



RICIN

What is ricin?

Ricin is a poison found naturally in castor beans. If castor beans are chewed and swallowed, the released ricin can cause injury. Ricin can be made from the waste material left over from processing castor beans. It can be made in the form of a powder, a mist, or a pellet, or it can be dissolved in water or weak acid.

Who gets exposed to ricin?

Anyone can get exposed to ricin either by swallowing or breathing material containing ricin. In a few rare, past cases, injections of ricin have led to poisoning.

How does ricin exposure spread?

When ricin gets inside the cells of a person's body, it prevents the cells from making the proteins they need, and the cells die, harming the whole body. Death from ricin poisoning could take place within 36 to 72 hours of exposure, depending on the route of exposure (inhalation, ingestion, or injection) and the dose received.

What are the symptoms of ricin exposure?

The major symptoms of ricin poisoning depend on the three routes of exposure and the dose received, though many organs may be affected in severe cases:

- **Inhalation:** Within a few hours of inhaling significant amounts of ricin, likely symptoms are difficulty breathing, fever, cough, nausea, tightness in the chest, and heavy sweating. Fluid building up in the lungs would be diagnosed by x-ray or by listening to the chest with a stethoscope. Excess fluid in the lungs would make breathing difficult and turn the skin blue. Low blood pressure and respiratory failure may occur, leading to death. In cases of known exposure to ricin, people having respiratory symptoms should seek medical care immediately.
- **Ingestion:** Likely symptoms of swallowing a significant amount of ricin are vomiting and diarrhea (loose stools) that may become bloody. Severe dehydration may result, followed by low blood pressure. Other signs or symptoms may include seizures and blood in the urine. Within several days, the person's liver, spleen, and kidneys might stop working, and the person could die.
- **Skin and eye exposure:** Ricin is unlikely to be absorbed through normal skin. Contact with ricin powders or products may cause redness and pain of the skin and the eyes. If you touch ricin that is on your skin and then eat food with your hands or put your hands in your mouth, you could accidentally ingest some.



Frequently Asked Questions

How soon do symptoms appear?

Initial symptoms of ricin poisoning by inhalation occur as early as four to eight hours and as late as 24 hours after exposure. Following ingestion of ricin, initial symptoms typically occur in less than 10 hours.

Should an infected person be excluded from work or school?

Excluding the infected person from work or school is not required. Ricin poisoning is not contagious. It cannot spread from person to person through casual contact.

What is the treatment for ricin exposure?

There is no antidote for ricin, but the symptoms of ricin poisoning can be treated. Treatment will depend on how the patient was exposed to the poison, but may include help in breathing, as well as fluids and medications given through a vein. People who survive more than five days have a good chance of recovering.

What can a person or community do to prevent the spread of ricin?

Ricin poisoning is highly unlikely. No widely available test exists to confirm that a person has ricin in their body. If you suspect that you were exposed to ricin, take the following steps:

- Quickly move away from the area where you think you were exposed. If you are near a release of ricin, emergency coordinators may tell you to evacuate the area or "shelter in place" inside a building to avoid being exposed to the chemical.
- Take off any clothing that may have ricin on it. Clothing that is removed over the head (like T-shirts and sweaters) should be cut off the body instead, to prevent further exposure.
- Wash any ricin from your skin with large amounts of soap and water.
- Remove contact lenses and put them with the contaminated clothing. Do not put the contacts back in your eyes (even if they are not disposable contacts). Eyeglasses can be worn after you wash them with soap and water.
- Do not use bleach on your skin.
- Place your clothing inside a plastic bag and seal the bag. Disposing of your clothing in this way will help protect you and other people from any chemicals that might be on your clothes. Do not handle the plastic bags yourself. Wait for instructions on whom to contact for disposal of the plastic bags.

Resources

Centers for Disease Control and Prevention, Facts About Ricin,
<https://emergency.cdc.gov/agent/ricin/facts.asp>

Office of Infectious Disease Epidemiology
24/7 Emergency Contact Number: 1-888-295-5156