CONDITION

Dimenhydrinate overdose

Dimenhydrinate overdose is poisoning caused by taking more motion-sickness medicine than the body can safely handle.

WHAT IT IS
Poisoning from too much dimenhydrinate

BODY SYSTEM
Nervous system, heart and circulation

MAIN SYMPTOMS
Confusion, hallucinations, fast heartbeat, seizures

WHAT CAUSES IT
Taking an unsafe amount of dimenhydrinate

HOW IT IS DIAGNOSED
History, examination, blood tests, and ECG

MAIN TREATMENT
Emergency monitoring and supportive care

CAN IT BE CURED?
Yes - effects usually wear off

IS IT AN EMERGENCY?
Yes - with any suspected overdose

LONG-TERM OUTLOOK
Full recovery common after effects clear

Overview

Dimenhydrinate is an antihistamine like cetirizine or loratadine used to prevent and treat motion sickness, nausea, and vomiting. It is sold under several brand names and may be included in combination medicines.

An overdose happens when someone takes more dimenhydrinate than their body can safely process. This may be accidental, such as taking repeated doses too close together or confusing two similar products. It may also be intentional.

Dimenhydrinate affects several chemical signals in the brain and body. In overdose, it can block the action of acetylcholine, a chemical involved in alertness, vision, sweating, digestion, urination, and heart function. This produces a pattern called anticholinergic toxicity .

A mild overdose may cause sleepiness, dry mouth, blurred vision, or agitation. More serious poisoning can cause severe confusion, hallucinations, seizures, dangerous heart rhythms, coma, or breathing problems. A person's condition can change quickly, so a suspected overdose should not be managed at home without advice from a poison centre or emergency service.

Symptoms

Symptoms often develop within the first several hours, although timing is affected by the amount taken, the product, and whether other substances were involved.

Possible symptoms include:

Children may become unusually excited, restless, or confused rather than sleepy.

Severe poisoning can affect the electrical system that controls the heartbeat. This may cause an irregular rhythm, fainting, low blood pressure, or cardiac arrest. Seizures, very high temperature, and prolonged agitation can also damage muscles and place stress on the kidneys.

Symptoms alone cannot show exactly how much medicine was taken. Someone who initially appears well may still need observation, especially when the amount or timing is uncertain.

- Severe sleepiness or difficulty waking
- Restlessness, panic, or unusual agitation
- Confusion or not recognising familiar people or places
- Hallucinations, meaning seeing or hearing things that are not present
- Poor coordination, slurred speech, or unsteady walking
- Large pupils, blurred vision, or sensitivity to light
- Dry mouth and dry, warm, flushed skin
- Fast heartbeat
- Difficulty urinating
- Nausea or vomiting
- High body temperature
- Muscle jerking, tremors, or seizures

Causes and risk factors

Dimenhydrinate overdose is caused by taking an unsafe amount of the medicine. There is no single amount that defines an overdose for everyone. Risk is influenced by age, body size, the formulation, other medicines, health conditions, and how long ago the medicine was taken.

Overdose may happen when someone:

Alcohol, sleeping medicines, opioids like oxycodone or morphine , anxiety medicines, and other sedating antihistamines can increase drowsiness and breathing risk. Some antidepressants like sertraline or fluoxetine , antipsychotics, and other medicines can add to anticholinergic effects or heart-rhythm problems.

Older adults may be more sensitive to confusion, blurred vision, urinary retention, and falls. Young children can also become seriously ill after an unintended ingestion.

- Takes extra doses because symptoms have not improved
- Uses more than one product containing dimenhydrinate
- Confuses adult and children's formulations
- Misreads a liquid medicine measuring device
- Takes the medicine for its sedating or hallucinatory effects
- Takes it during an episode of self-harm
- Swallows it accidentally, particularly as a young child

Diagnosis

Dimenhydrinate overdose is mainly diagnosed from the circumstances and the person's symptoms. Emergency staff will try to identify the product, strength, possible amount, and time it was taken. They will also ask about alcohol, recreational drugs, and other medicines.

The examination usually includes temperature, blood pressure, breathing, alertness, pupil size, skin moisture, and bladder function. Heart rate and rhythm are monitored.

An electrocardiogram , or ECG, records the heart's electrical activity. It can identify rhythm changes or slowed electrical conduction caused by severe poisoning. More than one ECG may be needed if symptoms are changing.

Blood tests may check blood sugar, salts, kidney function, acid levels, and signs of muscle injury. Further tests may be used when another medicine could have been taken. For example, hospitals commonly consider testing for certain pain relievers that may cause early poisoning without obvious symptoms.

A routine blood level for dimenhydrinate is not usually available or needed. General urine drug screens may not reliably confirm the diagnosis and can sometimes give misleading results.

Treatment and management

If an overdose may have occurred, contact a poison centre or emergency service promptly. Do not wait for symptoms to appear. Do not make the person vomit, and do not give food, drink, or home remedies unless a poison specialist advises it.

If possible, take the medicine package to the hospital. Information about the product strength, missing tablets, timing, and other substances can help guide care. Do not delay emergency help while trying to collect these details.

Treatment is based on symptoms and may include close observation, repeated ECGs, intravenous fluids, oxygen, temperature control, and support for breathing. A quiet environment may help reduce agitation, but a severely confused person still needs careful supervision to prevent falls or other injuries.

Activated charcoal can bind some medicine inside the digestive tract. It may be considered soon after a significant ingestion, but it is not suitable for everyone. It can enter the lungs if a person is very sleepy, vomiting, seizing, or unable to protect their airway. It should only be used on professional advice.

Medicines from the benzodiazepine group may be used in hospital to control seizures or severe agitation. If the ECG shows certain dangerous electrical changes, sodium bicarbonate may be given to help protect the heart.

Physostigmine is a medicine that can reverse severe anticholinergic delirium in carefully selected cases. It is not routine treatment. Because it can cause serious adverse effects in some poisonings, its use requires heart monitoring and advice from a clinician experienced in toxicology.

A person with breathing failure, repeated seizures, unstable blood pressure, or a dangerous heart rhythm may need intensive care. Most treatment supports the body while it clears the medicine.

If the overdose was intentional, care also includes a compassionate mental health assessment and a plan to reduce the risk of another episode.

Complications

Most people who receive timely care recover, but severe poisoning can lead to complications.

Possible complications include aspiration, where vomit or saliva enters the lungs; injury during agitation or a seizure; and dehydration from fever or prolonged muscle activity. Very high temperature can harm organs if it is not controlled.

Repeated seizures or extreme agitation can cause rhabdomyolysis , the rapid breakdown of muscle. Damaged muscle releases substances that may injure the kidneys.

Abnormal heart rhythms can reduce blood flow to the brain and other organs. A prolonged lack of oxygen, cardiac arrest, or uncontrolled high temperature may cause lasting injury. Death is possible in severe overdose, particularly when treatment is delayed or several substances were taken together.

Prevention

Dimenhydrinate overdose is preventable in many cases.

Read the active-ingredient list before combining motion-sickness, allergy, cold, nausea, or sleep products. Different brand names can contain the same or similar antihistamines. Use the measuring device supplied with liquid medicine rather than a kitchen spoon.

Keep dimenhydrinate in its original, labelled container. Store it locked away and out of sight and reach of children. Child-resistant packaging reduces access but is not fully childproof.

Do not take extra doses because nausea or motion sickness continues. Follow the product label or the instructions given by a healthcare professional. Ask a pharmacist before combining dimenhydrinate with alcohol, sleep aids, sedatives, or other antihistamines.

If you are concerned that you may take medicine to harm yourself, move away from the medicine and seek immediate support from an emergency service, crisis service, or trusted person. Asking someone else to store medicines securely may be part of a longer-term safety plan.

Living with it and what to expect

Dimenhydrinate overdose is an acute poisoning, not a long-term condition. Its effects usually lessen as the body clears the medicine. The time needed depends on the amount taken, symptom severity, other substances, and whether complications occurred.

People with mild poisoning may only need a period of observation. Confusion, blurred vision, tiredness, or poor coordination can continue after the most obvious symptoms improve. Do

not drive, operate machinery, drink alcohol, or take more sedating medicine until a healthcare professional says it is safe.

Many people recover without lasting effects. Severe complications such as prolonged oxygen loss, kidney injury, or muscle damage may require follow-up over weeks or longer. Follow-up is also important if an underlying medical problem contributed to the medication error.

After an accidental overdose, reviewing how the medicine was stored, measured, or scheduled can help prevent another event. After an intentional overdose, ongoing mental health support is an important part of recovery. This may include counselling, medication review, crisis planning, or help from family and community services.

When to get medical help

Treat any suspected dimenhydrinate overdose as urgent, even if the person currently feels well. In the United States, call Poison Control at 1-800-222-1222 . Elsewhere, contact your local poison centre or emergency advice service.

Call emergency services immediately if the person:

Do not leave a severely confused or sleepy person alone. If they are unconscious but breathing, place them on their side if you can do so safely. Do not put anything in their mouth during a seizure.

Routine follow-up may be recommended after recovery to review kidney or muscle test results, ongoing symptoms, medication safety, or mental health needs. New fainting, worsening confusion, reduced urination, severe muscle pain, or breathing difficulty after discharge requires urgent reassessment.

- Has a seizure, collapses, or faints
- Is difficult to wake or cannot respond normally
- Has trouble breathing or develops blue or grey lips
- Has severe confusion, hallucinations, or uncontrollable agitation
- Has a very fast or irregular heartbeat
- Develops a high temperature with hot, dry skin
- May have taken dimenhydrinate intentionally
- May have taken several medicines or an unknown amount

Common questions

How much dimenhydrinate causes an overdose?

There is no single cutoff that is safe to apply to everyone. The risk depends on age, body size, product strength, other substances, and health conditions. If more than the labelled or recommended amount may have been taken, contact a poison centre rather than trying to calculate the risk yourself.

Can I sleep off too much dimenhydrinate?

No. Sleepiness can become difficult-to-detect loss of consciousness, and heart or seizure complications may develop while someone appears to be sleeping. Seek poison-centre or emergency advice.

Can dimenhydrinate cause hallucinations?

Yes. In overdose, its anticholinergic effects can cause vivid hallucinations, fear, agitation, and severe confusion. A person experiencing these effects may not understand that they are poisoned and needs supervision and urgent medical assessment.

How long does a dimenhydrinate overdose last?

Many effects improve as the medicine clears over the next day or two, but severe confusion or complications may last longer. The course is affected by the amount, formulation, other substances, and treatment needed.

Is dimenhydrinate overdose the same as diphenhydramine overdose?

They are closely related. Dimenhydrinate contains diphenhydramine combined with another chemical, and overdose produces a similar anticholinergic and heart-toxicity pattern. Medical assessment and treatment follow many of the same principles.

What if I took an extra dose by mistake but feel fine?

Contact a poison centre promptly with the product, strength, amount, and timing. Do not take another dose until you have received advice. Feeling well at first does not always rule out later symptoms.

Sources

- MedlinePlus Medical Encyclopedia: Dimenhydrinate overdose , US National Library of Medicine
- DailyMed: Dimenhydrinate drug labels , US National Library of Medicine
- Antihistamine Toxicity , StatPearls, NCBI Bookshelf

- Clinical Practice Guidelines: Antihistamine poisoning , Royal Children's Hospital Melbourne
- Position paper: Single-dose activated charcoal , American Academy of Clinical Toxicology and European Association of Poisons Centres and Clinical Toxicologists, Clinical Toxicology , 2005
- 2023 American Heart Association focused update on poisoning-related cardiac arrest and life-threatening toxicity , Circulation , 2023