CONDITION

Desipramine hydrochloride overdose

Desipramine hydrochloride overdose is poisoning caused by taking more desipramine than the body can safely process.

WHAT IT IS
Toxic effects from too much desipramine

BODY SYSTEM
Heart and circulation, nervous system, digestive system

MAIN SYMPTOMS
Drowsiness, seizures, fast heartbeat, low blood pressure

WHAT CAUSES IT
Taking more desipramine than the body can safely handle

HOW IT IS DIAGNOSED
Exposure history, symptoms, and electrocardiogram

MAIN TREATMENT
Emergency monitoring, sodium bicarbonate, and supportive care

CAN IT BE CURED?
Yes - most survivors recover after prompt treatment

IS IT AN EMERGENCY?
Yes - after any suspected overdose

LONG-TERM OUTLOOK
Full recovery is common after prompt care

Overview

Desipramine is a prescription antidepressant like sertraline or fluoxetine . It belongs to a group called tricyclic antidepressants, or TCAs. "Hydrochloride" refers to the salt form used in the medicine and does not make it a different drug.

A desipramine overdose happens when someone takes more than their body can safely handle. This may be accidental or intentional. Even an amount that causes no immediate symptoms can become dangerous because desipramine can interfere with the heart's electrical system, blood pressure, breathing, and brain function.

The effects can progress quickly. For that reason, any suspected overdose needs immediate advice from emergency services or a poison center. Do not wait for symptoms to appear.

Desipramine overdose is treatable, but there is no single antidote that removes the drug. Hospital care focuses on protecting breathing, controlling seizures, supporting blood pressure, and correcting dangerous changes in heart rhythm.[1,2]

Symptoms

Symptoms often involve several body systems at once. Early symptoms may be mild, but serious effects can develop rapidly.

Possible symptoms include:

Some of these effects are called anticholinergic symptoms . This means the medicine blocks a chemical signal used by nerves that control functions such as sweating, vision, urination, and bowel movement.

Serious poisoning may cause an abnormal heart rhythm. A person may collapse without having been able to describe earlier symptoms. The absence of symptoms soon after the tablets were taken does not prove that the person is safe.

- Unusual sleepiness, confusion, agitation, or hallucinations
- Blurred vision, large pupils, dry mouth, hot or flushed skin
- Fast heartbeat, fainting, or low blood pressure
- Nausea, vomiting, reduced bowel movement, or trouble urinating
- Poor coordination, muscle stiffness, twitching, or seizures
- Slow, shallow, or difficult breathing
- Loss of consciousness

Causes and risk factors

An overdose is caused by taking too much desipramine at one time or over a short period. It may happen because of a dosing mistake, confusion between medicines, accidental swallowing by a child, or intentional self-harm.

Risk may also increase when desipramine is taken with alcohol, sedatives, other antidepressants, or medicines that affect heart rhythm. Taking several substances can change the symptoms and make treatment more complex.

The amount associated with severe poisoning is not the same for everyone. Age, body size, heart or liver problems, other medicines, and the amount absorbed can all affect severity. It is

not safe to judge risk by comparing the amount taken with someone else's experience.

A person taking desipramine exactly as prescribed can still have side effects, but side effects are not automatically an overdose. New fainting, seizures, severe confusion, or a very fast or irregular heartbeat still require urgent assessment.

Diagnosis

Doctors diagnose desipramine overdose from the circumstances, symptoms, physical examination, and an electrocardiogram, or ECG. An ECG records the heart's electrical activity through stickers placed on the skin.

Certain ECG changes can show that desipramine is blocking electrical signals within the heart. In particular, clinicians assess how long electrical impulses take to travel through the lower chambers. This helps guide treatment and estimate the risk of seizures or dangerous heart rhythms.[2,3]

Blood tests may check blood sugar, salts such as sodium and potassium, kidney and liver function, and acid levels. Tests may also look for other substances commonly involved in overdoses, including acetaminophen.

A desipramine blood level may sometimes confirm exposure, but it does not reliably show how severe the poisoning is. Treatment is therefore based mainly on symptoms, vital signs, and ECG findings rather than waiting for a drug level.[1,3]

Treatment and management

Desipramine overdose is treated in an emergency department, often with advice from a medical toxicologist or poison center. Continuous ECG, blood pressure, oxygen, and breathing monitoring may be needed.

Initial care focuses on the airway, breathing, and circulation. Oxygen, intravenous fluids, or breathing support may be used when needed. If consciousness is severely reduced, a breathing tube may be required to protect the lungs.

Activated charcoal can bind medicine remaining in the digestive tract. It is only used in selected situations and must be given by healthcare professionals, particularly because a sleepy or vomiting person could inhale it into the lungs. It should not be taken at home.

Sodium bicarbonate is a key hospital treatment when there are concerning ECG changes, low blood pressure, or abnormal heart rhythms. It helps reduce desipramine's effects on the

heart's electrical channels.[2,3] This treatment requires repeated blood tests and ECG monitoring.

Seizures are usually treated with medicines that calm excessive electrical activity in the brain. Fluids and other medicines may support blood pressure. Additional treatments may be considered in severe poisoning that does not respond to standard care.

Some medicines used for other overdoses or heart rhythm problems can worsen TCA poisoning. Treatment choices therefore need to be made by clinicians familiar with toxicology. Dialysis usually does not remove desipramine effectively because the drug binds strongly to body tissues and proteins.

Once the immediate poisoning has been treated, the care team may review how it happened. If the overdose was intentional, a mental health assessment and a practical safety plan are important parts of care, not a punishment.

Complications

The main complications come from effects on the heart, brain, breathing, and blood pressure. They can include:

These complications are more likely with severe poisoning or delayed treatment. Many people recover without lasting organ damage when the effects are recognized and treated promptly.

- Dangerous heart rhythms or cardiac arrest
- Repeated seizures
- Aspiration, meaning vomit or fluid entering the lungs
- Injury to the brain or other organs from low oxygen or blood pressure
- Muscle breakdown after prolonged seizures or unconsciousness
- Injuries caused by fainting, confusion, or collapse

Prevention

An intentional overdose cannot always be prevented through storage advice alone. If you are worried that you may take too much medicine, tell someone you trust and seek immediate support. A prescriber or pharmacist may be able to help arrange safer quantities, packaging, or supervised storage.

To reduce accidental overdoses:

Do not change or stop desipramine on your own because of concerns about overdose risk. A clinician can help plan a safer change when appropriate.

If a dose is missed, follow the instructions supplied with the medicine or ask a pharmacist. Do not take extra tablets to make up for a missed dose unless a healthcare professional has specifically told you to do so.

- Keep desipramine in its original, labelled container
- Store it locked away from children and other household members
- Use a medicine list or organiser to prevent repeated doses
- Do not share prescription medicine
- Ask a pharmacist how to dispose of unwanted tablets safely

Living with it and what to expect

Desipramine overdose is an acute event rather than an illness that usually continues for months or years. The highest-risk period is generally while the drug is actively affecting the heart and nervous system. Hospital monitoring continues until symptoms and concerning ECG changes have resolved.

People who recover from uncomplicated poisoning often return to their previous physical health. Severe low oxygen, prolonged low blood pressure, cardiac arrest, or repeated seizures can lead to longer recovery or lasting problems, but this is not the course for everyone.

Follow-up after discharge may include a review of medicines, heart symptoms, memory or concentration, and emotional wellbeing. If the overdose was intentional, ongoing mental health care can address the reasons it happened and reduce the chance of another crisis.

When to get medical help

Treat any suspected desipramine overdose as an emergency, even if the person feels well. Contact local emergency services or a poison center immediately. In the United States, Poison Control can be reached at 1-800-222-1222 .

Call emergency services at once if someone has:

Do not make the person vomit. Do not give food, drink, activated charcoal, or another medicine unless emergency professionals tell you to do so. Do not let the person drive. If it is safe, take the medicine container or a photograph of its label to the hospital.

Routine follow-up is appropriate after emergency care for reviewing medicines, recovery, and emotional health. New fainting, seizures, breathing difficulty, or severe heart symptoms are not routine follow-up concerns and need emergency help.

- Collapsed, fainted, or become difficult to wake
- Had a seizure
- Developed trouble breathing
- Become severely confused or agitated
- Reported a fast or irregular heartbeat
- Taken desipramine intentionally to cause harm

Common questions

How long does a desipramine overdose take to cause symptoms?

Serious symptoms often appear within the first several hours, but timing is not predictable enough for home observation. Tablets may remain in the stomach longer because desipramine can slow bowel movement. Anyone who may have taken too much needs immediate assessment.

Can someone look well and still be in danger?

Yes. A person can initially be awake and talking while heart or brain effects are developing. ECG monitoring can detect problems that are not obvious from appearance alone.

Is there an antidote for desipramine overdose?

There is no drug that directly reverses and removes all desipramine. Sodium bicarbonate is an important targeted treatment for harmful effects on the heart, while other hospital treatments support breathing, seizures, and blood pressure.

Can an overdose cause permanent heart damage?

Many survivors recover without permanent heart damage once the drug has cleared and the ECG returns to normal. Lasting injury is more likely if cardiac arrest, prolonged low blood pressure, or low oxygen occurs.

Can desipramine overdose be treated at home?

No. Home treatment cannot detect dangerous ECG changes or provide the support needed if symptoms worsen. Do not wait for sleepiness, vomiting, or heart symptoms before contacting emergency services or a poison center.

What if I accidentally took one extra dose?

The risk depends on the tablet strength, usual prescription, age, health conditions, and other substances taken. Contact a poison center or healthcare professional immediately for case-specific advice rather than trying to calculate the risk yourself. Call emergency services if any symptoms develop.

Sources

- US National Library of Medicine. DailyMed: Desipramine hydrochloride tablets-prescribing information , including the Overdosage section.
- American Heart Association. 2023 Focused Update on the Management of Patients With Cardiac Arrest or Life-Threatening Toxicity Due to Poisoning . Circulation. 2023.
- Thanacoody HKR, Thomas SHL. Tricyclic antidepressant poisoning: cardiovascular toxicity . Toxicology Reviews. 2005;24(3):205-214.
- Woolf AD, Erdman AR, Nelson LS, et al. Tricyclic antidepressant poisoning: an evidence-based consensus guideline for out-of-hospital management . Clinical Toxicology. 2007;45(3):203-233.
- US National Library of Medicine, MedlinePlus Medical Encyclopedia. Desipramine hydrochloride overdose .