

Ricin (Castor Beans; *Ricinus communis*)

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 from processing castor beans.

Transmission

It would take a deliberate act to make ricin and use it in a form to poison more than one person. Ricin poisoning is not contagious. Ricin-associated illness cannot be spread from person to person through casual contact. However, if you come into contact with someone who has ricin on their body or clothes, you could become exposed to it. The risk of ricin poisoning is very low. Unintentional exposure to ricin is highly unlikely, except through ingestion of castor beans. A person cannot become immune to ricin.

Symptoms

The symptoms will vary depending on how a person was exposed. If you inhale ricin, the most likely symptoms would occur within a few hours of exposure and would include:

- **Respiratory distress** (difficulty breathing)
- **Fever**
- **Cough**
- **Nausea**
- **Tightness in the chest**
- **Heavy sweating** may follow, as well as fluid building up in the lungs.

If someone swallows a significant amount of ricin, he or she would likely develop:

- **Vomiting** and **diarrhea**, which may become bloody
- **Severe dehydration**
- **Low blood pressure**

Skin and eye exposure occurs when ricin is absorbed through breaks in the skin or mucus membranes such as in the nose and eyes. Ricin is unlikely to be absorbed through intact skin. Contact with ricin powders or products may cause redness and pain in the skin and eyes. Initial symptoms of ricin poisoning by inhalation may occur as soon 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.

Diagnosis

There are several different types of tests used to detect ricin. These include testing suspicious materials/packages and/or human body fluids such as urine for the presence of ricin.

Treatment

No antidote exists for ricin. Symptomatic ricin poisoning is treated by providing supportive medical care to minimize the effects of the poisoning.

Prevention

Get fresh air right away by leaving the area where the ricin was released.

- If the ricin release was **outdoors**, move away from the area where the ricin was released.
- If the ricin release was **indoors**, get out of the building.

If you are near a release of ricin, emergency coordinators may tell you to either evacuate the area or to “shelter in place” inside a building to avoid being exposed to the poison.

If you think you may have been exposed to ricin, you should do the following:

- **Remove your clothing:** Take off clothing that may have ricin on it, but DO NOT pull clothing off over the head. This will prevent contaminating your nose, mouth, and eyes. If you are helping others, try to avoid touching any contaminated areas, and remove the clothing as quickly as possible.
- **Wash yourself:** As quickly as possible, wash any ricin from your skin with large amounts of soap and water. If your eyes are burning or your vision is blurred, rinse your eyes with plain water for 10 to 15 minutes. If you wear contacts, remove them, and put them with the contaminated clothing. Do not put the contacts back in your eyes (even if they are not disposable contacts). If you wear eyeglasses, wash them with soap and water. You can put your eyeglasses back on after you wash them.
Dispose of your clothes: After you have washed, place your clothing inside a plastic bag. Avoid touching the bag or the items as much as possible. Seal the bag, and then seal that bag inside another plastic bag. When the local or state health department or emergency personnel arrive, tell them what you did with your clothes.

Exclusion Guidance

If your child care, work, or school were exposed to ricin, call your local authorities immediately.

For additional information about ricin, contact the North Dakota Department of Health and Human Services', Public Health Division, at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health and Human Services.

Resources:

1. Centers for Disease Control and Prevention. (2018, April 4). *CDC – Emergency- ricin*. Centers for Disease Control and Prevention. Retrieved May 15, 2023, from <https://emergency.cdc.gov/agent/ricin/facts.asp>



Report Immediately: 800.472.2180 or 701.328.2378



Possible Bioterrorism Agents (CDC classified A, B or C Agent)

08/23/24

Public Health Division

600 E Boulevard Ave • Bismarck, ND 58505
701.328.2378 • Toll-free 800.472.2180 • 711 (TTY) • www.hhs.nd.gov