CONDITION

# Opioid intoxication

Opioid intoxication is a harmful slowing of brain and breathing functions after opioid exposure.

**WHAT IT IS**
Harmful brain and breathing suppression from opioid exposure

**BODY SYSTEM**
Brain, nervous system, and breathing

**MAIN SYMPTOMS**
Extreme sleepiness, slow breathing, pinpoint pupils, poor responsiveness

**WHAT CAUSES IT**
Excessive or unexpectedly potent opioid exposure

**HOW IT IS DIAGNOSED**
Clinical findings and naloxone response; toxicology testing supports

**MAIN TREATMENT**
Breathing support, naloxone, and medical monitoring

**CAN IT BE CURED?**
Yes - prompt care can reverse acute effects

**IS IT AN EMERGENCY?**
Yes - when breathing slows or the person cannot wake

**LONG-TERM OUTLOOK**
Usually full recovery unless oxygen loss causes lasting injury

## Overview

Opioid intoxication happens when an opioid like oxycodone or morphine affects the brain strongly enough to cause harmful drowsiness, slowed thinking, and reduced breathing. Opioids include prescription medicines such as oxycodone and morphine, the treatment medicines methadone and buprenorphine, and drugs such as heroin and illicitly manufactured fentanyl.

Mild intoxication may look like unusual sleepiness, poor coordination, or confusion. Severe intoxication is called an opioid overdose. It can slow or stop breathing, which prevents enough oxygen from reaching the brain and other organs.

A person may not know exactly what they took. Fentanyl and related substances may be present in counterfeit tablets or other drugs without the person's knowledge. Intoxication can also occur when a prescribed opioid is taken incorrectly, combined with another sedating

substance, or restarted after the person's tolerance has fallen.

Severe opioid intoxication is a medical emergency. Naloxone is a medicine that temporarily blocks opioid effects and can restore breathing. Because its effect may wear off before the opioid does, emergency assessment is still needed after naloxone is given.

## Symptoms

Symptoms can develop gradually or within minutes, depending on the opioid, dose, and route of exposure. Injected or inhaled opioids may act faster than swallowed medicines.

Common signs include:

Pinpoint pupils are common, but they are not always present. Their absence does not rule out opioid intoxication.

Someone who is sleeping normally should respond when spoken to or gently shaken and should breathe regularly. A person who cannot be awakened or whose breathing is slow, irregular, or noisy may be overdosing. Do not assume they can "sleep it off."

- Unusual sleepiness or difficulty staying awake
- Confusion, slowed responses, or slurred speech
- Poor balance or limp muscles
- Nausea or vomiting
- Very small, "pinpoint" pupils
- Slow, shallow, irregular, or stopped breathing
- Snoring, choking, or gurgling sounds
- Pale, grey, or blue lips, fingertips, or skin
- Little or no response to voices, touch, or a firm rub on the breastbone

## Causes and risk factors

Opioids attach to receptors, or docking points, in the brain and body. As well as reducing pain, they can suppress the brain's drive to breathe. Intoxication occurs when this effect becomes too strong.

It may follow:

Tolerance means the body has become used to an opioid. Tolerance can fall after

detoxification, treatment, a hospital stay, imprisonment, or simply a period of reduced use. Returning to a previous amount can then cause an overdose.

Risk may also be higher in people with breathing disorders, sleep apnoea, kidney or liver problems, or a previous overdose. Kidney or liver problems can slow the removal of some opioids from the body. Older adults may be more sensitive to sedating effects and may take other medicines that increase risk.

Anyone exposed to enough opioid can develop intoxication. It is not limited to people with opioid use disorder, which is a medical condition involving impaired control over opioid use.

- Taking more opioid than intended
- Taking a medicine more often than directed
- Using a highly potent opioid or an unexpectedly strong supply
- Taking a counterfeit tablet containing fentanyl or another opioid
- Combining opioids with alcohol, benzodiazepines like diazepam or lorazepam , sleeping medicines, or other sedatives
- Swallowing an opioid accidentally, including accidental exposure in a child
- Using an opioid after a period without it

## Diagnosis

Emergency clinicians usually diagnose opioid intoxication from the circumstances and physical signs. They assess alertness, breathing rate and effort, oxygen level, heart rate, blood pressure, temperature, and pupil size.

A clear improvement after naloxone supports the diagnosis. However, naloxone should not be used as the only diagnostic test. Other emergencies, including low blood sugar, stroke, head injury, seizures, or intoxication from another substance, can cause similar symptoms.

Blood and urine toxicology tests may identify some opioids or other substances. Results may not be available quickly enough to guide initial treatment. Standard screening tests can also miss fentanyl, methadone, buprenorphine, and some synthetic opioids unless specific testing is used. A positive urine result shows exposure but does not prove that an opioid caused the current symptoms.

Other tests may be needed to check for complications. These can include an electrocardiogram to assess heart rhythm, blood tests, a chest X-ray, or brain imaging when another cause or an injury is suspected.

Treatment should not be delayed while waiting for test results.

## Treatment and management

The first priorities are keeping the airway open and supporting breathing. Emergency responders may provide oxygen, assisted breaths with a mask, or advanced airway support if the person cannot breathe adequately.

Naloxone can quickly reverse opioid-related breathing suppression. It is available in forms such as a nasal spray and injection. Community naloxone products are designed for use by people without medical training. Follow the product instructions and emergency dispatcher's directions.

More than one dose may be needed, particularly with potent or long-acting opioids. Naloxone often lasts for less time than the opioid, so breathing problems can return after an initial recovery. The person should remain with a responsible adult and receive emergency medical assessment.

If you suspect an overdose:

Do not make the person vomit. Do not put them in a cold bath, give stimulants like methylphenidate or lisdexamfetamine , or leave them alone. These actions do not reverse an overdose and may cause injury or delay effective care.

Naloxone can trigger sudden withdrawal in someone who is physically dependent on opioids. This may cause agitation, sweating, nausea, vomiting, diarrhoea, pain, or a rapid heartbeat. These symptoms can be distressing, but restoring breathing is the immediate priority.

After the emergency, care may include monitoring, treatment for complications, a review of prescribed medicines, naloxone access, and support for substance use when relevant. Treatments for opioid use disorder, including buprenorphine and methadone, reduce the risk of future overdose and death when used as part of appropriate care.

- Call emergency services immediately
- Give naloxone if it is available
- Provide rescue breathing or CPR if instructed and trained
- If the person is breathing, place them on their side to reduce choking risk
- Give further naloxone according to the product directions if they do not respond
- Stay until emergency help arrives

## Complications

The main danger is a lack of oxygen. If breathing remains too slow for too long, oxygen loss can injure the brain, heart, kidneys, and other organs. Severe oxygen loss can cause permanent disability or death.

Vomiting while deeply drowsy may allow stomach contents to enter the lungs. This is called aspiration and can cause breathing problems or pneumonia.

Other possible complications include:

Complications are more likely when the person was unconscious for a prolonged period, experienced cardiac arrest, or used several substances together.

- Falls, burns, or head injuries while impaired
- Lung injury or fluid buildup in the lungs
- Muscle and nerve injury from lying in one position for a long time
- Muscle breakdown, which can damage the kidneys
- Abnormal heart rhythm
- Recurrent sedation after naloxone wears off
- Withdrawal symptoms after naloxone

## Prevention

Many episodes can be prevented, although no strategy removes all risk. Unexpected contamination and counterfeit medicines can make opioid strength difficult to predict.

If you take a prescribed opioid, use it only as directed. Do not take someone else's medication or share yours. Check before combining an opioid with alcohol, sleeping medicines, benzodiazepines, or other drugs that cause drowsiness. Store opioids locked away from children and other household members, and use an approved medicine take-back option for unwanted supplies.

Other ways to reduce risk include:

Fentanyl test strips cannot show how much fentanyl is present and may not detect every dangerous substance. A negative result does not make a drug safe.

If someone has had an overdose before, follow-up is important. A previous overdose is a major warning sign for another event, not a reason for blame.

- Keep naloxone nearby and show others how to use it
- Avoid using opioids alone, so someone can respond in an emergency
- Be especially cautious after any period of reduced or stopped use
- Treat every counterfeit or unregulated tablet as potentially containing fentanyl
- Use drug-checking services or fentanyl test strips where available, while recognising their limits
- Seek evidence-based treatment if controlling opioid use has become difficult

## Living with it and what to expect

Opioid intoxication is usually an acute event rather than an illness that steadily progresses over years. When breathing is restored quickly and no complications develop, many people recover fully. Drowsiness and impaired judgement may continue while the opioid remains active, especially after long-acting medicines.

Hospital monitoring may be needed because symptoms can return. The length of monitoring is based on the opioid involved, the person's response, other substances taken, and any medical complications.

Long-term effects are not expected after an uncomplicated episode. However, prolonged oxygen loss can cause lasting problems with memory, movement, concentration, mood, or everyday function. Recovery from a brain injury may continue over months and may require rehabilitation.

An intoxication event can also reveal a medication problem or opioid use disorder. Neither is a personal failure. Reviewing what happened can reduce future risk. Follow-up may involve changing how medicines are managed, receiving take-home naloxone, or starting treatment for opioid use disorder.

People receiving effective treatment for opioid use disorder can work, study, care for families, and take part in everyday life. Treatment may continue for months or years, based on the person's needs and preferences.

## When to get medical help

Call emergency services now if a person:

Give naloxone immediately if available. Do not wait to see whether symptoms improve. If you

are unsure whether opioids are involved, emergency responders can assess the person, and naloxone is unlikely to harm someone who has not taken an opioid.

Urgent medical assessment is also appropriate for persistent drowsiness, confusion, repeated vomiting, chest pain, breathing difficulty, or a new injury after opioid use, even if the person is awake.

Routine follow-up is important after recovery from any suspected intoxication or overdose. This is a chance to review medicines, obtain naloxone, discuss safer use, and consider treatment or support without judgement.

- Cannot be awakened or is only briefly responsive
- Has slow, shallow, irregular, or stopped breathing
- Makes choking, gasping, snoring, or gurgling sounds
- Has blue, grey, or unusually pale lips or skin
- Collapses, has a seizure, or has no pulse
- May have swallowed an opioid accidentally, especially if they are a child

## Common questions

Can you be awake during opioid intoxication?

Yes. Mild or developing intoxication can cause sleepiness, slowed speech, poor balance, or confusion while the person remains awake. It can worsen quickly. Increasing difficulty staying awake or any change in breathing requires emergency action.

How can I tell normal sleep from an opioid overdose?

A sleeping person should respond to a loud voice or gentle shaking and should breathe regularly. Someone overdosing may not wake, may have a limp body, or may breathe slowly with snoring or gurgling sounds. If you are uncertain, call emergency services and give naloxone if available.

Does naloxone work on fentanyl?

Yes. Naloxone blocks the same opioid receptors affected by fentanyl. More than one dose may be needed, and breathing support remains essential. Always call emergency services because symptoms may return.

How long does opioid intoxication last?

It depends on the opioid, amount, route of exposure, and other substances taken. Some opioid effects outlast naloxone, particularly with long-acting medicines. Medical monitoring

determines when the risk of recurrent breathing problems has passed.

Can an opioid overdose happen with prescription medicine?

Yes. Prescription opioids can cause an overdose if too much is taken, if doses build up in the body, or if they are combined with other sedating substances. Accidental dosing errors and reduced tolerance can also contribute.

Will an overdose cause permanent damage?

Not always. Many people recover fully when breathing is restored quickly. Lasting injury is more likely when the brain or other organs go without enough oxygen. The medical team may arrange follow-up if there are concerns about memory, movement, mood, or organ function.

## Sources

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