CONDITION

Chlordiazepoxide overdose

Learn how chlordiazepoxide overdose affects the brain and breathing, which symptoms require emergency care, and how clinicians diagnose, treat, and monitor it.

WHAT IT IS
Excessive sedation and nervous system slowing from chlordiazepoxide

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Extreme sleepiness, confusion, slurred speech, poor coordination

WHAT CAUSES IT
Too much chlordiazepoxide, sometimes with sedatives

HOW IT IS DIAGNOSED
Clinical condition and exposure history

MAIN TREATMENT
Supportive care

CAN IT BE CURED?
Yes, many recover with timely care

IS IT AN EMERGENCY?
Yes, any suspected overdose

LONG-TERM OUTLOOK
Many recover, but prolonged low oxygen can cause brain or organ injury

Overview

Chlordiazepoxide is a prescription benzodiazepine like diazepam or lorazepam . Benzodiazepines slow activity in the brain and nervous system. Chlordiazepoxide may be used for anxiety, symptoms of alcohol withdrawal, or anxiety before certain procedures.

A chlordiazepoxide overdose happens when the medicine causes more sedation and nervous system slowing than the body can safely manage. This may follow a large single dose, repeated doses taken too close together, or use with other substances that cause drowsiness.

The effects can last longer than expected because chlordiazepoxide is a long-acting medicine. The body also changes it into active breakdown products, called metabolites, that continue to have sedating effects. Older adults and people whose bodies clear the medicine slowly may have prolonged symptoms.

An overdose involving chlordiazepoxide alone often causes marked sleepiness, poor coordination, and confusion. Severe breathing problems are more likely when it is combined with opioids like oxycodone or morphine , alcohol, sleep medicines, or other sedatives. However, any suspected overdose needs prompt professional assessment because the amount taken and the substances involved may not be known.

Suspected chlordiazepoxide overdose is an emergency. In the United States, call 911 for severe symptoms or Poison Help at 1-800-222-1222 for immediate guidance. Outside the United States, contact the local emergency service or poison center. Do not wait for symptoms to worsen.

Symptoms

Symptoms reflect slowing of the brain and nervous system. They may become more noticeable as the medicine is absorbed. Because chlordiazepoxide is long acting, drowsiness can continue or return after an apparent improvement.

Possible symptoms include:

More serious poisoning may cause slow or shallow breathing, low blood pressure, loss of consciousness, or coma. These effects are particularly concerning when opioids, alcohol, or other sedatives may also have been taken.

Call emergency services immediately if the person:

If opioid exposure is possible and naloxone is available, give it according to its package instructions while waiting for emergency help. Naloxone can reverse opioid effects, but it does not reverse chlordiazepoxide. More than one substance may be involved, so emergency assessment is still needed.

Do not make the person vomit. Do not give food, drink, coffee, or other medicines unless a poison specialist or clinician instructs you to do so. If the person is unconscious but breathing, place them on their side if this can be done safely. Start CPR if they are not breathing normally and follow instructions from the emergency dispatcher.

- Unusual or extreme sleepiness
- Difficulty waking or staying awake
- Confusion or poor judgment
- Slurred speech
- Unsteady walking or poor coordination

- Muscle weakness
- Blurred vision
- Slow responses and reduced reflexes
- Nausea or vomiting
- Cannot be awakened
- Is breathing slowly, irregularly, or with pauses
- Has blue, gray, or very pale lips or skin
- Collapses, has a seizure, or becomes unresponsive
- May have taken an opioid or an unknown mixture of substances
- Took the medicine in a possible self-harm attempt

Causes and risk factors

An overdose may be accidental or intentional. Sometimes it results from a medication mistake, such as repeating a dose because the first dose was forgotten or because its effects were not felt right away.

Factors that can increase risk include:

Older adults may be more sensitive to benzodiazepines and may clear them more slowly. Liver disease may also affect how chlordiazepoxide and its active metabolites are processed. Frailty, breathing disorders, and other sedating medicines can add to the risks of confusion, falls, and breathing problems.

Regular use can lead to physical dependence, meaning the body adapts to the medicine. Dependence is not the same as addiction, but suddenly stopping after ongoing use can cause withdrawal. Withdrawal may include anxiety, tremor, agitation, trouble sleeping, and, in severe cases, seizures. This is why a person who regularly takes chlordiazepoxide should not make abrupt changes after an overdose without medical guidance.

- Taking more chlordiazepoxide than prescribed
- Taking doses closer together than directed
- Using someone else's medication
- Combining it with opioids, alcohol, sleep medicines, or other sedatives
- Taking several medicines that contain sedating ingredients

- Using chlordiazepoxide during a period of severe emotional distress
- Keeping medicine where a child or another person can reach it

Diagnosis

Clinicians first assess breathing, circulation, alertness, and the risk of injury. Treatment begins immediately if breathing or blood pressure is affected; it does not wait for a laboratory result.

The healthcare team may ask:

Bringing the medication container, pharmacy list, or a photo of the label can help. Do not delay calling for help to collect these items.

Examination may show drowsiness, slurred speech, poor coordination, reduced reflexes, or slow breathing. Clinicians also look for signs that do not fit a benzodiazepine overdose, such as major heart rhythm changes or severe agitation, because these may suggest another substance or medical condition.

Tests depend on the circumstances. They may include measurement of oxygen, blood glucose, electrolytes, kidney and liver function, and an electrocardiogram, which records the heart's electrical activity. Testing for acetaminophen, salicylates such as aspirin, alcohol, or other drugs may be appropriate when the substance taken is uncertain.

Urine drug screens have limits. A result may show exposure to a benzodiazepine, but it cannot reliably measure the severity of poisoning. Some tests may also miss particular benzodiazepines or their metabolites. Diagnosis and treatment are therefore based mainly on the person's condition and history.

- How much chlordiazepoxide may have been taken
- When it was taken
- Whether the person uses it regularly
- Which prescription, nonprescription, or recreational substances were also available
- Whether alcohol or opioids may be involved
- Whether the exposure was accidental or related to self-harm

Treatment and management

The main treatment is supportive care. This means maintaining breathing, oxygen levels, blood pressure, and safety while the body clears the medicine.

A person with mild symptoms may need close observation and repeated checks of alertness and breathing. More serious poisoning may require oxygen, intravenous fluids, continuous heart and oxygen monitoring, or help keeping the airway open. If breathing is inadequate, clinicians may place a breathing tube and use a ventilator temporarily.

Activated charcoal binds some medicines in the digestive tract, but it is not routinely used for benzodiazepine overdose. A sleepy person may inhale charcoal or vomit into the lungs. A toxicology specialist may consider it only in selected circumstances when the exposure was recent and the airway can be protected.

Flumazenil is a medicine that blocks benzodiazepine effects. It is not routinely given for an unknown or mixed overdose. It can trigger sudden withdrawal and seizures, especially in people who use benzodiazepines regularly, have a seizure disorder, or have taken another substance that increases seizure risk.

Clinicians may consider flumazenil in carefully selected cases when the poisoning is known to involve only a benzodiazepine and the risk of withdrawal or seizures is low. This decision requires an individual assessment and often input from a poison center or medical toxicologist.

There is no role for trying to "sleep it off" without professional advice. Chlordiazepoxide's long action means monitoring may be needed even if the person initially appears stable. Dialysis is not a standard treatment because it does not remove chlordiazepoxide effectively.

If the overdose may have been intentional, care also includes a compassionate mental health and safety assessment. The goal is to address immediate distress, reduce access to means of self-harm, and arrange appropriate support.

Complications

Many people recover with timely monitoring and supportive care. The risk of complications depends on the amount taken, other substances involved, underlying health, and how long breathing or consciousness was impaired.

Possible complications include:

Mixing chlordiazepoxide with opioids is especially dangerous because both can suppress breathing. Alcohol and other sedatives can also deepen unconsciousness and make airway complications more likely.

Symptoms may be prolonged in older or medically frail adults. Confusion and poor balance may continue after the most obvious sedation improves, increasing the risk of falls.

- Aspiration pneumonia from inhaling vomit or saliva into the lungs

- Injury from falls, accidents, or prolonged immobility
- Low oxygen levels caused by inadequate breathing
- Low blood pressure
- Muscle injury from lying in one position for a long time
- Pressure injuries to the skin
- Coma
- Brain or organ injury if oxygen levels remain dangerously low

Follow up

Follow-up needs depend on the severity and reason for the overdose. Before discharge, the healthcare team may review all medicines and substances that contributed to the event. They may recommend changes in storage, supervision, packaging, or the number of tablets kept at home.

Routine follow-up may include a visit with the prescribing clinician to review whether chlordiazepoxide is still appropriate. Do not restart, stop, or change the dose without instructions. People who have used it regularly may need a gradual reduction rather than abrupt discontinuation.

A medication review should include alcohol, opioids, sleep aids, antihistamines like cetirizine or loratadine , muscle relaxants, and other products that cause drowsiness. The clinician may also discuss fall prevention, driving safety, liver health, and safer treatment options.

After an intentional overdose, follow-up should address the circumstances that led to it. This may involve mental health care, substance-use treatment, crisis planning, and support from trusted people.

Seek emergency help again for new or worsening difficulty waking, slow breathing, blue or gray skin, collapse, or seizure. These are not routine follow-up concerns. Persistent mild drowsiness, balance problems, or questions about medication changes should be discussed promptly with the treating clinician.

Sources

- DailyMed, U.S. National Library of Medicine. Librium (chlordiazepoxide hydrochloride) capsule: prescribing information. Includes boxed warnings about combined use with opioids, dependence, withdrawal, adverse effects, and overdose management. Accessed February 14, 2025.
- MedlinePlus Medical Encyclopedia, U.S. National Library of Medicine. Chlordiazepoxide overdose. Accessed February 14, 2025.
- Lavonas EJ, Akpunonu PD, Arens AM, et al. 2023 American Heart Association Focused Update on the Management of Patients With Cardiac Arrest or Life-Threatening Toxicity Due to Poisoning. Circulation. 2023;148:e149-e184.
- Sivilotti MLA. Flumazenil, naloxone and the "coma cocktail." British Journal of Clinical Pharmacology. 2016;81(3):428-436.
- Chyka PA, Seger D, Krenzelok EP, Vale JA. Position paper: Single-dose activated charcoal. Clinical Toxicology. 2005;43(2):61-87.
- America's Poison Centers. Poison Help: 1-800-222-1222. National poison center information and emergency guidance. Accessed February 14, 2025.