

RICIN

What is ricin?

Ricin is a poison that is extracted from castor beans. It can be in the form of a powder, a mist, or a pellet, or it can be dissolved in liquid. Ricin causes poisoning by getting inside the cells of a person's body and stopping them from making the proteins they need. Without the proteins, cells die. Eventually this can harm the whole body, and death may occur.

How can someone come into contact with ricin?

Ricin poisoning does not spread from person to person. Accidental contact with ricin is not likely; it would take a planned act to make ricin and use it to poison people.

Ricin as a weapon: Ricin can be used as a weapon by—

- Releasing it into the air (as a powder or mist) and having people breathe it in (inhalation);
- Putting it into food or water (as a powder or mist) and having people eat or drink it (ingestion); or
- Injecting it into people's bodies (for example, by using a syringe).

Please note: Just because you come into contact with ricin does not mean you will get sick from it.

What happens if someone gets sick from ricin?

The major symptoms of ricin poisoning depend on the way someone comes into contact with it and the dose received. Many organs may be affected in severe cases.

- **Inhalation** (breathing it in): Breathing in ricin may cause difficulty breathing, fever, cough, nausea and tightness in the chest. Heavy sweating and fluid build-up in the lungs may follow. This would make breathing even more difficult, and the skin may turn blue from lack of oxygen flowing through the body. Low blood pressure and lung failure may occur, leading to death.
- **Ingestion** (eating or drinking it): Eating or drinking ricin may cause vomiting, bad stomach pain, cramping and bloody diarrhea. Severe dehydration may be the result, followed by low blood pressure. The person may experience hallucinations, seizures and bloody urine. Within a few days, the person's liver, spleen and kidneys could stop working, and the person could die.
- **Injection** (via a syringe): Injecting ricin into a person may cause flu-like symptoms including nausea, vomiting and lack of energy. There may be pain and swelling by the spot of the injection. An injection of a small amount of ricin will cause the death of cells or tissue and stomach bleeding. It also will cause many of the body's organs to shut down.
- **Skin and eye contact:** Ricin in powder or mist form can cause redness and pain to the skin and the eyes.

How likely is someone to die from ricin poisoning?

The seriousness of poisoning caused by ricin depends on the purity of the ricin used, the amount of ricin a person comes into contact with, the length of time that a person is exposed and the way a person comes into contact with it. If ricin is injected or inhaled (breathed in), as little as 500 micrograms of ricin – an amount that would fit on the head of a pin – could be enough to kill an

(Ricin continued)

adult. A greater amount would likely be needed to kill someone if the ricin was put in food or drink.

Death from ricin poisoning could occur within 36 to 48 hours after coming in contact with it. If a person has serious symptoms and lives for five days, death is unlikely.

What is the treatment for ricin poisoning?

- **Prevention of illness after contact:** First, leave the area where the ricin was released and move to fresh air.
 - **Remove clothing.**
 - Quickly take off clothing that may have ricin on it. If possible, any clothing that has to be pulled over the head should be cut off the body instead so the ricin does not get near the eyes, mouth or nose. If helping other people remove their clothing, try to avoid touching any areas that may have ricin on them, and remove the clothing as fast as possible.
 - **Wash affected areas.**
 - As quickly as possible, wash any ricin from the skin with lots of soap and water.
 - If the eyes are burning or vision is blurred, rinse the eyes with plain water for 10 to 15 minutes.
 - If contact lenses are worn, remove them and put them with the clothing. Do not put the contacts back in. If eyeglasses are worn, wash them with soap and water. Eyeglasses can be put back on after they are washed.
 - **Discard contaminated items.**
 - Place the clothing and any other contaminated items that may have come into contact with ricin inside a plastic bag. Avoid touching them by wearing rubber gloves, turning the bag inside out and using it to pick up the clothing, or putting the clothing in the bag using tongs, tool handles, sticks or similar objects. Anything that touches the contaminated clothing should also be placed in the bag.
 - Seal the bag, and then seal that bag inside another plastic bag.
 - Contact the local county health department right away. (Visit www.idph.state.il.us//local/alpha.htm for a listing of all county health departments in Illinois or check your local phone book.)
 - When the local or state health department or emergency personnel arrive, tell them what you did with the contaminated clothes. The health department or emergency personnel will arrange for further disposal. Do not handle the plastic bags yourself.

If someone has ingested ricin, do not make the person vomit and do not give fluids to drink.

- **Treatment of illness:** There is no specific treatment or established cure for ricin poisoning. After poisoning, it is important to get the ricin off or out of the body as quickly as possible. Supportive care in a hospital is the standard treatment. The type of supportive medical care given depends on the way the victims were poisoned (that is, whether the poison was breathed in, eaten, or came into contact with the skin or eyes).

Medical care could include helping victims breathe, giving them intravenous fluids, giving them medications to treat conditions such as seizure and low blood pressure, flushing their stomachs with activated charcoal (a substance that binds with the poison in the stomach) or washing their eyes with water.

Is there a vaccine for ricin poisoning?

There is no vaccine for ricin poisoning.

What should be done if someone comes into contact with ricin?

If you think that you or someone you know may have come into contact with ricin, contact the local county health department right away. (Visit www.idph.state.il.us//local/alpha.htm for a listing of all county health departments in Illinois or check your local phone book.)

If you or someone you know is showing symptoms of ricin poisoning, call your health care provider or the Illinois Poison Center right away. The toll-free number for the poison center is 1-800-222-1222.

Where can one get more information about ricin?

- U.S. Centers for Disease Control and Prevention www.bt.cdc.gov/agent/ricin/index.asp
- Illinois Department of Public Health www.idph.state.il.us
- Illinois Poison Center www.IllinoisPoisonCenter.org