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Concussion

Kasra Sarabakhsh

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CONCUSSION

LEWISTON, ME

Kasra Sarabakhsh, MS III

Dr. Bethany Picker, MD

Family Medicine Clerkship

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Traumatic Brain Injury Statistics

- Traumatic brain injury (TBI) is a major cause of death and disability in the United States, contributing to about 30% of all injury deaths.
- In 2010, about 2.5 million emergency department (ED) visits, hospitalizations, or deaths were associated with TBI-either alone or in combination with other injuries.
- Over the past decade (2001-2010), TBI related ED visits increased by 70% and hospitalization by 11%.
- Although data are limited, but it is estimated that 3.2 million-5.3 million people in the United States are living with a TBI-related disability.
- Adolescents and adults affected by moderate or severer TBI who were discharged from rehabilitation facilities were more than twice likely to die 3.5 years after injury compared to the general population of similar sex, age and race.

Public Health Cost

- Annual cost of traumatic brain injury is estimated to be \$76.5 billion.
- Average lifetime health care costs for TBI are roughly \$85,000 but can exceed \$3 million.
- In 2015, Children with concussions and other mild TBIs, accounted for 81% of \$1.56 billion in healthcare costs one year after pediatric TBIs.
- For individuals who undergo rehabilitation, after a 4 year follow up, average cost of medical services averaged \$196,460 compared to \$17,893 for those who did not receive rehabilitation.
- Treating veterans with TBI is 3-5 times more expensive than veterans without a history of TBI.

Community Perspective

Ben Walker, Athletic Trainer

- “Concussion is our number one issue. It is the highest frequency injury that we see.”
- “I think one of the biggest things with regards to management is educating students. Once they know what a concussion is, then they begin to understand why they shouldn’t be doing the things they shouldn’t be doing.”
- “There has to be more education regarding alcohol consumption.”
- “An education flyer for this population should be short, concise, to the point, bullet points on why alcohol is dangerous for you.”

Michael Verville, Director of Sport Medicine

- “Concussion is very prevalent. Somewhere around maybe 24-42 annually.”
- “Once concussion is recognized, we pull athletes out of sports and academics.”
- “Students have trouble communicating their feelings to us.”
- “Most important factor for recovery is rest.”
- “We tell students to stay away from alcohol after having a concussion.”
- “Anything that can help students understand what they can or can not do especially like alcohol consumption would be very helpful.”

Intervention and Methodology

- After interviewing athletic trainers at Bates College and working with physicians in managing patients with concussion at Bates' Student Health Center, I realized the need for educating patients/students regarding alcohol consumption during their recovery from a brain injury.
 - Patient education would be in the form of a flyer/hand out which would explain:
 - What concussion is.
 - Common symptoms of concussion.
 - How alcohol can affect brain recovery after having a concussion.
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Results/Response

- Athletic department and Student Health Services at Bates College now have an easy to read and eye catching flyer/poster that educates students/athletes on detrimental effects of alcohol on brain recovery after having a concussion.
- Michael Verville, *director of sports medicine*:
 - “This is great. Certainly will use the flyer as a post and hand out.”

ALCOHOL & CONCUSSION FORGET ABOUT IT!

COMMON SYMPTOMS OF CONCUSSION

- Confusion
- Headache & Nausea
- Amnesia (difficulty remembering)
- Balance problems
- Dizziness/irritability
- Difficulty concentrating
- Feeling sluggish, foggy
- Sensitivity to noise/light
- Double vision
- Feeling more emotional
- Sleep disturbance
- Loss of consciousness



What Is Concussion?

Concussion or mild traumatic brain injury is an injury to the brain which occurs due to contact and/or acceleration/deceleration forces.

What Can I Do to Help Feel Better After a Concussion?

Getting plenty of sleep at night, and rest during the day. Avoiding activities that are physically demanding (e.g., working out, playing sports) or that require a lot of concentration (e.g., doing homework, studying).

What Can Happen if I Use Alcohol After a Concussion?

Alcohol and brain recovery

- Alcohol is toxic to your brain cells.
- Alcohol slows down or stops brain injury recovery.

Alcohol and seizures

- Concussions put you at increased risk for seizures.
- Alcohol lowers the seizure threshold and may trigger seizures.

Alcohol and risk of having another concussion

- After a concussion, you are at a higher risk (3x-8x) of having another brain injury.
- Alcohol can affect coordination and balance which further increases your risk of having another brain injury.

Alcohol and mood

- Depression is about 8 times more common in the first year following a concussion in the general population.
- Alcohol is a depressant drug, and using it can cause or worsen depression.

Alcohol and sexuality

- Lower libido is the most common effect of concussion on sexuality.
- Alcohol reduces testosterone production in males and also reduces sexual satisfaction in both males and females.

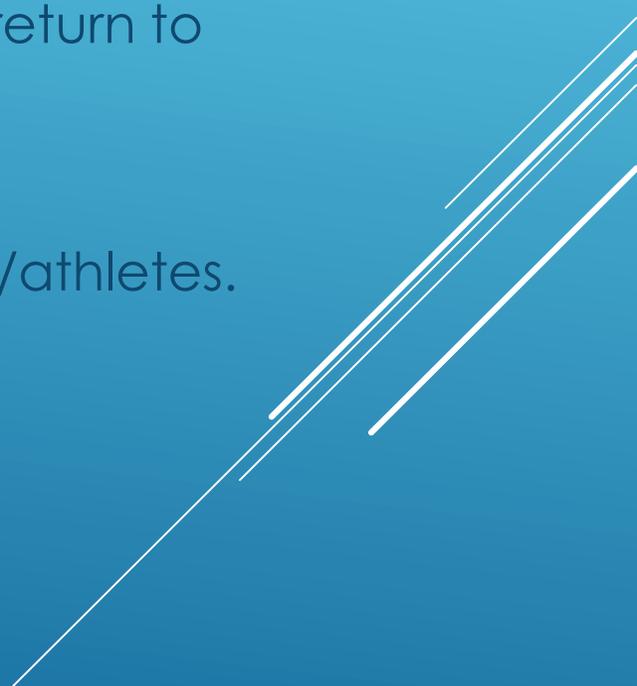
How Much Alcohol is Considered “Safe”?

After a concussion, the brain is more sensitive to alcohol, which means even one or two drinks may not be safe and put you at higher risk of complications.

Effectiveness/Limitations

- Effectiveness: the sports director at Bates College expressed his intent to use this flyer as a hand out and a post.
- Methods to assess the effectiveness:
 - A questionnaire regarding alcohols effect on brain recovery can be given to students/athletes before and after reading this flyer.
 - Further evaluation with a satisfaction rating could also be done in analyzing if students/athletes are “more likely”, “neutral” or “less likely” to abstain from alcohol during their recovery.
- Limitations:
 - This flyer only targets students and athletes that seek help at the athletic training room or Student Health Center.

Future Intervention/Projects

- Prepare a presentation on alcohol's effect on brain recovery to athletes at Bates College during their preseason orientation.
 - Case studies analyzing the effect of alcohol on the time required to return to cognitive baseline after a concussion .
 - Distributing the flyer at other clinics, colleges and high schools.
 - A survey to assess the effectiveness of this flyer in educating students/athletes.
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

References

- Corrigan, J., & Lamb-Hart, G. (2004). Alcohol, Other Drugs, and Brain Injury. Columbus, Ohio: Ohio Valley Center for Brain Injury Prevention and Rehabilitation, Ohio State University Dept. of Physical Medicine and Rehabilitation.
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- Financial Cost of Brain Injury, <http://www.aboutbraininjury.org/financial-costs-of-brain-injuries/>