CONDITION

Morphine overdose

A morphine overdose is dangerous poisoning that slows or stops breathing.

WHAT IT IS
Dangerous poisoning from too much morphine

BODY SYSTEM
Nervous system and lungs

MAIN SYMPTOMS
Slow breathing, extreme sleepiness, pinpoint pupils, unresponsiveness

WHAT CAUSES IT
Too much morphine suppressing breathing

HOW IT IS DIAGNOSED
Symptoms, examination, and response to naloxone

MAIN TREATMENT
Emergency breathing support and naloxone

CAN IT BE CURED?
Yes - prompt treatment can reverse it

IS IT AN EMERGENCY?
Yes - any suspected morphine overdose

LONG-TERM OUTLOOK
Often full recovery; delayed treatment can cause permanent harm

Overview

Morphine is an opioid medicine used to treat severe pain. It acts on the brain and spinal cord to reduce the way pain is felt. It also slows the brain signals that control breathing.

A morphine overdose happens when there is enough morphine in the body to make breathing dangerously slow, shallow, or completely stop. Without enough oxygen, the brain, heart, and other organs can be injured.

An overdose can happen after taking morphine as prescribed, although the risk is higher with excessive amounts, medication errors, certain drug combinations, or reduced opioid tolerance. It may be accidental or intentional.

A suspected morphine overdose is always an emergency. Do not wait for every symptom to appear. Call your local emergency number, give naloxone if it is available, and follow the

emergency call handler's instructions.

Symptoms

The most important sign is abnormal breathing. The person may breathe very slowly, take irregular gasps, or stop breathing. Loud snoring, choking, or gurgling in someone who cannot be woken can also mean their airway or breathing is in danger.

Other possible signs include:

Skin colour changes can be harder to see on darker skin. Check the lips, gums, nail beds, and inside the eyelids, and pay close attention to breathing and responsiveness.

Not everyone has pinpoint pupils. Other medicines, medical conditions, or a lack of oxygen can change how an overdose looks. A person who is unconscious or not breathing normally needs emergency help regardless of the suspected cause.

- Extreme sleepiness or complete unresponsiveness
- Very small, "pinpoint" pupils
- A limp body and weak pulse
- Pale, clammy skin
- Blue, grey, or unusually pale lips and fingertips
- Vomiting
- Confusion or difficulty speaking before losing consciousness

Causes and risk factors

An overdose occurs when morphine's effects overwhelm the body, especially the brain's control of breathing. This may follow one large amount or a build-up of morphine over time.

Possible causes include taking more than intended, confusing liquid concentrations, using an extended-release product incorrectly, or taking doses too close together. Children may be poisoned after finding medication that was not securely stored.

Risk is higher when morphine is combined with other substances that cause sleepiness or slow breathing. These include alcohol, benzodiazepines like diazepam or lorazepam , sleeping medicines, other opioids like oxycodone or morphine , and some medicines used for nerve pain. Prescribers may sometimes use these medicines together, but the combination needs careful assessment and monitoring.

Other factors that can increase risk include:

Tolerance means the body has become used to an opioid's effects. It does not remove overdose risk. Tolerance can fall after stopping opioids, time in hospital, withdrawal treatment, or a period in custody. An amount used in the past may then become dangerous.

- Starting morphine or having a recent dose change
- Returning to a previous amount after a break, when tolerance has fallen
- Kidney problems, which can allow active morphine by-products to build up
- Liver disease or serious breathing conditions
- Older age or frailty
- Using morphine in a way other than prescribed
- Taking an unknown or illegally supplied product

Diagnosis

Emergency teams usually diagnose opioid overdose from the circumstances, symptoms, physical examination, and response to naloxone. Naloxone is a medicine that temporarily blocks opioid effects.

Treatment should not be delayed while waiting for a drug test. Routine urine drug screens have limits: they may not show when morphine was taken, how much is present, or whether it caused the symptoms. Some opioids are not detected by standard screens.

Clinicians may check blood oxygen, blood sugar, temperature, heart rhythm, kidney function, and the balance of oxygen and carbon dioxide in the blood. Further tests may look for other medicines, alcohol, infection, head injury, or another cause of unconsciousness.

A chest X-ray may be needed if vomit could have entered the lungs or if breathing remains difficult. Blood morphine levels are rarely useful for making immediate treatment decisions because symptoms and risk do not match a single level reliably.

Treatment and management

The first priority is to restore breathing and protect the airway. Emergency care may include opening the airway, giving oxygen, assisting breathing with a mask, or placing a breathing tube and using a ventilator.

Naloxone can rapidly reverse morphine's effect on breathing. It may be given as a nasal spray

or injection. More than one dose may be needed, particularly after an extended-release product or a large exposure. Emergency professionals may use repeated doses or a continuous infusion.

Naloxone can wear off before morphine does. A person who wakes after naloxone can become sleepy and stop breathing again, so they still need emergency assessment and observation. Do not leave them alone or allow them to take more opioids.

In someone physically dependent on opioids, naloxone may cause sudden withdrawal. This can bring pain, sweating, agitation, nausea, vomiting, diarrhoea, or a rapid heartbeat. These symptoms can be distressing, but restoring breathing remains the priority.

If you suspect an overdose:

Do not make the person vomit. Do not put them in a cold bath, give them food or drink, or try to keep them awake by walking them around. These actions do not reverse the overdose and may cause injury or delay effective care.

Hospital treatment also addresses complications such as low blood pressure, aspiration into the lungs, muscle injury, or kidney problems. If the overdose was intentional, care should include a compassionate mental health assessment once the immediate danger has passed.

- Call your local emergency number immediately
- Give available naloxone according to its instructions
- Follow instructions for rescue breathing or cardiopulmonary resuscitation
- Give further naloxone if directed and the person does not respond
- Place a breathing person on their side if safe to do so
- Stay until emergency help arrives

Complications

The main danger is a prolonged lack of oxygen. The risk of lasting injury rises when breathing has been severely reduced for longer, although the outcome cannot be predicted from appearance alone.

Possible complications include:

Someone who has recovered consciousness may still develop coughing, fever, breathlessness, confusion, weakness, or severe muscle pain. These symptoms need medical assessment because some complications appear after the initial overdose has been reversed.

- Brain injury from low oxygen
- Abnormal heart rhythms or cardiac arrest
- Aspiration, when vomit enters the lungs
- Lung inflammation or fluid build-up
- Muscle breakdown after lying unconscious for a long time
- Kidney injury
- Pressure injury to nerves and muscles
- Death

Prevention

Many morphine overdoses can be prevented, although no safety measure removes all risk.

Take morphine only in the form and amount supplied for you. Check the label carefully, particularly for liquid or extended-release products. Do not crush, chew, or dissolve an extended-release tablet unless its prescribing information specifically says this is safe.

Keep morphine locked away from children and other people. Do not share it. Return unused medicine through an approved disposal service rather than keeping it "just in case."

Avoid alcohol while using morphine. Make sure each clinician and pharmacist involved in your care knows about all medicines and substances you use, especially sleeping tablets, anxiety medicines, other opioids, and sedating medicines. Do not stop a regularly used sedative suddenly without medical advice, because withdrawal can also be dangerous.

People at risk of opioid overdose and those close to them can ask about access to naloxone and training in how to use it. Availability differs by location. Keeping naloxone nearby is not a reason to use more morphine; it is an emergency backup.

After a break from opioids, tolerance may be much lower. If morphine is still needed, the plan should be reviewed rather than restarting an old amount without guidance. Treatment for opioid dependence, including opioid agonist medicines and ongoing support, can reduce future risk.

Living with it and what to expect

Morphine overdose is an acute poisoning rather than a condition that usually continues on its own for months or years. Many people recover fully when breathing is restored quickly and

complications do not occur. Others need a longer hospital stay, especially after prolonged unconsciousness, aspiration, or low oxygen.

Short-term tiredness, poor concentration, chest discomfort, or muscle soreness may follow an overdose. Persistent memory problems, weakness, coordination changes, breathlessness, or reduced ability to manage daily tasks can signal a complication and need follow-up.

After recovery, it is useful to review how the overdose happened. This may involve checking the formulation and amount of morphine, kidney function, other medicines, pain treatment, and whether naloxone is available. If non-prescribed opioid use played a part, non-judgmental addiction treatment and harm-reduction support can lower the chance of another overdose.

Naloxone reverses the immediate opioid effect but provides no lasting protection. A future exposure can cause another overdose. Ongoing risk is shaped by the reason morphine is being used, changes in tolerance, other sedating substances, and access to follow-up care.

When to get medical help

Call your local emergency number now if someone may have taken too much morphine and is difficult to wake, breathing slowly, making choking or gurgling sounds, turning blue or grey, having a seizure, or not breathing normally. Give naloxone if available and begin emergency first aid as directed.

Emergency help is still needed if the person wakes after naloxone. The overdose can return when naloxone wears off.

Seek prompt medical advice after a recent overdose if there is worsening cough, fever, breathlessness, confusion, unusual weakness, reduced urination, or severe muscle pain. These may be signs of lung, muscle, kidney, or low-oxygen complications.

Routine follow-up is appropriate after discharge to review pain treatment, medication safety, naloxone access, and any ongoing physical or emotional effects. A suspected intentional overdose also needs timely mental health support.

Common questions

How long does a morphine overdose take to happen?

It can develop within minutes or more gradually. Timing is affected by the product, route, amount, other substances, and the person's health. Extended-release morphine can cause delayed or prolonged toxicity. Never wait for symptoms if a dangerous exposure is suspected.

Will naloxone work on morphine?

Yes. Naloxone blocks opioid effects and can restore breathing after a morphine overdose. Its effect may be shorter than morphine's, so repeated treatment and medical observation may be necessary.

Can you overdose on prescribed morphine?

Yes. Prescription use does not eliminate overdose risk. Risk can increase after a dose change, a medication error, reduced tolerance, kidney problems, or use with alcohol and other sedating substances.

Should I let someone sleep after giving naloxone?

No. Call emergency services and stay with them. Even if they appear fully awake, morphine can continue acting after naloxone wears off. Follow the emergency call handler's instructions and watch their breathing closely.

Can a morphine overdose cause permanent brain damage?

It can if the brain receives too little oxygen, but permanent injury does not happen in every overdose. The likelihood and severity are linked to how much breathing was affected and how quickly oxygen and circulation were restored.

What if I am not sure it is an opioid overdose?

Call emergency services if the person is unresponsive or not breathing normally. If naloxone is available, give it as directed. Naloxone does not reverse other causes of unconsciousness, so emergency assessment remains essential.

Sources

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