**Alcohol – Handout for STT and BAT Students**

**Provided by Certified Training Solutions**

Alcohol is a depressant.

* + It slows the central nervous system and brain function.
  + Alcohol reduces coordination and reflexes.
  + Judgment & decision-making ability are affected by alcohol use.

Alcohol is the leading drug of abuse.

Alcohol dulls the nerve endings in a person’s body.

* + The most sensitive nerves are attacked first – those in the brain.
  + As a result, one of the initial noticeable signs of a person consuming alcohol is a reduction in his or her inhibitions.
  + For this reason, it may appear at first that alcohol is a stimulant, not a depressant.
    - You may find that a person who is normally quiet or shy becomes outgoing when under the influence of alcohol.

**In small doses, many alcohol users experience a feeling of relaxation.**

* + However, even in small doses, alcohol has the effect of reducing a person’s inhibitions.
  + This means he or she is more likely to do things that are uncharacteristic – things that the person would not normally do when sober, including risky and dangerous things.

**Too Much Alcohol Can Kill a Person**

* + In excess amounts, alcohol can be fatal.
  + Typically 0.40% BAC is lethal; however, for some people the level is lower.
  + Too much alcohol slows breathing and slows down the heart rate . . . Breathing & heart rate can slow to dangerously low levels or even stop.

**How Much is Too Much?**What is Moderate Drinking?

A standard drink is roughly 12-14 grams of pure alcohol, which is found in:

* + 12 ounces of beer
  + 5 ounces of wine
  + 1.5 ounces of distilled spirits

**The USDA defines moderate drinking as**:

* + - Up to 1 drink per day for women
    - Up to 2 drinks per day for men

**Binge drinking is defined as the consumption of five or more alcoholic drinks in a row on at least one occasion**

* Binge drinking, even if done only once or a few times per year, is a form of alcohol abuse.
* Binge drinking can and does result in alcohol poisoning, which, in some instances, can be fatal.

**Dangers of Binge Drinking include:**

* Death or injury due to falls, fires, drowning, or a drunk driving crash.
* Death from alcohol poisoning.

**How does alcohol get into the blood?**

When a person drinks alcohol, the alcohol is distributed throughout all of the water-bearing tissue in their body, including the blood.

A portion of the alcohol (in the same ratio it is in the blood) is expressed in the person’s breath.

**Alcohol Absorption in the Human Body**

When a person drinks alcohol, approximately 20 percent of the alcohol is absorbed in the stomach and about 80 percent is absorbed in the small intestine.

On an empty stomach, peak intoxication for most people will happen between 60 to 90 minutes after they ingested the alcohol.

Peak intoxication takes longer if the person has food in their stomach.

**Body size plays a role in alcohol intoxication.**

* A larger person has more water-bearing tissue than does a smaller person; therefore, the alcohol will be more concentrated in a smaller person.
* A larger person will have a lower intoxication level than a smaller person who drinks the same amount of alcohol.

For Example:

* A 140 pound man who drinks 5 beers in 2 hours will have an alcohol level (BAC) of approximately 0.085
* A 200 pound man who drinks 5 beers in 2 hours will have an alcohol level (BAC) of approximately 0.060
* Even though they drank the same amount of alcohol, the smaller guy is over the legal (DUI) limit; and the larger guy is under the limit.
* (However, it is **never** safe to drink and drive.)

**Gender also plays a role in alcohol intoxication.**

* On average, women have more fatty tissue in their bodies (which is not water-bearing) and men tend to have more muscle tissue (which is water-bearing).
* Therefore, if a man and a woman drink the same amount of alcohol, the woman will have a higher intoxication level (BAC).

For Example:

* A 150 pound man who drinks 5 beers in 2 hours will have an alcohol level (BAC) of approximately 0.079
* A 150 pound woman who drinks 5 beers in 2 hours will have an alcohol level (BAC) of approximately 0.087

Whether or not a person has **food** in their stomach at the time of alcohol consumption affects intoxication levels.

A person with food in their stomach will maintain a lower intoxication level than a person of the same size and gender who drinks on an empty stomach.

**How a person is affected by different alcohol levels:**

* **0.02%** - relaxation, the ability to divide attention between two or more sources of visual information can be impaired, capacity to correctly judge speed and distance is affected;
* **0.05%** - mild intoxication, inhibitions go away, visual perception is affected, reaction time grows, problems with responding quickly to stimuli;
* **0.10%** - obvious intoxication for most people, attention and control are getting more impaired, slowing of reflexes, slowed thinking and coordination; driving skills are significantly impaired;
* **0.20%** - double vision, memory loss, not able to walk, vomiting, incontinence, high risk of accidents;
* **0.30%** - extreme intoxication, cool body temperature, tremors, not able to drive;
* **0.40%** and above - coma, unconsciousness, little response to stimuli, poor respiration, clammy skin; possible death.

**Tolerance**: Because the body builds up a tolerance to alcohol, a person who drinks rarely will appear more affected than a person who drinks regularly.

Chronic drinkers will develop physical and psychological tolerances to alcohol.

Because of tolerance, a person may show no signs of intoxication, but may actually have a high BAC.

**Alcohol Elimination**

* The liver removes the majority of alcohol from the body (90%), at a steady rate of about 0.015 per hour. This is true for both men and women and the same regardless of body size.
* A small amount of alcohol (less than 10%) is eliminated from the body in urine, breath and sweat.

EXAMPLE: Say, you drink until you’re at a level of 0.080 g/210L. It will take approximately 5.3 hours for your body to eliminate all of the alcohol. [0.08 / 0.015 = 5.333]