CONDITION

Alcohol poisoning

Learn how to recognize alcohol poisoning, what to do in an emergency, how it is treated, and when follow-up care may be needed.

WHAT IT IS
Acute alcohol overdose suppressing vital functions

BODY SYSTEM
Nervous system and vital organs

MAIN SYMPTOMS
Severe confusion, vomiting, unconsciousness, slow or irregular breathing

WHAT CAUSES IT
Excess ethanol suppressing brain and organs

HOW IT IS DIAGNOSED
Clinical assessment, vital signs, blood alcohol concentration

MAIN TREATMENT
Emergency monitoring and supportive care

CAN IT BE CURED?
Sometimes - supportive care while alcohol clears

IS IT AN EMERGENCY?
Yes, whenever alcohol poisoning is possible

LONG-TERM OUTLOOK
Recovery or brain injury and death

Overview

Alcohol poisoning, also called an alcohol overdose, happens when alcohol interferes with basic functions that keep a person alive. These functions include breathing, heart rate, body temperature control, and the protective reflexes that prevent choking.

Alcohol poisoning can develop after someone drinks a large amount in a short time. A person may continue absorbing alcohol after they stop drinking or become unconscious. This means their condition can worsen even if they are no longer consuming alcohol.

The liver removes alcohol from the blood, but it can process only a limited amount at a time. Coffee, cold showers, walking, or sleep cannot make the liver clear alcohol faster.

Alcohol poisoning is a medical emergency. It can cause choking, breathing failure, brain injury,

or death without prompt care. It may also occur with head injuries or poisoning from opioids like oxycodone or morphine , sedatives, or other substances. Do not assume that an unconscious person simply needs to "sleep it off."

Symptoms

Alcohol affects judgment, balance, speech, and coordination before it begins to suppress vital functions. Early intoxication can progress to severe confusion, vomiting, unconsciousness, and dangerous changes in breathing.

Emergency warning signs include:

Call your local emergency number immediately if alcohol poisoning is possible. In the United States, call 911. Do not wait for every symptom to appear, and do not rely on the person's reported number of drinks.

While waiting for help, stay with the person. If they are breathing but unconscious, place them on their side with their face angled downward to reduce the chance of choking. Keep them warm. If they are not breathing normally, follow the emergency dispatcher's instructions and begin CPR if you are able.

Do not make the person vomit. Do not give coffee, food, medicine, or more alcohol. Do not put them in a cold shower or try to make them walk. These actions do not reverse poisoning and may cause choking, falls, or dangerous cooling.

- Being unable to wake the person or keep them awake
- Severe confusion, stupor, or loss of consciousness
- Slow, shallow, or irregular breathing
- Long pauses between breaths
- Repeated vomiting, especially while very sleepy or unconscious
- Seizures
- Pale, bluish, gray, or clammy skin
- Very low body temperature
- Loss of bladder or bowel control while unconscious
- Signs of a fall or head injury, such as bleeding, unequal pupils, or worsening unresponsiveness

Causes and risk factors

Alcohol poisoning is caused by having enough ethanol-the alcohol in beer, wine, and spirits-in the body to suppress the brain and other organs. Risk depends on more than the number of drinks.

Drinking rapidly is a major factor because alcohol may enter the bloodstream faster than the liver can remove it. High-strength drinks, large servings, drinking games, and consuming several drinks close together can make the amount difficult to track. Mixed drinks may contain more than one standard drink.

Other factors that can increase risk include:

Food may slow alcohol absorption, but it does not prevent poisoning. A person's blood alcohol concentration may continue rising after their last drink because alcohol remains in the stomach and intestines.

People who regularly drink heavily may appear less impaired because they have developed tolerance. Tolerance can hide outward signs, but it does not reliably protect breathing, the airway, or other organs.

Children can become seriously ill from relatively small amounts of alcohol. Accidental exposure may involve beverages, mouthwash, hand sanitizer, perfume, or other alcohol-containing products. Contact emergency services or a poison center promptly if a child may have swallowed alcohol.

- Drinking on an empty stomach
- Having a smaller body size or less body water
- Being young, older, or medically frail
- Having liver disease or other conditions that affect alcohol processing
- Accidentally drinking alcohol-containing products
- Combining alcohol with opioids, benzodiazepines like diazepam or lorazepam , sleep medicines, or other sedating substances
- Continuing to drink after judgment and coordination are already impaired

Diagnosis

Emergency clinicians diagnose alcohol poisoning by considering what happened, examining the person, and checking vital functions. Treatment may begin before test results are available.

The team will assess breathing, oxygen level, heart rate, blood pressure, temperature,

alertness, and the ability to protect the airway. They may ask witnesses what the person drank, how much they drank, when they drank it, and whether medicines or other substances were involved.

A blood alcohol concentration, or BAC, measures the amount of alcohol in the blood. BAC can support the diagnosis, but the number does not always match how ill someone appears. Effects vary with tolerance, age, health, and other substances. Clinicians treat the person's condition rather than relying on BAC alone.

Blood tests may check glucose, electrolytes, kidney and liver function, and the body's acid-base balance. A pregnancy test or toxicology testing may be appropriate in some situations. An electrocardiogram may be used to examine the heart rhythm.

Because alcohol can hide symptoms of injury or illness, clinicians may also look for head trauma, stroke, infection, low blood sugar, or poisoning from opioids, methanol, ethylene glycol, or other substances. Brain imaging may be needed if a head injury or another neurologic problem is possible.

Treatment and management

Alcohol poisoning requires monitoring and supportive care while the body clears the alcohol. There is no home remedy that quickly reverses ethanol poisoning.

In the emergency department, the immediate priority is keeping the airway open and supporting breathing. Treatment may include oxygen, suctioning vomit from the mouth, or placing a breathing tube if the person cannot protect their airway or breathe adequately.

Clinicians check blood glucose because alcohol can contribute to dangerously low blood sugar, especially in children, people who have not eaten, and people with poor nutrition. Glucose may be given when needed. Thiamine, a vitamin important for brain function, may be given to people at risk of deficiency, particularly those with long-term heavy alcohol use or malnutrition.

Intravenous fluids may treat dehydration or low blood pressure. They do not make alcohol leave the bloodstream more quickly. Staff may also use warming measures for low body temperature and medicines to treat seizures, severe nausea, or other complications.

Continuous observation may include repeated checks of alertness, breathing, oxygen level, heart rhythm, temperature, and blood pressure. Clinicians also watch for aspiration, which occurs when vomit or fluid enters the lungs.

Activated charcoal usually does not help with ethanol because it does not bind alcohol well. Dialysis, a procedure that filters the blood, is rarely needed for ethanol poisoning but may be considered by specialists in unusually severe cases or for certain toxic alcohols.

If opioid exposure may also be involved, emergency personnel may give naloxone. Naloxone can reverse opioid effects but does not reverse alcohol poisoning. A response to naloxone does not remove the need for medical assessment when alcohol or multiple substances may be involved.

The length of observation depends on symptoms, test results, injuries, and whether other substances were used. A person should not drive, leave alone, or care for someone else until clinicians consider it safe.

Complications

Alcohol poisoning can interfere with breathing and the gag reflex. This creates a risk of respiratory arrest or choking on vomit. Aspiration can lead to lung inflammation, pneumonia, and low oxygen levels.

Other possible complications include:

Risk may be greater when alcohol is combined with opioids, sedatives, or sleep medicines because these substances can suppress breathing. Some consequences, such as aspiration pneumonia or symptoms from a hidden injury, may become apparent after the immediate intoxication improves.

- Low blood sugar
- Low body temperature
- Abnormal heart rhythms
- Dehydration and electrolyte problems
- Seizures
- Falls, burns, assaults, or head injuries
- Muscle breakdown and kidney injury after prolonged unconsciousness
- Brain injury caused by lack of oxygen
- Coma or death

Follow up

Follow the discharge instructions provided by the treating team. Rest, hydration, and avoiding further alcohol may be advised, but recovery plans depend on the person's condition and test results. Someone who has recently been treated should not drive or perform hazardous tasks

while still impaired.

Seek emergency help after discharge for trouble breathing, inability to wake, seizures, repeated vomiting, blue or gray skin, severe confusion, chest pain, or new weakness. Worsening headache, unusual behavior, fainting, or increasing sleepiness after a fall also requires urgent assessment because it may indicate a head injury.

Contact a clinician promptly for persistent vomiting, fever, cough, shortness of breath, abdominal pain, or reduced urination. These symptoms may need evaluation for aspiration, dehydration, injury, or another complication.

Routine follow-up can help review what happened, check for injuries or medication interactions, and discuss ways to reduce future risk. This is also an opportunity for a confidential, nonjudgmental conversation about alcohol use.

If someone regularly drinks heavily, they should seek medical guidance before suddenly stopping. Alcohol withdrawal is different from alcohol poisoning and can sometimes cause seizures, hallucinations, or severe confusion. A clinician can assess withdrawal risk and discuss appropriate support. Treatment resources may include primary care, addiction medicine, counseling, mutual-support groups, or community programs.

Sources

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