CONDITION

Paraffin poisoning

Paraffin poisoning is harmful exposure to kerosene or similar petroleum liquids, especially when the liquid enters the lungs.

WHAT IT IS
Poisoning from kerosene or similar petroleum-based paraffin

BODY SYSTEM
Lungs, digestive system, and nervous system

MAIN SYMPTOMS
Coughing, choking, breathing difficulty, drowsiness

WHAT CAUSES IT
Swallowing, inhaling, or aspirating petroleum-based paraffin

HOW IT IS DIAGNOSED
Exposure history, examination, oxygen measurement, and chest X-ray

MAIN TREATMENT
Supportive care, oxygen, and breathing support when needed

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

IS IT AN EMERGENCY?
Sometimes - coughing or breathing trouble makes it urgent

LONG-TERM OUTLOOK
Most recover; severe aspiration can cause lasting lung damage

Overview

Paraffin poisoning usually means harmful exposure to kerosene, lamp oil, heating oil, or a similar petroleum product. In some countries, these products are called paraffin or paraffin oil.

The main danger is not absorption through the stomach. It is aspiration , which means the liquid enters the airways and lungs. This may happen while someone is swallowing, coughing, choking, or vomiting. Even a small amount in the lungs can cause inflammation called chemical pneumonitis .

Paraffin fumes can also irritate the lungs, especially in a poorly ventilated space. Liquid on the skin or in the eyes usually causes irritation. Large or concentrated exposures may affect alertness, coordination, or breathing.

Solid paraffin wax, such as candle wax, is different from kerosene. It is generally less toxic when swallowed, although it can cause choking, stomach upset, or burns when hot. The product label or container helps a poison service identify the actual risk.

Symptoms

Symptoms depend on the product, how exposure happened, and whether liquid entered the lungs. Coughing or choking immediately after swallowing is an important sign of possible aspiration.

Breathing-related symptoms may include:

A fever after aspiration can come from chemical inflammation. It does not automatically mean there is a bacterial infection.

Other possible symptoms include nausea, vomiting, stomach pain, headache, dizziness, poor coordination, unusual sleepiness, or confusion. Severe poisoning can cause loss of consciousness, seizures, or respiratory failure, although these effects are less common.

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

Symptoms often start soon after exposure, but lung problems may become clearer over several hours. A person who initially seems well can still need assessment or observation if paraffin was swallowed.

- Persistent coughing or gagging
- Fast, noisy, or difficult breathing
- Wheezing or chest discomfort
- Blue or grey lips or skin from low oxygen
- Fever developing after lung irritation

Causes and risk factors

Poisoning most often follows accidental swallowing of kerosene, lamp oil, lighter fluid, or heating fuel. Children may drink these liquids when they are stored in cups, soft-drink bottles, or other unlabelled containers.

Aspiration is more likely when someone coughs or vomits after swallowing the product. Trying to make the person vomit increases this risk.

Other routes of exposure include breathing concentrated fumes, getting liquid in the eyes, or prolonged skin contact. Siphoning fuel by mouth is another possible cause.

Factors that can increase the chance of serious effects include:

Medicinal liquid paraffin, also called mineral oil, is less volatile than kerosene. However, repeated small amounts entering the lungs can cause lipoid pneumonia , in which oily material collects in lung tissue.

- Coughing, choking, or vomiting during the exposure
- Exposure in a small or poorly ventilated area
- Drowsiness or reduced consciousness
- Difficulty swallowing
- A mixed product containing other solvents or chemicals
- Repeated aspiration of liquid paraffin or mineral oil

Diagnosis

Paraffin poisoning is usually diagnosed from the exposure history and symptoms. If possible, take the product container, label, or a photograph of it when getting medical help. Different products sold as paraffin may contain different chemicals.

A healthcare professional may check breathing rate, alertness, heart rate, temperature, and blood oxygen level. A device placed on a finger, called a pulse oximeter, measures how much oxygen the blood is carrying.

A chest X-ray may be used when there is coughing, breathing difficulty, low oxygen, or concern that liquid entered the lungs. Changes on an X-ray can take time to appear, so an early normal result does not always rule out lung injury.

Blood tests are not needed for every exposure. They may be used to assess oxygen levels, body chemistry, or organ function when symptoms are significant. There is no single routine blood test that confirms uncomplicated paraffin poisoning.

Treatment and management

If someone has swallowed paraffin, contact a poison information service promptly rather than waiting for symptoms. In the United States, Poison Control is available at 1-800-222-1222. Elsewhere, use your local poison centre or emergency advice service.

Do not make the person vomit. Do not give food, milk, oil, alcohol, or other home remedies unless a poison specialist specifically advises it. Wipe or rinse material from the mouth without forcing fluids.

For inhaled fumes, move into fresh air without entering an unsafe enclosed space. Remove contaminated clothing after skin exposure and wash the skin with soap and water. Eyes should be rinsed gently with clean lukewarm water.

Hospital treatment is mainly supportive. This means keeping breathing and circulation stable while the body recovers. Care may include oxygen, medicines that open narrowed airways, intravenous fluids, and close monitoring. Severe breathing failure may require a machine to support breathing.

Activated charcoal is not routinely used for paraffin because it does not remove these products well and may increase aspiration risk if vomiting occurs. Pumping out the stomach is also generally avoided.

Antibiotics like amoxicillin or doxycycline do not treat chemical inflammation and are not routinely given just because a chest X-ray is abnormal or a fever develops. They may be used if there is evidence of a separate bacterial infection. Steroid medicines have not shown a clear routine benefit for hydrocarbon pneumonitis.

People without symptoms may be monitored for several hours. Someone who remains well, has normal oxygen levels, and has no concerning examination findings may be able to go home with clear return instructions.

Complications

The main complication is chemical pneumonitis. Inflamed lung tissue may have difficulty transferring oxygen into the blood. In severe cases, this can lead to respiratory failure.

Other possible complications include:

Some petroleum mixtures contain substances that can affect the heart rhythm, liver, kidneys, or nervous system. The exact product therefore matters.

Deaths are uncommon after limited exposure with prompt care, but severe aspiration can be life-threatening. The amount swallowed alone does not reliably predict severity because a small amount entering the lungs may be more harmful than a larger amount remaining in the stomach.

- Fluid and inflammation throughout the lungs
- A collapsed area of lung

- Secondary bacterial pneumonia
- Lasting airway irritation or reduced lung function
- Lipoid pneumonia after repeated mineral-oil aspiration
- Brain injury following a prolonged lack of oxygen

Prevention

Most accidental paraffin poisoning can be prevented.

Keep kerosene, lamp oil, lighter fluid, and heating fuel in their original, clearly labelled containers. Never store them in drinking bottles, cups, food jars, or containers that could be mistaken for a drink.

Keep petroleum products locked away from children. Replace caps immediately after use and clean up spills. Do not rely only on a child-resistant cap.

Use fuel-burning appliances according to the manufacturer's instructions and with suitable ventilation. Do not siphon fuel by mouth. Avoid using kerosene or other fuels near flames, cigarettes, or hot surfaces because they are also fire hazards.

If liquid paraffin is being used as a medicine, follow the product directions. A healthcare professional should review its use if swallowing is difficult or if coughing happens while taking it.

Living with it and what to expect

Paraffin poisoning is usually a single exposure rather than a lifelong condition. People who have no breathing symptoms during an appropriate observation period often have no lasting effects.

After mild aspiration, coughing, chest discomfort, tiredness, or shortness of breath may continue for several days. Lung inflammation and chest X-ray changes can temporarily worsen before improving. Recovery may take days or weeks rather than happening immediately.

Severe chemical pneumonitis can require hospital or intensive care. Most survivors improve, but some have ongoing breathlessness, airway sensitivity, or abnormal lung tests. Permanent lung damage is possible after a major exposure, although it is not the expected outcome after every poisoning.

Repeated aspiration of medicinal mineral oil may cause slower, less obvious illness. A

persistent cough, unexplained breathlessness, or recurrent chest infections may continue until the exposure is recognised and stopped. Follow-up may include repeat examination, oxygen checks, imaging, or lung-function testing.

After discharge, follow the specific return instructions provided. Routine follow-up may be advised if symptoms have not fully settled, if the chest X-ray was abnormal, or if there is an existing lung condition.

When to get medical help

Call emergency services now if the exposed person:

Do not enter a fuel-filled or poorly ventilated space to rescue someone unless trained and properly equipped.

Contact a poison information service promptly after any paraffin or kerosene ingestion, even if there are no symptoms. Have the container or product name available. Do not wait for coughing or breathing trouble to develop.

Seek urgent medical assessment if coughing, choking, vomiting, wheezing, fever, chest pain, unusual sleepiness, or breathing difficulty occurs after exposure.

For skin or eye exposure, get medical advice if pain, redness, blurred vision, blistering, or irritation continues after thorough rinsing. A mild cough that is steadily improving may be discussed at routine follow-up, but new or worsening breathlessness needs urgent assessment.

- Is struggling to breathe or cannot speak normally
- Has blue or grey lips or skin
- Is very drowsy, confused, unconscious, or having a seizure
- Has severe or rapidly worsening chest symptoms
- Was exposed in an enclosed area that may still be unsafe

Common questions

What should I do if someone swallowed paraffin?

Remove the container, wipe away liquid around the mouth, and contact a poison information service promptly. Do not wait for symptoms. Call emergency services if there is breathing trouble, marked drowsiness, collapse, or a seizure.

Should I make them vomit?

No. Vomiting makes it easier for paraffin to enter the lungs. Activated charcoal and stomach pumping are also generally avoided unless specialists identify an unusual reason for them.

Does drinking milk help after swallowing paraffin?

Milk does not neutralise paraffin or protect the lungs. Do not give drinks or home remedies unless a poison specialist advises you to do so.

How soon do symptoms appear?

Coughing and choking may happen immediately, but lung inflammation can become apparent over several hours. This is why poison-centre advice and a period of observation may be needed even when the person initially seems well.

Is candle wax the same as liquid paraffin fuel?

No. Solid candle wax is usually much less toxic than kerosene or lamp oil. It can still cause choking or stomach upset, and melted wax can burn. Check the product because some decorative lamps and fire products contain liquid hydrocarbons rather than solid wax.

Will antibiotics treat paraffin in the lungs?

Antibiotics do not remove paraffin and do not treat chemical pneumonitis. They may be needed later only if a healthcare professional finds evidence of a bacterial infection.

Sources

- Agency for Toxic Substances and Disease Registry: Medical Management Guidelines for Fuel Oils
- Royal Children's Hospital Melbourne: Clinical Practice Guideline - Hydrocarbon poisoning
- MedlinePlus Medical Encyclopedia: Kerosene poisoning
- MSD Manual Consumer Version: Hydrocarbon poisoning
- Tormoehlen LM, Tekulve KJ, Nañagas KA. Hydrocarbon toxicity: A review. Clinical Toxicology. 2014;52(5):479-489
- International Programme on Chemical Safety: Kerosene, Poisons Information Monograph 771