CONDITION

# Kerosene poisoning

Kerosene poisoning is harmful exposure caused by swallowing kerosene, breathing its fumes, or getting it on the skin or eyes.

**WHAT IT IS**
Harmful exposure to kerosene, especially through swallowing

**BODY SYSTEM**
Lungs, nervous system, digestive system, skin, and eyes

**MAIN SYMPTOMS**
Coughing, choking, vomiting, breathing difficulty

**WHAT CAUSES IT**
Swallowing, inhaling, or touching kerosene

**HOW IT IS DIAGNOSED**
Exposure history, oxygen measurement, examination, sometimes chest imaging

**MAIN TREATMENT**
Poison first aid and supportive hospital care

**CAN IT BE CURED?**
Yes - most recover with prompt supportive care

**IS IT AN EMERGENCY?**
Sometimes - breathing trouble, choking, or unusual drowsiness

**LONG-TERM OUTLOOK**
Usually full recovery after mild exposure

## Overview

Kerosene poisoning happens when kerosene harms the body after being swallowed, inhaled, or splashed onto the skin or eyes. Kerosene is a liquid fuel used in some lamps, heaters, stoves, engines, and industrial settings.

The main danger after swallowing kerosene is not usually absorption from the stomach. It is aspiration , which means kerosene enters the windpipe and lungs. This can happen while swallowing, coughing, choking, or vomiting. Even a small amount in the lungs can cause inflammation called chemical pneumonitis .

Breathing concentrated kerosene fumes can irritate the lungs and affect the brain, causing headache, dizziness, or drowsiness. Repeated skin contact can remove protective oils from the skin and cause irritation.

Do not make someone vomit after they swallow kerosene. Vomiting increases the chance that the liquid will enter the lungs. Contact a poison information service promptly for advice, even if the person initially seems well.

## Symptoms

Symptoms depend on how the exposure happened and whether kerosene entered the lungs. Problems may begin immediately, but breathing symptoms can also develop over the next several hours.

After swallowing kerosene, symptoms may include:

Coughing or choking at the time of swallowing is especially important because it may mean kerosene entered the airway.

Chemical pneumonitis can cause a persistent cough, chest discomfort, difficult breathing, low blood oxygen, and sometimes fever. Fever after aspiration can come from chemical inflammation and does not always mean there is a bacterial infection.

Breathing kerosene fumes may cause irritation of the nose, throat, and lungs. A heavier exposure, particularly in an enclosed or poorly ventilated space, may cause headache, nausea, dizziness, confusion, or loss of consciousness.

Skin exposure can cause redness, dryness, cracking, or a burning feeling. Eye exposure may cause pain, watering, redness, and blurred vision.

- Coughing, choking, or gagging
- Burning or irritation in the mouth and throat
- Nausea, vomiting, or stomach discomfort
- Wheezing, fast breathing, or shortness of breath
- Sleepiness, dizziness, confusion, or poor coordination

## Causes and risk factors

Kerosene poisoning is caused by swallowing the fuel, breathing a concentrated amount of its vapor or mist, or getting it on the skin or in the eyes.

Accidental swallowing is more likely when kerosene is stored in a cup, water bottle, soft-drink bottle, or other food container. Young children may drink it because the liquid is within reach or has been placed in a familiar container.

Other exposure situations include:

The chance of serious lung injury is higher if the person coughs, chokes, or vomits after swallowing kerosene. Risk is also greater when someone is very sleepy, unconscious, having a seizure, or unable to swallow normally because these problems make aspiration more likely.

People repeatedly exposed at work may develop ongoing skin irritation or symptoms from breathing vapors. Workplace exposure should be assessed even if each individual episode seems minor.

- Siphoning fuel by mouth
- Using a leaking or poorly maintained heater or stove
- Working with kerosene without suitable ventilation
- Cleaning parts or skin with kerosene
- Spilling fuel in an enclosed area
- Deliberate swallowing or inhalation

## Diagnosis

Kerosene poisoning is usually diagnosed from a clear history of exposure, the symptoms, and a physical examination. There is no routine blood test that specifically confirms kerosene poisoning.

A healthcare professional may check breathing rate, heart rate, alertness, temperature, and blood oxygen. A device placed on a finger can estimate how much oxygen the blood is carrying.

A chest X-ray may be used when there is coughing, choking, low oxygen, or other concern about aspiration. Lung changes may not be visible immediately, so the examination and the course of symptoms remain important. People without symptoms may be observed for several hours to make sure breathing problems do not develop.

Blood tests or an electrocardiogram, which records the heart's electrical activity, may be used after a significant exposure or when there are severe symptoms. These tests assess complications rather than proving that kerosene caused the exposure.

## Treatment and management

First aid depends on how the exposure occurred. If kerosene was swallowed, do not induce vomiting. Do not give food, drink, oil, or another home remedy unless a poison information

service or healthcare professional specifically advises it. Rinse the mouth gently and contact a poison center promptly.

If vomiting happens on its own, the person should not be placed flat on their back. Keeping the head turned to the side may reduce the chance of vomit entering the airway. Anyone who is very drowsy, having a seizure, or struggling to breathe needs emergency care rather than home management.

For inhaled fumes, move away from the source and into fresh air if this can be done safely. Do not enter a contaminated enclosed space without appropriate training and protective equipment.

For skin exposure, remove contaminated clothing and wash the skin with soap and water. For eye exposure, remove contact lenses if easy to do and rinse the eye with clean, lukewarm water for at least 15 minutes. Persistent pain or blurred vision needs medical assessment.

Hospital treatment is mainly supportive , meaning it protects breathing and other body functions while the lungs recover. It may include:

Pumping out the stomach and giving activated charcoal are generally avoided after kerosene ingestion because they do not reliably help and may increase aspiration risk. Antibiotics like amoxicillin or doxycycline do not treat chemical irritation and are not routinely used unless there is evidence of a bacterial infection. Steroids like prednisone or hydrocortisone are also not routine treatment for kerosene pneumonitis.

- Oxygen and repeated oxygen measurements
- Medicines that open narrowed airways when wheezing is present
- Fluids and treatment for nausea or other symptoms
- Breathing support for severe lung injury
- Monitoring of the heart and level of alertness

## Complications

The most important complication is chemical pneumonitis from kerosene entering the lungs. Inflamed lung tissue may become less able to move oxygen into the blood. Severe injury can lead to respiratory failure, meaning the lungs cannot provide enough oxygen without support.

Other possible complications include:

Severe breathing complications are less common than mild irritation, but they require urgent treatment. The amount swallowed does not always predict the outcome because a small

amount aspirated into the lungs can matter more than a larger amount that remains in the stomach.

- Worsening wheeze or airway irritation
- Fluid and inflammation within the lungs
- Secondary bacterial lung infection
- Seizures or reduced consciousness after a major exposure
- Persistent skin inflammation after repeated contact
- Eye surface injury after an inadequately rinsed splash

## Prevention

Most accidental kerosene poisoning can be prevented.

Keep kerosene in its original, clearly labelled container. Never transfer it into a beverage bottle, cup, jug, or food container. Store it locked away from children and separate from food and medicines.

Use kerosene appliances only as directed and in places with suitable ventilation. Check heaters, lamps, and fuel containers for leaks or damage. Do not use kerosene to start indoor fires, clean the skin, or remove grease from the hands.

Never siphon kerosene by mouth. In workplaces, follow ventilation, protective clothing, eye protection, storage, and spill-control procedures. Wash contaminated work clothes separately and avoid carrying fuel residue into the home.

If a spill occurs, keep people away from the area and follow local hazardous-material and fire-safety advice. Kerosene is also flammable, so avoid flames, sparks, and smoking near a spill.

## Living with it and what to expect

Many people with a minor exposure remain well or develop only short-lived irritation. If no coughing, breathing difficulty, drowsiness, or other symptoms develop during the recommended observation period, late complications become less likely.

When kerosene has entered the lungs, coughing and breathing symptoms may worsen during the first several hours. Recovery from mild chemical pneumonitis may take days. More significant lung inflammation can require hospital care and may take weeks to settle.

Most people who recover from a mild or moderate one-time exposure do not have lasting problems. Severe lung injury can lead to a longer recovery, reduced exercise tolerance, or persistent breathing symptoms, although this is not the usual course.

After discharge, follow the specific instructions provided about activity and follow-up. Arrange routine medical review if cough, shortness of breath, tiredness, fever, or reduced exercise ability continues rather than steadily improving.

Repeated workplace or household exposure should not be treated as a normal part of life. Identifying the source, improving ventilation, and preventing skin contact can help stop ongoing symptoms.

## When to get medical help

Contact a poison information service promptly after kerosene is swallowed, even if there are no symptoms. They can advise whether observation at home or assessment in a healthcare setting is appropriate. Have the product container available if it can be handled safely.

Call emergency services now if the exposed person has:

Do not wait for symptoms to improve on their own when breathing or consciousness is affected.

Seek prompt medical advice after an eye splash if pain, redness, light sensitivity, or blurred vision continues after rinsing. Skin irritation that persists after washing can usually be assessed through routine care.

After an initial medical assessment, seek further help if breathing becomes more difficult, a cough worsens, or new fever and weakness develop. Routine follow-up is appropriate for symptoms that persist but are stable; sudden breathing difficulty is an emergency.

- Trouble breathing, severe wheezing, or rapidly worsening cough
- Blue, grey, or unusually pale lips or skin
- A seizure, collapse, confusion, or difficulty waking
- Repeated choking or vomiting
- Severe chest pain
- Exposure in an enclosed space followed by marked dizziness or drowsiness

## Common questions

What should I do if someone drinks kerosene?

Do not make them vomit. Rinse the mouth gently and contact a poison information service immediately. Call emergency services if there is coughing, choking, breathing difficulty, unusual sleepiness, a seizure, or collapse.

Can a small sip of kerosene be dangerous?

It can be. The main issue is whether kerosene enters the lungs, not only how much was swallowed. A small amount can irritate the lungs if the person coughs, chokes, or vomits.

How long does it take for symptoms to appear?

Coughing and choking may start at once. Lung symptoms can also develop over several hours, which is why a poison center or healthcare professional may recommend a period of observation.

Can I give milk or water after kerosene is swallowed?

Do not give anything by mouth unless a poison information service or healthcare professional advises it. Home remedies do not neutralize kerosene, and swallowing or vomiting may increase aspiration risk.

Does kerosene poisoning cause permanent lung damage?

Most people with mild exposure recover fully. Lasting breathing problems are possible after severe lung injury but are not the usual outcome. Persistent cough or reduced exercise ability should be medically reviewed.

Is the smell of kerosene enough to cause poisoning?

A brief smell in a ventilated area is more likely to cause irritation than serious poisoning. Concentrated fumes in an enclosed space can cause headache, dizziness, drowsiness, and breathing problems. Move to fresh air and seek help for significant symptoms.

## Sources

- Agency for Toxic Substances and Disease Registry: Toxicological Profile for Fuel Oils
- MedlinePlus Medical Encyclopedia: Kerosene poisoning
- Royal Children's Hospital Melbourne: Clinical Practice Guideline - Hydrocarbon poisoning
- Merck Manual Professional Edition: Hydrocarbon Poisoning
- National Institute for Occupational Safety and Health: NIOSH Pocket Guide to Chemical Hazards - Kerosene

- Poison Control: Lamp oil can be dangerous if swallowed