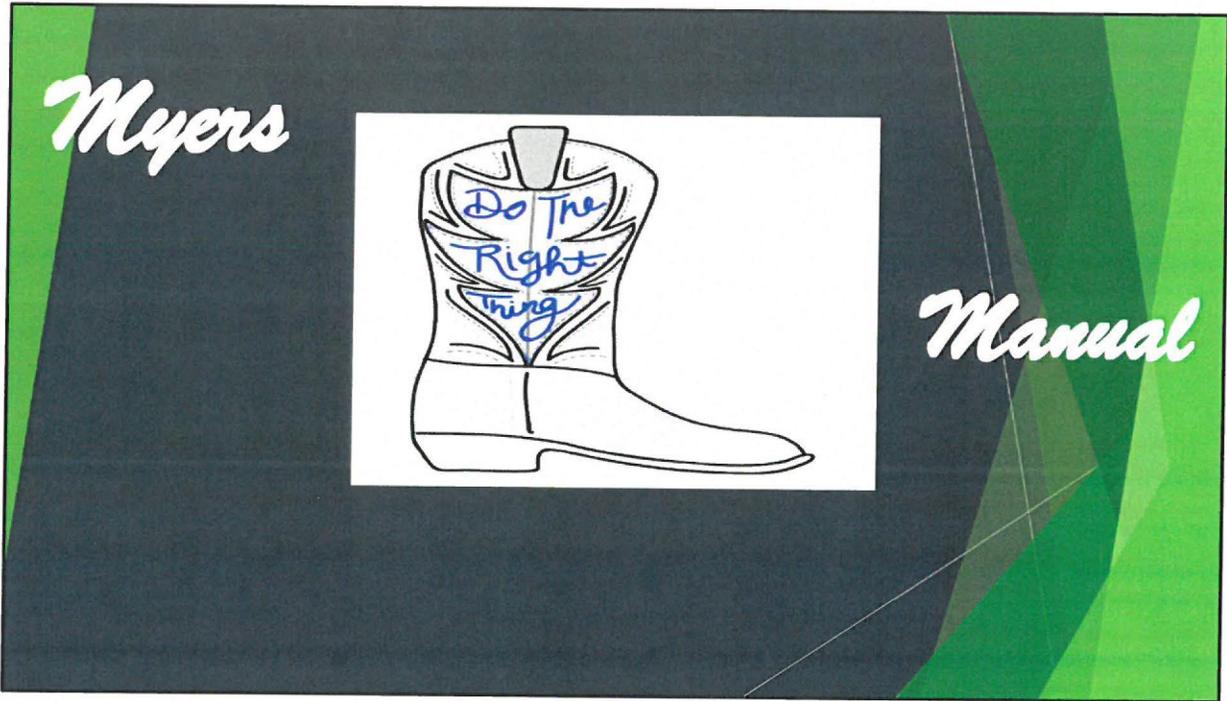




Myers Manual Introduction

The West Virginia Alcohol Beverage Control Administration (WVABCA) created and designed the *Myers Manual* to empower youth with an increased knowledge of the effects of alcohol and to identify the signs of acute alcohol poisoning. The program enables friends and family to better respond to an alcohol poisoning emergency. While the *Myers Manual* is geared to high school students, it may also be used in middle schools and at the collegiate level.

Created in 2017 and scheduled to be released to the public in 2018, the *Myers Manual* is the result of the *WVABCA NO School Spirits PSA Program*. This program seeks essay and video entries from high school students which address underage alcohol use and drinking and driving. Initially, the entries received mainly focused on drinking and driving. As the program grew each year, the themes expanded to highlight additional negative consequences from underage alcohol use. West Virginia's youth voiced their concerns to the WVABCA that they were worried about death from alcohol poisoning. During the *4th annual NO School Spirits PSA contest* an entry from Lewis County High School won second place and brought the issue of alcohol poisoning to the forefront. The Lewis County High School video entry depicted the true-life tragedy of Kurt Myers, who was a 15-year-old student that died from alcohol poisoning in 2012. The *Myers Manual* honors the family of Kurt Myers by sharing his story in life and in death.



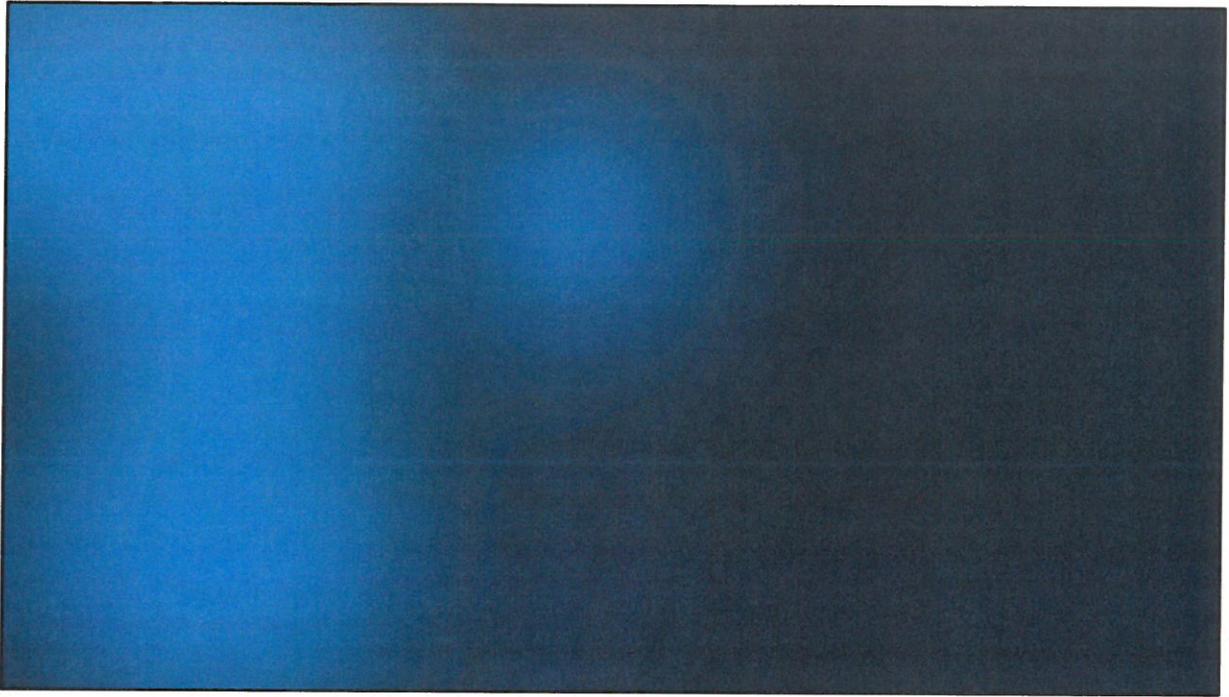
The logo you see on the first slide is a graphic designed by students at Lewis County High School to honor Kurt and his family as well as to bring awareness to the issue. Kurt was a young man that wore boot most of the time so the students thought the logo would be a great way of honoring his life. Along with the slogan you see on the boot, the students made bracelets with the slogan "Keep Kurt's boots walking" etched on them.

The Story of Kurt Myers

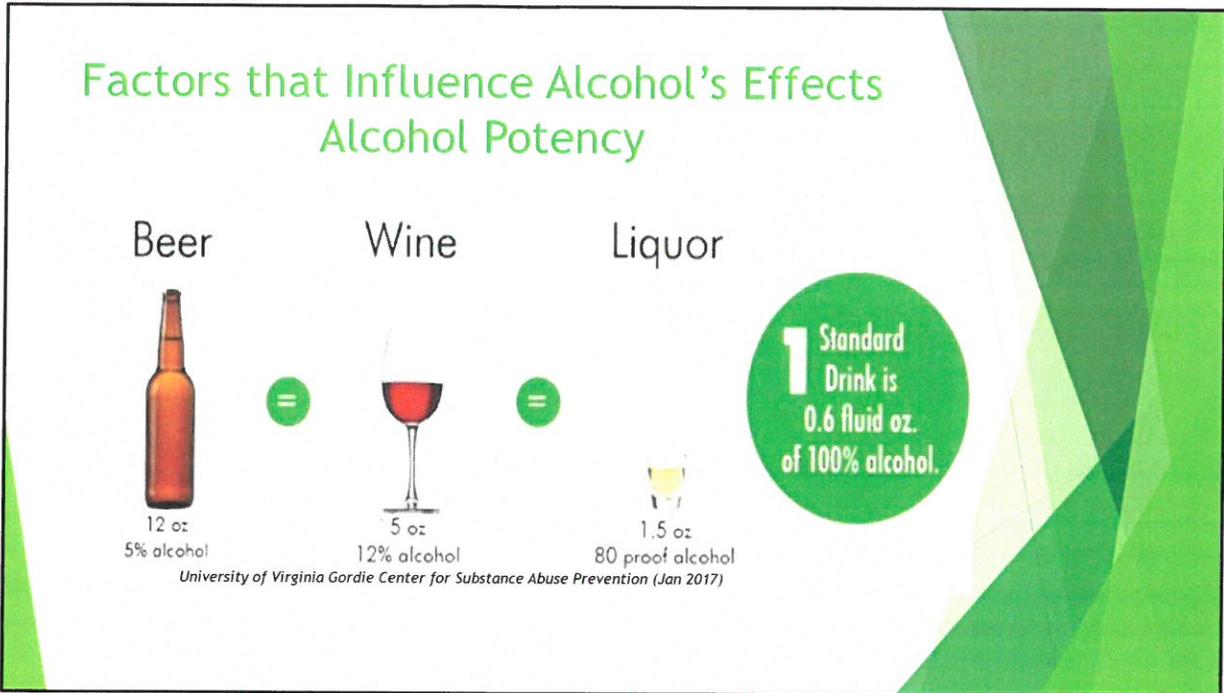


Click to next slide to play video.

If anybody asks, Kurt was 14 years old and his Sister in the picture was 21 years old.



Click to play video.



Educator Education

In the United States, pure alcohol content is measured in terms of percentage of alcohol by volume or ABV. It is common to see the use of the term “proof” as well when the alcohol content of bottled spirits, commonly called liquor, is described. The use of “proof” is permitted in the US, but not required. The labeling of ABV is required by all bottled spirits. The two terms are related and can both be used to interpret the alcohol content of a beverage. The proof is twice the value of the ABV. So, a 40 percent ABV equals 80 Proof.

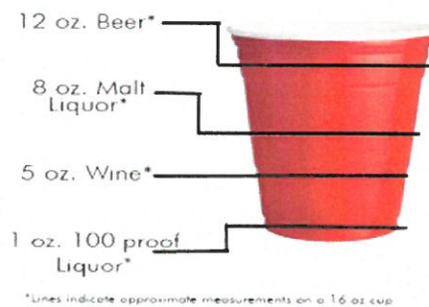
Non-alcoholic beer(O'Doul's, Sharp's), non-intoxicating beer(Budweiser, Coors), beer(None listed in WV), and wine are also described by percentage ABV as well. **The term “non-intoxicating beer” is the legal term that is used to describe what the layman would call “beer”. This can be confusing and possibly misleading to young people. So, for the purpose of this presentation, we will use the term “beer” to refer to the legal term non-intoxicating beer. Non-intoxicating beer has a wide range of ABV.**

- Non-alcoholic beer- Less than 0.5% ABV
- [Non-intoxicating beer- 0.5%-12% ABV](#)

- Beer- 12% or Higher
- Wine- 6%-22% ABV

One new product line that may appeal to younger individuals are the alcohol sodas or “alcopops”. These contain alcohol even though they may be called soda, lemonade or tea. They range from 0.5% to 12% with a serving size of 12 oz. These products vary in ABV and are scattered all over the legal range of ABV. For example, one flavor may be 4.2% ABV and another flavor may be 10.7% ABV

Factors that Influence Alcohol's Effects Alcohol Potency



University of Virginia Gordie Center for Substance Abuse Prevention (Jan 2017)

Mixed drinks could contain more than one serving and type of liquor. In which case, it would be considered more than one standard drink.

Practical Points

1.5 oz. 80 proof = 1 oz. 100 proof

More than one standard drink:

One 16 oz. cup of beer = 1.4 drinks

One 40 oz. beer = 3.6 drinks

One 22 oz. malt liquor = 3 drinks

One 12 oz. glass of wine = 2.9 drinks

One 12 oz. margarita = 2-4 drinks, depending on ingredients

(University of Texas 2017)

Factors that Influence Alcohol's Effects

➤ Body Size

- A smaller person's Blood Alcohol Concentration (BAC) will rise more quickly and reach a higher level than a larger person.
 - Size refers to amount of lean muscle weight. The more lean muscle weight an individual has the faster alcohol will be metabolized. A person with higher body fat will not metabolize alcohol as quickly.

➤ Gender

- Females tend to metabolize alcohol slower than males.
 - Females have a lower amount of a group of enzymes called alcohol dehydrogenases. These enzymes aid in the breaking down of alcohol.

BAC Explanation

BAC of 0.1% = 1 part alcohol to 1000 parts blood.

Recommended Activity

Body size and gender: May pick a large male and small female to help make analogy of gender and body size.

Practical Points

Body fat analogy- A marinating steak will soak up the marinade in the muscle tissue of the steak but not the fat.

Factors that Influence Alcohol's Effects

- Food
 - Food in the stomach and intestines slows down the absorption of alcohol into the bloodstream.
 - Foods high in protein, fat, and complex carbohydrates slow down absorption more than simple carbohydrates.
- Amount
 - As the amount of alcohol consumed increases, the level of alcohol in the bloodstream rises.

Definitions and Explanations

Pyloric (pahy-lawr-ik) valve- Valve at the bottom of the stomach. The valve is closed to allow digestion in the stomach. Then it opens to allow digested food to flow into the small intestines. If this valve is open then there is a clear path for alcohol to flow into the intestines.

Food

- Complex carbohydrate- Whole grain foods.
- Simple Carbohydrate- Refined grains and high sugar food.
- Proteins- Meats, beans, & nuts.
- Fat- From fat in meats, dairy, and from cooking process of frying.

Factors that Influence Alcohol's Effects

- Rate of Intake
 - If a person drinks alcohol faster than the liver can break it down, then the person becomes more and more intoxicated.
 - The body breaks down alcohol at a rate of 0.015% to 0.02% per hour
 - 3/4 of 1 standard drink to 1 standard drink per hour
 - A high ABV alcohol taken in quickly will cause BAC to raise quickly
 - **BAC will continue to increase even after last drink is consumed**

Dangers of drinking games /Intake

- BAC will continue to increase even after last drink is consumed.
- Promotes quick intake of alcohol in large amounts.
- Underage student in many cases process alcohol slightly different from adults. This is due to cognitive (brain) and physical (body) development and can effect the absorption and metabolism of alcohol.

Reference to Video

According to accounts from family and friends, Kurt must have been drinking over the course of 15-20 minutes. This would support the fact that he stopped drinking when he left the party and his BAC continued to raise to a fatal level.

Practical Point

1 oz. of 100 proof liquor = 1 - 12 oz. 5% beer It is more likely for an individual to consume larger amounts of alcohol drinking liquor per minute than with beer. Point out the likelihood of 10 shots in 20 minutes VS. 10 beers in 20 mins. Looking

particularly at the volume of fluid intake between the two. Liquor would be 10 oz. VS beer at 120 oz. Not that it can not be done, but which is more likely.

Drinking games like beer pong, flip cup, and quarter bounce, increase the speed in which an individual intakes alcohol in most cases. Even though the person takes in the alcohol quickly, the body can only metabolize it at a given rate. This can lead to a deadly amount of alcohol being consumed before it can be safely metabolized.

Factors that Influence Alcohol's Effects

Types of Drink

- Carbonated vs. Non-carbonated
 - Carbonated alcoholic beverages absorb faster due to the pressure caused by carbonation in the stomach speeds up absorption.
- Energy Drinks
 - The stimulants in energy drinks (Red Bull, Monster) will mask the signs of intoxication and will increase the rate of dehydration and cause unpredictable outcomes.
- Alcoholic Sodas
 - Do contain alcohol.
 - Wide range of products and range of ABV.

Practical Points

- If caffeine is combine with alcohol:
 - Adds another addictive component.
 - Increases the level of caffeine in the blood for longer periods of time and longer effect time on the central nervous system (Ferre & OBrien 2011).
 - Decreased proception of being intoxicated (Ferre & OBrien 2011).
 - Increase risk of binge drinking (CDC 2017).

Factors that Influence Alcohol's Effects

- Prescription/Over the Counter Drugs
 - Alcohol can interfere with the effects of medicines, and medicines can heighten the effects of alcohol, and can be life threatening.
- Illegal Drugs
 - Illegal drugs can have dangerous and life threatening reactions when mixed with alcohol.

Treatment for alcohol poisoning may be hindered and more complicated with unknown drugs in your system.

Definitions

Over the counter- Cough syrups, aspirin, night time sleep aids.

Illegal drugs- Meth, opioids, marijuana, and abuse of prescription legal medications.

Practical Points

Prescription- even though you may be prescribed a medication, it may not be legal for you to drive under the influence of that drug.

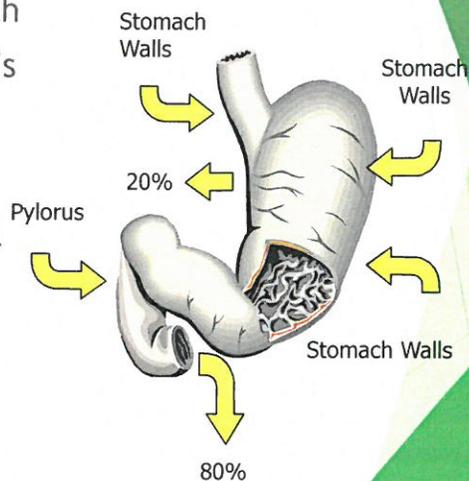
Example of alcohol and drug interaction:

Alcohol and opioids are both depressants when used together would amplify the depressant effect on the central nervous system.

Treatment for alcohol poisoning may be hindered and more complicated with unknown drugs in your system.

Absorption of Alcohol

- ▶ 2%-5% absorbed in mouth
- ▶ 15%-18% of the alcohol is absorbed through the stomach walls
- ▶ 80% is through the small intestine, no digestion takes place
- ▶ Too much drinking can result in a ...



United States Mine Rescue Association (2016)

Practical Point

- Alcohol is volatile. It escapes the smallest lung tissue during the gas exchange of oxygen and carbon dioxide. Alcohol vapor is coming out with air exhaled from the lungs just like CO₂ does. This is also why a breathalyzer works.
- This should only reinforce the way BAC keeps increasing even after drinking has stopped.

Activity

- Ask students "How have they heard a breathalyzer can be beaten? "
 - Common answers
 - Penny under the tongue
 - Snuff
 - Vomit
 - Mouthwash
- Truth: It can not be done.
 - Alcohol vapor is coming out in the air in the lungs and this fact can not be changed, eliminated or covered for the use of the breathalyzer.

"BEER BELLY"



United States Mine Rescue
Association (2016)

Practical Points

All alcoholic beverages contain calories. The amount of calories are determined by the amount of alcohol, carbohydrate, fat, and protein contained in the drink.

Calorie Illustrations

Average bourbon 80 proof 1.5 oz = 90-100 cal

USDA Nutrient Database Average regular beer = 153 cal per 12 oz.

USDA Nutrient Database Twinkie = 150 cal

Activity

Use these analogy a 12 pack of Twinkies and a twelve pack of beer being the same.

Practical Activity

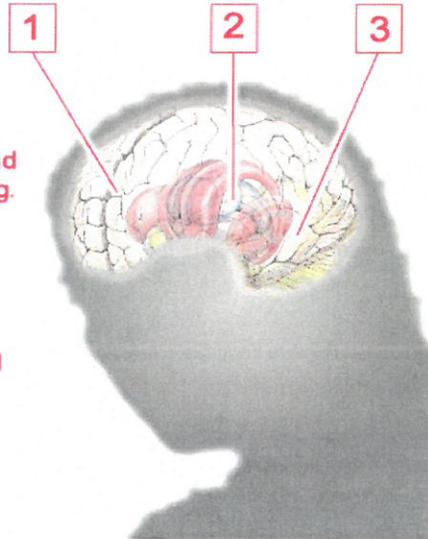
The average person will have to run approximately 1.53 miles to burn the calories taken in from one regular beer.

HOW ALCOHOL ATTACKS THE BRAIN

A guide to the sequential damage alcohol inflicts on neural tissue

1. First, alcohol affects the forebrain and **assaults motor coordination and decision making.**

2. Then, alcohol knocks out the midbrain, and you **lose control over emotions and increase chances of a blackout.**



3. Finally, alcohol batters the brainstem as it **affects heart rate, body temperature, appetite and consciousness,** a dangerous and potentially fatal condition.

Source Unknown

Stages of Intoxication Stage 1 Initial Intoxication

- BAC - 0.01-0.05
- Effects may not be apparent or obvious
- Behavior nearly normal by ordinary observations
- Alcohol is testable at this point

All following stages may occur faster or slower depending on the individual. The slides are not checklists and overlap. An individual does not have to have all symptoms to be in the specific stage. This applies to all levels.

Activities

Discuss risk factors of levels of intoxication.

Examples:

- An individual under the age of 21 can be charged with a DUI at 0.02 BAC.
- Underage can be charged for purchasing and possessing.
- An individual over the age of 21 can be charged with a DUI at 0.05 BAC if they fail the field sobriety test even though the legal limit is 0.08 BAC.
- As soon as alcohol is consumed, a person is being affected regardless of the perception.

No matter the perception, “feel”, or experience of the young person, if they are not 21, then it is illegal to consume, possess, or purchase alcohol.

Stages of Intoxication Stage 2 Euphoria

- BAC - 0.03-0.12
- Euphoria, sociability, and talkativeness
- Increased self-confidence and decreased inhibitions
- Diminished attention, judgement, and control
- Sensory-motor, reaction time, and dexterity/fine motor skills diminish

Activities

Discuss risk factors of levels of intoxication.

Examples:

- Sexual assaults
- Violence
- Poor decisions
- Falls
- Drowning
- Car/ATV crashes
- Vandalism
- Poor grades

Discuss the “Hey watch this!” Factor.

- This is a good illustration of loss of judgement that is usually demonstrated immediately after this statement.
- Good way to personalize the content for the students.

Stages of Intoxication Stage 3 Excitement

- BAC - 0.09-0.25
- Unstable emotions, loss of critical judgement
- Impaired perception, memory, and comprehension
- Sensory-motor, reaction time, and fine motor/dexterity skills diminish more
- Reduced visual abilities and peripheral vision
- Impaired balance, slurred speech, vomiting, and drowsiness

Activities

Discuss risk factors of levels of intoxication.

Examples:

- Sexual assaults
- Violence
- Poor decisions
- Falls
- Drowning
- Car/ATV crashes
- Vandalism
- Poor grades

Discuss the social media factor.

- Embarrassing or incriminating videos or pictures could be posted.
- NOTHING IS REALLY PRIVATE WHEN POSTED ON SOCIAL MEDIA.

Stages of Intoxication Stage 4 Confusion

- BAC - 0.18-0.30
- Mental confusion, dizziness
- Exaggerated emotional state
- Disturbances of vision
- Increased pain threshold
- Decreased motor functions, apathy, and lethargy

Activities

Discuss risk factors of levels of intoxication.

Examples:

- Sexual assaults
- Violence
- Poor decisions
- Falls
- Drowning
- Car/ATV crashes
- Vandalism
- Poor grades

Reference to Video

Kurt and other kids have died at 0.3 BAC and higher.

Stages of Intoxication Stage 5 Stupor

- BAC - 0.25-0.40
- Approaching complete loss of motor skills
- Decreased ability to respond
- Vomiting, incontinence of urine and feces
- *Impaired* consciousness

Activity

Discuss risk factors of levels of intoxication.

Examples:

- Increased risk of sexual assaults due to impaired consciousness.
- Aspirating vomit and choking to death.

Definitions

Impaired consciousness means they can communicate and have voluntary movement. It may be uncoordinated movements and ineffective communication, but it is present.

Example: Mumbled slurred speech.

Example: Able to hold head up.

Stages of Intoxication Stage 6 Coma

- BAC - 0.35-0.50
- **Complete** unconsciousness
- Lowering body temperature
- Impairment of circulation, reflexes, and breathing

Definition

Complete unconsciousness means no communication or voluntary movement. Breathing is present and is an involuntary movement.

Activity

Discuss risk factors of levels of intoxication.

Examples:

- Final step before death.
- If unattended, can progress to death quickly and undetected.
- Possible permanent brain and or organ damage.

Ask kids to call out some of there slang terms for “passing out”.

- See what the kids come up with.
- Note: Very likely will hear some laughter at this point.
- Explain: What ever you want to call it, it is an alcohol induced coma and a medical emergency.

Stages of Intoxication
Stage 7 Death

- **DEAD!!!!**
- **BAC - 0.45+**

Death can occur at a lower BAC.

Standardized BAC Chart

| Drinks | FEMALE | | | | | | | | | | | | MALE | | | | | | | | | | | | |
|--------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|---------------------------------------|--|--|--|--|--|--|--|
| | 90 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | | | | | | | | |
| 1 | .05 | .05 | .04 | .03 | .03 | .03 | .02 | .02 | .02 | .04 | .03 | .02 | .02 | .02 | .02 | .02 | .02 | IMPAIRMENT BEGINS | | | | | | | |
| 2 | .10 | .09 | .08 | .07 | .06 | .05 | .05 | .04 | .04 | .08 | .06 | .05 | .05 | .04 | .04 | .03 | .03 | DRIVING SKILLS SIGNIFICANTLY AFFECTED | | | | | | | |
| 3 | .15 | .14 | .11 | .10 | .09 | .08 | .07 | .06 | .06 | .11 | .09 | .08 | .07 | .06 | .06 | .05 | .05 | POSSIBLE CRIMINAL PENALTIES | | | | | | | |
| 4 | .20 | .18 | .15 | .13 | .11 | .10 | .09 | .08 | .08 | .15 | .12 | .11 | .09 | .08 | .08 | .07 | .06 | LEGALLY INTOXICATED | | | | | | | |
| 5 | .25 | .23 | .19 | .16 | .14 | .13 | .11 | .10 | .09 | .19 | .16 | .13 | .12 | .11 | .09 | .09 | .08 | CRIMINAL PENALTIES | | | | | | | |
| 6 | .30 | .27 | .23 | .19 | .17 | .15 | .14 | .12 | .11 | .23 | .19 | .16 | .14 | .13 | .11 | .10 | .09 | | | | | | | | |
| 7 | .35 | .32 | .27 | .23 | .20 | .18 | .16 | .14 | .13 | .26 | .22 | .19 | .16 | .15 | .13 | .12 | .11 | | | | | | | | |
| 8 | .40 | .36 | .30 | .26 | .23 | .20 | .18 | .17 | .15 | .30 | .25 | .21 | .19 | .17 | .15 | .14 | .13 | | | | | | | | |
| 9 | .45 | .41 | .34 | .29 | .26 | .23 | .20 | .19 | .17 | .34 | .28 | .24 | .21 | .19 | .17 | .15 | .14 | | | | | | | | |
| 10 | .51 | .45 | .38 | .32 | .28 | .25 | .23 | .21 | .19 | .38 | .31 | .27 | .23 | .21 | .19 | .17 | .16 | | | | | | | | |

West Virginia Alcohol Beverage Control Administration (Aug 2016)

Activity

Make reference to the analogy used to explain the differences in gender and size to explain how this chart works.

Practical Points

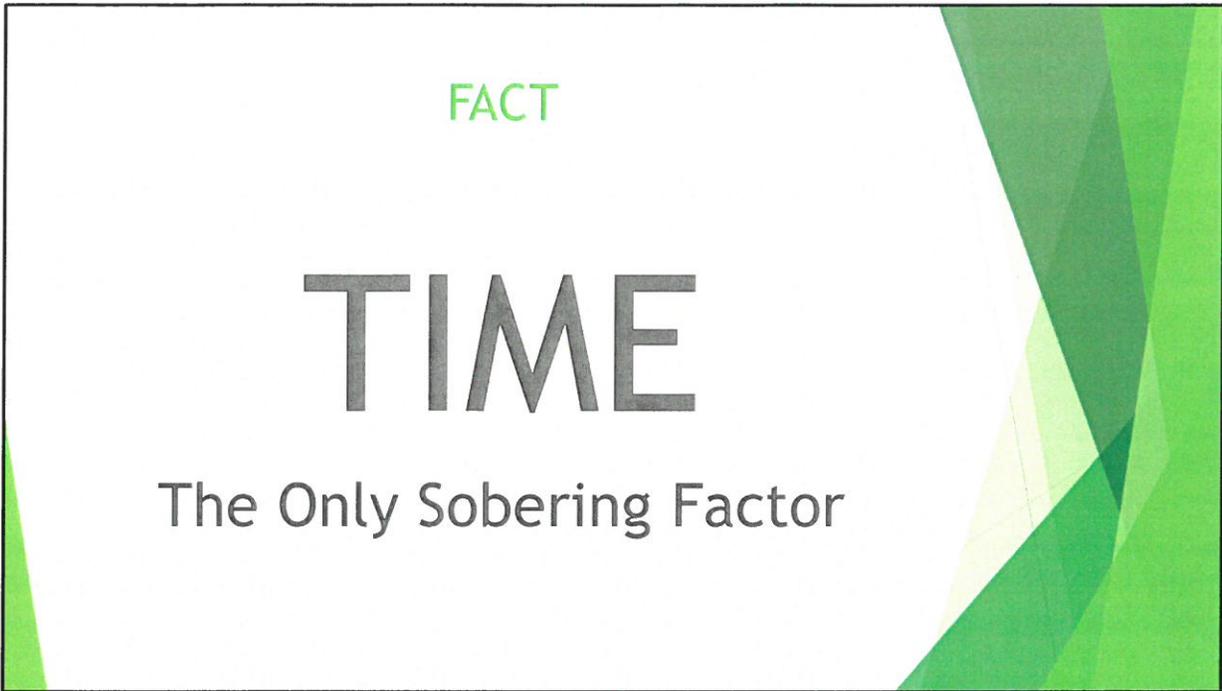
- This chart must be displayed wherever alcohol is served or sold in WV at licensed establishments.

What will sober you up? Myths

- | | |
|------------------|-----------------|
| ➤ Coffee? | Awake and Drunk |
| ➤ Take a shower? | Clean and Drunk |
| ➤ Take a walk? | Tired and Drunk |
| ➤ Eat? | Full and Drunk |
| ➤ Energy drinks? | Wired and Drunk |

Activity

See if the students have any myths they have heard. This is fun sometimes because you may get some really off the wall answers. Also a good place to remind the students that alcohol is a depressant.



Practical Points

- Why is time the only factor to reduce BAC- Because of all the factors covered in the previous material on rate of metabolism.
- Approximately $\frac{3}{4}$ of one ounce of pure alcohol per hour.
- $\frac{3}{4}$ of 1 standard drink to 1 standard drink per hour.

Reference to Video

Kurt did not have enough time.

Possible Signs and Symptoms of Alcohol Poisoning

- Confusion
- Vomiting
- Hypothermia
- Inability to stay conscious (Passing out)
- Cold or clammy skin
- Lack of physical coordination
- Irregular pulse

All signs and symptoms do not have to be present to be a medical emergency.

Cont. Possible Signs and Symptoms of Alcohol Poisoning

- Depressed breathing
- Aspirate- breathing in vomited materials into the lungs
- Seizure
- Choking
- Loss of bowel or bladder control
- Blue -tinged skin, especially around the lips or under the fingernails

WEST VIRGINIA CODE

WVC 16-

CHAPTER 16. PUBLIC HEALTH.

WVC 16 - 47 - ARTICLE 47. ALCOHOL AND DRUG OVERDOSE PREVENTION AND CLEMENCY ACT.

- West Virginia currently has the highest drug overdose mortality rate in the United States. Since 1999, the number of drug overdose deaths in West Virginia has increased by over six hundred percent. Similarly, the age-adjusted death rate from alcohol-related overdoses has significantly increased in West Virginia, and throughout the United States, in the past ten years.
- (b) The Legislature in W.Va. Code § 16-47-1 et seq. states that in the public interest to encourage citizens to intervene in drug and alcohol overdose situations by seeking potentially life-saving emergency medical assistance for others without fear of being subject to certain criminal penalties.
 - Requirements set forth in the W.Va.Code to qualify
 - Must provide aid to the individual
 - Must call emergency services (911)
 - Must remain on the scene until emergency services arrive

Note: W.Va. Code §16-47-1 et seq. has not to WVABCA's knowledge been challenged or utilized in a court of law. Please read the W.Va. Code sections and apply at your own

Click the title of this slide above to link to the state code for this. ***Must be in slideshow mode to make the link work.***

While every attempt is made to maintain the W.Va. Code sections, this version may not be the most updated and accurate version of the W.Va. Code.

If you rely on this version, you are relying at your own risk, please check with the West Virginia

Legislature or its website to obtain updated versions or copies of legislation which passed during

the current legislative session or any current special session.

If you have any further questions, please contact your local law enforcement agencies.

How to care for a person with alcohol poisoning

- Call 911.
- Keep them awake if possible.
- Keep them warm.
- Lay them into the recovery position if they pass out.
 - Recovery position- See illustration above.
- Check if they can breath properly.
 - If not breathing start CPR or Compression Only CPR.
- **Stay with them and monitor them until help arrives.**



What not to do!!!

- Don't leave them to sleep it off.
- Don't leave them unattended.
- Don't give them coffee.
- Don't walk them around.
- Don't put them in a cold shower.
- Don't let them drink any more alcohol.
- Don't let them leave.
- Don't let them drive.

Summary/Class Discussion

- What did you learn?
- What information did you learn that could have changed the outcome for Kurt Myers?
- Who was affected by Kurt's death?
- What could the friends have done differently in Kurt's situation?

Points of Impact

Look to see if they can take the information about the science and apply it to decision making.

Examples:

- Kurt was drinking straight vodka vs mixed.
- Kurt was left unattended in his front yard.

Sources

- Stages of intoxication. (June 2015). Ternopil State Medical University tdmu.edu.ua
- University of Texas Division of Student Affairs (Aug 2017).
<https://www.healthyhorns.utexas.edu/bac.html>
- University of Virginia Gordie Center for Substance Abuse Prevention (Jan 2017).
www.gordiecenter.studenthealth.virginia.edu/alcohol-drugs
- West Virginia Alcohol Beverage Control Administration (Aug 2016)
www.abca.wv.gov/Pages/default.aspx
- West Virginia Code WVC 16-Chapter 16. Public Health. WVC 16-47- Article 47. Alcohol and drug overdose prevention and clemency.
- United States Mine Rescue Association (2016)
http://miningquiz.com/powerpoints/substance_abuse.htm
- Sergi and Ferre & Mary Claire O'Brien Alcohol and Caffeine: The Perfect Storm. Journal of Caffeine Research 2011 Sept 1(3):153-162.
- Center for Disease Control. (June 2017) <https://www.cdc.gov/alcohol/fact-sheets/caffeine-and-alcohol.htm>

Brought to you by:



For more information visit our website:
www.abca.wv.gov
Phone: 304-356-5500

WVABCA Myers Manual
PRE-Survey Questionnaire
POST- Survey Questionnaire (circle one)

Circle the correct answer(s)

1. If your friend consumes too much alcohol and passes out, you should?
 - a. Let them sleep it off
 - b. Put a trash can beside them
 - c. Wake them up
 - d. Get them medical attention

2. Which contains more alcohol?
 - a. A 12-ounce container of 6% beer
 - b. A 5-ounce glass of 14% table wine
 - c. A 1.5 ounce shot of 80 proof liquor
 - d. They all contain about the same amount of pure alcohol
 - e. There is not enough information given to provide an answer

3. How often do you consume a drink containing alcohol?
 - a. Never
 - b. Monthly
 - c. 2-4 times per month
 - d. 2-3 times per week
 - e. 4 or more times per week

4. What is the best position for an unconscious person who has consumed too much alcohol?
 - a. On their back
 - b. On their stomach
 - c. On a dance floor
 - d. On their side

5. A physically fit person will become intoxicated faster than someone who is out of shape?
 - a. True
 - b. False

6. If I have consumed too much alcohol and I am throwing up, what will help me sober up? (circle all that apply)
 - a. Cold Shower
 - b. Coffee, water or energy drink
 - c. Food
 - d. Sleep it off
 - e. Studying for your midterms
 - f. Taking an aspirin
 - g. Time