions, including, but not limited to suspension, dismissal from the team, and/or termination of athletic housing and/or scholarship support.

First Offense:

The student-athlete who incurs a first offense of the substance abuse testing program will be subject to the following sanctions:

- The student-athlete will be referred for mandatory substance abuse education, treatment, & counseling as per the Head Team Physician / Medical Review Officer.
  - Unexcused tardiness to a counseling session and/or failure to attend a counseling session will result in an additional suspension of a minimum of seven (7) days from all team activities except for academic, medical, & athletic counseling support.
- The student-athlete will be subject to additional substance abuse testing
- The student-athlete will immediately serve a minimum suspension of seven (7) days from all team activities except for academic, medical, & athletic counseling support
- The student-athlete will be suspended from a minimum of the next 10% of the maximum allowable contests during the traditional competitive season or postseason of their respective sport.

Second Offense:

The student-athlete who incurs a second offense of the substance abuse testing program will be subject to the following sanctions:

- The student-athlete will be referred for mandatory substance abuse education, treatment, & counseling as per the Head Team Physician / Medical Review Officer.
  - Unexcused tardiness to a counseling session and/or failure to attend a counseling session will result in an additional suspension of a minimum of fourteen (14) days from all team activities except for academic, medical, & athletic counseling support.
- The student-athlete will immediately serve a minimum suspension of fourteen (14) days from all team activities except for academic, medical, & counseling support.
- The student-athlete will be suspended from a minimum of the next 33% of the maximum allowable contests during the traditional competitive season or post-season of their respective sport.

Third Offense:

The student-athlete that incurs a third offense of the substance abuse testing program will be subject to the following sanctions:

- The student-athlete will be referred for mandatory substance abuse education, treatment, & counseling as per the Head Team Physician / Medical Review Officer.
- The student-athlete will be immediately suspended from ALL team-related activities & dismissed from the team.
- ALL athletic financial aid, including tuition, room & board, & books, will be immediately terminated.

U-M SA Health & Welfare
10/24/2013