APPLE Conference Staff

Joe        Debra        Susie        Holly
APPLE Goals

- educate
- empower &
- support teams

in preventing alcohol, tobacco and other drug (ATOD) use/abuse
Student-Athlete Substance Use
Compared to all college students, student-athletes are **LESS** likely to use...
(no use in past 12 months)

Marijuana (78.1% did NOT use in past year)
Cigarettes (89.7% did NOT use in past year)
Amphetamines (95.3% did NOT use in past year)
Cocaine (98.2% did NOT use in past year)
Synthetic Marijuana (98.4% did NOT use in past year)

Sources: 2013 NCAA National Study of Substance Use Habits of College Student-Athletes & 2012 Monitoring the Future Survey
Compared to all college students, student-athletes are **MORE** likely to use...

(in past 12 months):

- **Alcohol** (19.5% did not use in past year)
- **Anabolic Steroids** (99.5% did not use in past year)

Sources: 2013 NCAA National Study of Substance Use Habits of College Student-Athletes & 2012 Monitoring the Future Survey
How do NCAA divisions compare in past year ALCOHOL use?

Alcohol Use by Division
(Within the Last 12 Months)

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
Heavy drinking is down significantly among student-athletes.

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
How do NCAA divisions compare in past year MARIJUANA use?

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
Which MEN’s sports have the highest rates of PAST YEAR alcohol use?

1. Ice Hockey = 96.8%
2. Lacrosse = 93.1%
3. Golf = 87.5%
Which WOMEN’s sports have the highest rates of PAST YEAR alcohol use?

1. Lacrosse = 95.2%
2. Ice Hockey = 92.6%
3. Field Hockey = 88.7%

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
Compared to other students, student-athletes who drink...

- Consume **more** alcohol
- Drink **more** frequently
- Have **more negative consequences** including
  - Driving under the influence
  - Unsafe sexual behaviors
  - Criminal offenses

Student- Athlete Negative Consequences in Past 12 Months

- 63% had a hangover
- 51% were nauseated or vomited at least once
- 30% had a memory loss (black out)
- 30% did something they later regretted
- 23% got into a fight/argument at least once

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
Student-Athletes Who NEVER Use in Competition Season

% of SA

0 20 40 60 80 100

alcohol 50.1

marijuana 90.9

- Includes 19.3% who don’t drink at all
- Includes 71.8% who don’t use at all

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
Top Reasons Student-Athletes Don’t Drink

- No desire to experience effects
- Don’t want to hurt athletic performance
- Against my beliefs/values
- Concerned what it might do to health

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
Most student-athletes’ alcohol use does not interfere with their sport.

94.3% didn’t show up late or miss a practice or game.

84.0% didn’t perform poorly in a practice or game.

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
What Education Do Student-Athletes Want?

**WOMEN**

1. Speaking up when you see things around you that aren’t right
2. Drinking/substance use
3. Conducting self appropriately on campus and in community

**MEN**

1. Speaking up when you see things around you that aren’t right
2. Conducting self appropriately on campus and in community
3. Drinking/substance use

2013 NCAA National Study of Substance Use Habits of College Student-Athletes
Alcohol & Athletic Performance
NCAA Resources

Alcohol Decreases Aerobic Performance

- **Increased Heart Rate**
  < oxygenated blood flow to muscles/organs

- **Decreased Metabolic Function**
  < energy/fuel available for muscles to perform
Alcohol Dehydrates

Up to 3% body weight loss within 4 hrs of drinking

↑ fluid loss through evaporation

↓ tolerance to heat and cold temperatures

↔ Reverses heat acclimation training

↑ chances of heat cramps, exhaustion and stroke

Berning, J. (1996)
Shirreffs & Maughan (2006)
How many cups of water may an athlete need to rehydrate after 5 standard alcoholic drinks?

17


Athletes and Rehydration

- Athletes can require **12+ cups of fluid/day**.

- Replace each alcoholic drink with at least 1 cup of fluid.

- After 5 drinks, an athlete’s body may need **17+ cups of fluid for proper hydration**.

Alcohol Impairs Motor Skills

- Decreases strength, power and sprint performance for \textbf{up to three days} (72 hours)
- Decreases HGH secretion by up 70%
- \textbf{Reaction time} can be affected up to 12 hours after drinking

- Kuhn, Swartzwelder & Wilson (2000) \textit{Pumped: Straight facts for athletes about drugs, supplements and training}
- American Athletic Institute: www.americanathleticinstitute.org
Alcohol & Balance

- Some very heavy drinkers show damage to the hippocampus
- Regulates balance
- Not enough research to know if this is completely reversible

Wall Street Journal, Dec. 21, 2015
“The effects of chronic heavy drinking on brain function are underdiagnosed.”
Negatively Affects Body Composition

- can lead to increased body fat due to ethanol storage as fat.
- often mixed with high-calorie drinks (sodas, juices) & accompanied by high calorie foods

→ overall weight gain
Inhibits Absorption of Key Nutrients

**Thiamin (B1)** – necessary to convert food into fuel

**B12** – essential for healthy red blood and nerve cells for strong neuromuscular function

**Folic Acid** – helps make new cells which carry oxygen to your muscles

**Zinc** – essential for energy metabolism and endurance

Firth & Manzo, For the Athlete: Alcohol & Athletic Performance (2004)
Low Blood Sugar

27% of student-athletes report to practice with low blood glucose levels (not all due to alcohol use)

- Tired
- Unmotivated
- Weak
- Fatigued

- Body spends energy metabolizing alcohol, not making more glucose.
- Can lead to severe hypoglycemia 6 to 36 hours after heavy drinking.

American Athletic Institute: www.americanathleticinstitute.org
Increases Risk of Illness

Depresses immune function

Athletes who drink get sick more often.

American Athletic Institute: www.americanathleticinstitute.org
Slows Recovery

- Delays muscle repair
- Players that drink are twice as likely to become injured.
  - Injury rate for drinkers 54.8%
  - Injury rate for non-drinkers 23.5%
- Drinking alcohol after competition hinders recovery

#1 Day for Injuries?

American Athletic Institute: www.americanathleticinstitute.org

Disrupts Sleep & Learning

- Drinking **up to 6 hours before bed** reduces time spent in deep, restful sleep.
- Much of **memory formation** happens during sleep.
- Muscle **repair** happens during sleep

*How well can game plans be learned?*

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Kuhn, Swartzwelder & Wilson (2000) *Pumped: Straight facts for athletes about drugs, supplements and training*
Getting drunk 1 time can negate up to how many day of training effects?

Due to lost physiological conditioning including:
- Heart rate
- Ventilation
- Muscle enzymes

ALCOHOL AND ATHLETE: A Comparative Case Study of Enzymatic Activity, Training Effect and Alcohol Ingestion on an Elite Level Athlete, John Greig Underwood
American Athletic Institute
The lingering effects of alcohol hangovers reduces athletic performance by up to **11.4%** in elite athletes (e.g., national teams).

Impacts are higher for college student-athletes.

Source: American Athletic Institute: [www.americanathleticinstitute.org](http://www.americanathleticinstitute.org)  
“The Hangover Effect Or Disturbed Recovery Process”
What Is Acceptable Performance?

- Full Capacity - 100%
- Acceptable performance 90%
- 88.6% = Reduced Capacity

Is 80% Capacity Acceptable?

Alcohol and Team Success

- Abstaining from alcohol use in season can increase the likelihood of having a successful season.
- What would a 15% performance INCREASE look like for your team?
- For your individual performance?

Keller (2013)
10-2 All-American Football 4-2

PTS 160  184
Opp 133  113
Rush 1158  1331
Opp. 854  725
Pass 1443  1659
Opp. 1001  850

Source: American Athletic Institute:  www.americanathleticinstitute.org
28-27

NCAAs

Softball 24-31

Six 1 Run Losses

Avg. .254 .292
Opp. .285 .242
OBP .336 .386
ERA 4.35 3.69

Source: American Athletic Institute: www.americanathleticinstitute.org
The Seven “Slices”

THE APPLE MODEL

Recruitment
Expectations & Attitudes
Drug Testing
Policies
Sanctioning
Referral & Counseling
Education
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