



Teens, Partying and Alcohol Poisoning

A PAD Backgrounder

Introduction

Alcohol and parties are often synonymous for youth. Potential problems associated with this mixture are well-known, particularly the risks of drinking and then driving and the risks of sexual assault. But the risks to the person ingesting large amounts of alcohol are not as well documented or understood. Hangovers, blackouts, vomiting and unconsciousness are accepted as part of partying behaviour, particularly for young people, and even expected as part of coming of age. What we don't talk about is that all of these are all examples of alcohol toxicity or poisoning.

Young people, drinking and partying

Because alcohol is legal, is advertised as part of the good life, and because it continues to be a part of society's celebrations, it is viewed positively by the majority of young people and their parents. Some adults may have experienced the negative consequences of over-drinking themselves, and may not be as concerned as they should be when they hear about this behaviour in their children.

Heavy drinking — also called over-drinking and binge-drinking — among young people is prevalent. Defined as five or more drinks on any one occasion, the concern among professionals is that this will result in more episodes of obvious alcohol poisoning.

Many youth drinking trends allow youth to imbibe alcohol easily and in ways that make it hard to measure their exact alcohol intake. A new concern is the mixing of high caffeine energy drinks with alcohol, which only increases the risks associated with either substance.

Drinking games are advertised at bars and on the internet. Many youth will be able to share an experience of either playing or watching such a game, and posting pictures of themselves or their friends from such experiences on social networks. Many youth will also refer to parties where either they or their friends vomited after drinking or passed out. However, they don't think of this as alcohol poisoning. Most youth don't know they or their friends may be at risk for more serious consequences, or know what to do to reduce their risk or when call for help.

Host liability for harmful consequences of teen parties

One little-known area of risk includes legal consequences for the host of a party when injuries or damage have occurred. If an adult is serving alcohol (or even if they just know — and therefore implicitly condone — that alcohol is being consumed on their premises) they are in the position of being a "social host". As a social host they have responsibility for the behaviour of their guests, including what happens to them, as a result of their own — or someone else's — alcohol consumption. How much liability a host has — and the costs to them if a claim is made against them — is determined on a case by case basis

Alcohol poisoning

A poison is defined as “a substance that is capable of causing the illness or death of a living organism when introduced or absorbed”. (www.oxforddictionaries.com).

Drinking heavily over a short period of time usually results in a “hangover” — headache, nausea, shakiness, and sometimes vomiting, beginning from 8 to 12 hours later. A hangover is due partly to poisoning by alcohol and other components of the drink, and partly to the body’s reaction to withdrawal from alcohol. Although there are dozens of home remedies suggested for hangovers, there is currently no known effective cure (CAMH INFO, Alcohol).

In an article for Intoxikon International, *Alcohol and Drug Studies Research*¹, Dr. John Brick identified the following:

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 that 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 four 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.

¹ Brick, J., Alcohol Poisoning, Intoxikon International 2010. www.intoxikon.com. Used with permission of the author.

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 on how much you drink, and what else is in your stomach, it may take anywhere from 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."

What are the 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 [the person] will simply sleep it off. When in doubt, call for help.

Reducing the Risks for Alcohol Poisoning

Some strategies that young people suggest for lowering their risk for excessive alcohol intake are:

- choose not to drink at all -- either because you just don't wish to do so or under certain conditions e.g., if driving, if taking medications, if using other substances
- reduce your rate of consumption; keep alcoholic drinks to one per hour
- alternate alcoholic drinks with water or pop
- eat food (this will slow the absorption of alcohol, but eventually, all the alcohol will get into your system — so, be careful with this one. You may be drunk later in the evening)
- stop drinking alcohol after a certain point/number of drinks
- choose drinks with higher water/soda content (e.g. mixed drinks) over "shots", beer over "shots" (there is the same amount of alcohol in a bottle of regular beer and 1¹/₂ oz. of liquor; however, unless chugging the beer, drinking undiluted "shots" gets the alcohol into your system faster)
- have a buddy with you, and work out a designated safety system ahead of time
- determine who will be the designated sober "partier" — someone who can call for help if needed

Alcohol Poisoning Summary

- Alcohol is a depressant. That means alcohol will slow down – and eventually even shut down – the part of the nervous system that controls involuntary actions, like breathing and the gag reflex.
- Alcohol is absorbed very quickly through the stomach, into the bloodstream and to the brain, but can only be processed by the liver at the rate of about one ‘standard’ drink in one hour.
- Specialized poison control cells in your brain detect danger – there is too much alcohol – and vomiting is an attempt to eliminate any unabsorbed alcohol.
- Eating before you drink will slow down the speed of intoxication but it is no guarantee that you won't get sick if you consume enough alcohol.
- It may take anywhere from about 30-90 minutes *after you stop drinking* before you reach your highest level of intoxication.
- If someone who has been drinking has any of the following symptoms, they are likely experiencing an overdose reaction:
 - Vomiting
 - Passed out
 - Difficult to awaken
 - Slow, shallow breathing
 - Doesn't respond to stimuli
- Choking to death on one's vomit after an alcohol overdose is more common than you might think. Death by asphyxiation can occur when a person chokes on his or her own vomit or when alcohol depresses the body's reflexes to the point that the person can't vomit properly (loss of the “gag” reflex).
- If someone is experiencing alcohol poisoning, put them in a “Recovery Position”, call for medical assistance and watch over them until professional help arrives.