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ALCOHOL POISONING

Alcohol Has Changed

Alcohol is a clear, relatively odorless chemical made up of three common molecules: carbon, hydrogen and oxygen. Alcohol is also a psychoactive drug that changes brain chemistry and is lethal in high doses. Despite general knowledge about alcohol intoxication, drinking and driving and some of the long term medical consequences of alcohol abuse, few people realize that deaths from alcohol overdoses occur about as often as for other drugs.

When airborne yeast combines with water and sugar from any number of sources, such as potato, grains or fruits, a process called fermentation occurs and ethyl alcohol is made. Tens of thousands of years ago when the first thirsty person accidentally stumbled onto some puddle of naturally fermented water, the effect must have been quite a shock. Most likely, that first encounter was probably not fatal because of the low alcohol content produced by natural fermentation, the small quantity of beverage available or both.

Today, first time and even experienced alcohol users may not be as lucky because alcohol is readily available in large volumes, high concentrations, or both. Does everyone who drinks alcohol die from a toxic overdose? Of course not, but let's take a look at why alcohol poisoning kills people every year, the signs and symptoms of alcohol poisoning and what you can do if confronted by this problem.

How Does Alcohol Kill?

Alcohol can cause death directly by acting on those brain areas that control consciousness, respiration and heart rate. As a central nervous system depressant, alcohol can "*turn off*" these vital brain areas, resulting first in coma and then death.

In many cases, drinking too much alcohol will make you sick and you will stop drinking. Contrary to folk tales, getting sick is not from mixing drinks or drinking on an empty stomach, it is because specialized poison control cells in your brain detect danger -- too much alcohol -- and send a signal to your stomach to vomit. This is the brain's way of dealing with poisoning. Vomiting is an attempt to eliminate any unabsorbed alcohol. The logic is, if you can prevent any alcohol that's still in the stomach from getting into the blood supply, it may save your life. Eating before you drink will slow down the speed of intoxication but it is no guarantee that you won't get sick or die if you consume enough alcohol.

Whereas some people only vomit when they have consumed too much alcohol, other people just fall asleep (with or without vomiting) after they have consumed too much alcohol. In these people, death can follow in one of two ways: you may fall into a deep sleep and vomit while sleeping. What's the result? You choke on your own vomit because you are too intoxicated to wake up and clear out your airway. In other instances, you simply fall asleep and never wake up, because the concentration of alcohol is

so high that the areas of your brain controlling life functions are so depressed they stop functioning, and so do you.

How Much Alcohol Is "Lethal"?

The "lethal dose" (LD) of alcohol is clinically defined as the amount that would kill half the population (the LD50). Most authorities place the LD50 at about .40% or about five times the current legal limit in most states. However, there are many cases in which death occurred from alcohol poisoning at much lower, and in some cases, much higher levels. For a 100 lb. man or woman drinking very quickly, it would only require about 8-10 drinks in an hour to reach the *lethal* level.

Can You Tell If You're Too Intoxicated*?*

Generally, you can't tell. First of all, alcohol impairs judgment, making your ability to reason difficult, especially at high doses. Second, it takes a while for all the alcohol in the stomach to travel out of the gastrointestinal system and into the blood supply, where it then reaches the brain and other organs. Depending upon how much you drink, how quickly you drink, and what else is in your stomach, it may take about 30-90 minutes after you stop drinking, before you reach your highest level of intoxication. Although some drinking scenarios may require less or more time to reach the maximum level of intoxication, you can see that when you decide you have consumed enough alcohol and stop drinking, you will most probably continue to become even more intoxicated. Sweetly flavored alcoholic concoctions such as Jell-O shots, flavored brandies, schnapps or other drinks can go down easily and quickly but surprise you later on when they get into your brain. Similarly, drinking "*games*" can be quickly fatal because large quantities of alcohol are often consumed over very short periods of time. Almost-straight alcohol drinks, such as EverClear are especially dangerous and should be avoided.

Symptoms of Alcohol Poisoning

If you have any of the following symptoms, you are experiencing an overdose reaction:

- Vomiting
- Passed out
- Difficult to awaken
- Slow, shallow breathing

What You Should Do

Don't let a person who has been drinking heavily "sleep it off." If they persist in falling asleep, wake them up. If they don't respond, it's time to call the police emergency number (911) and tell them you need an ambulance for a possible alcohol overdose. Do not assume your friend will simply sleep it off and be okay. When in doubt, call for help. Don't take a chance with your friend's life. If you know or suspect that other drugs may have been taken, be sure to notify at least one or more ambulance personnel. Alcohol in combination with other drugs accounts for about 30% of all drug overdose deaths.

Remember, the word in***toxic***ation.

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