MODULE 3: DRUGS & ADDICTION   **LESSON 3.5**

Alcohol

Obj. 3.5: Identify the effects of alcohol on the body in relation to blood alcohol concentration.

DO NOW

Read the following statistics about alcohol. Circle the ones that surprise you the most.

1. By age 14, 41% of children have had least one alcoholic drink.

2. Over three million teenagers are alcoholics. Several million more have a serious drinking problem that they cannot manage on their own.

3. Every year, an estimated 30,000 college students require medical treatment after overdosing on alcohol.

4. Annually, 400,000 students between the ages 18 and 24 engage in unprotected sex while drunk and say they wouldn't have done it had they been sober.

5. Teens who begin drinking before age 15 are five times more likely to develop alcohol dependence than those who begin drinking at age 21.

6. The three leading causes of death for 15- to 24-year-olds are automobile crashes, homicides and suicides -- alcohol is a leading factor in all three.

Source: *Harvard School of Public Health*

Adapted from: http://www.teamfortcollins.org/resources/parent-of-a-teen/11-facts-about-teens-and-alcohol/)

DISCUSS

Did you know that 1 in 6 people killed on the road are involved in drunk driving accidents? With a partner, discuss the following question and list all factors you can think of below.

What influences people to drink and drive?

NEW INFO

Read the basic definitions below:

Alcohol Use: Drinking in moderation, keeping a safe BAC. 1-2 drinks per day.

Alcohol Abuse: Drinking with the purpose of becoming intoxicated, leading to negative consequences.

Alcohol Dependence (Alcoholism): Experiencing withdrawal symptoms when not drinking, develop high tolerance. Drinking is the priority on a daily/weekly basis.

Blood Alcohol Concentration (BAC): The amount of alcohol contained in a person's blood, usually reported as a percentage such as 0.10%, which indicates that one-tenth of a percent of a person's blood is alcohol.

THINK

Alcohol is a depressant. Because alcohol in the blood travels directly to the brain, cognitive functioning is affected, resulting in increased risk of many kinds of injuries. Most significant among these is the risk of a motor vehicle crash when a person drives with too great a concentration of alcohol in his or her system.

BLOOD ALCOHOL CONCENTRATION (BAC)[1]	TYPICAL EFFECTS	PREDICTABLE EFFECTS ON DRIVING
.02%	▸ Some loss of judgment ▸ Relaxation ▸ Slight body warmth ▸ Altered mood	▸ Decline in visual functions (rapid tracking of a moving target) ▸ Decline in ability to perform two tasks at the same time (divided attention)
.05%	▸ Exaggerated behavior ▸ May have loss of small-muscle control (e.g., focusing your eyes) ▸ Impaired judgment ▸ Usually good feeling ▸ Lowered alertness ▸ Release of inhibition	▸ Reduced coordination ▸ Reduced ability to track moving objects ▸ Difficulty steering ▸ Reduced response to emergency driving situations
.08%	▸ Muscle coordination becomes poor (e.g., balance, speech, vision, reaction time, and hearing) ▸ Harder to detect danger ▸ Judgment, self-control, reasoning, and memory are impaired	▸ Concentration ▸ Short-term memory loss ▸ Speed control ▸ Reduced information processing capability (e.g., signal detection, visual search) ▸ Impaired perception
.10%	▸ Clear deterioration of reaction time and control ▸ Slurred speech, poor coordination, and slowed thinking	▸ Reduced ability to maintain lane position and brake appropriately
.15%	▸ Far less muscle control than normal ▸ Vomiting may occur (unless this level is reached slowly or a person has developed a tolerance ▸ for alcohol) ▸ Major loss of balance	▸ Substantial impairment in vehicle control, attention to driving task, and in necessary visual and auditory information processing

[1] Information in this table shows the BAC level at which the effect usually is first observed, and has been gathered from a variety of sources including the National Highway Traffic Safety Administration, the National Institute on Alcohol Abuse and Alcoholism, the American Medical Association, the National Commission Against Drunk Driving, and http://www.webMD.com.

Source: CDC (http://www.cdc.gov/Motorvehiclesafety/pdf/BAC-a.pdf)

1.   Based on the effects listed in the table above, summarize why alcohol makes driving dangerous.

2.   What BAC do you think should be the legal limit for driving? Why?

3.   Research your own state's law. What is the legal limit in your state?

4.   Besides driving, what other activities would be considered dangerous while intoxicated? List at least three.

2

THINK

The liver can only process approximately one drink per hour. The BAC chart below gives a general sense of how many drinks per hour result in various BAC levels based on body weight.

Blood Alcohol Chart

Body Number of Drinks per Hour

Weight	1	2	3	4	5	6
100 lbs.	.038	.075	**.113**	**.150**	**.188**	**.225**
120 lbs.	.031	.063	**.094**	**.125**	**.156**	**.188**
140 lbs.	.027	.054	**.080**	**.107**	**.134**	**.161**
160 lbs.	.023	.047	.070	**.094**	**.117**	**.141**
180 lbs.	.021	.042	.063	**.083**	**.104**	**.124**
200 lbs.	.019	.038	.056	.075	**.094**	**.113**
220 lbs.	.017	.031	.047	.063	.078	**.094**

- 1 Drink = 1.5 oz. of whisky, 5 oz. wine or 1.25 cans of beer.
- Bold Indicates serious impairment – do not drive!
- Rate of Elimination: .015 per hour after drinking has stopped.
- All states have adopted .08 as the legal limit for intoxication

Use the chart above to answer the questions about BAC:

1. If you weigh 140 lb, what is your BAC after 3 drinks in 1 hour?

2. Is this considered serious impairment?

3. What is your BAC if you weigh 120 lb and have had 5 drinks in 1 hour, but have not been drinking for the past 2 hours?

4. Is this considered serious impairment?

5. What is the legal limit for intoxication in all states?

6. What are the BACs for a 200 lb person and a 120 lb person after 3 drinks in 1 hour, respectively?

ASSESS

Answer the questions below in short sentences.

1. What does BAC stand for and what does it show?

2. Why is measuring the blood alcohol content of a person useful?

3. Name 3 effects of alcohol intoxication that make driving dangerous.

HOME WORK

Find a graph related to drinking and driving. Use the internet or any print material (magazines, etc.). Summarize the trends in you find in the graph. Print out the graph and bring it to the next class session.