



RICIN TOXIN

Agent information:	Ricin is a potent cytotoxin derived from the beans of the castor plant. Ricin can be prepared in liquid or crystalline forms or lyophilized to create dry powder. If inhaled, ingested, or injected, ricin can be fatal.
Transmission:	No person-to-person transmission. Routes of exposure include inhalation, ingestion, and parenteral.
Signs and symptoms:	Inhalation symptoms would present as acute onset of fever, chest tightness, cough, dyspnea, nausea, and arthralgia within four to eight hours, and possibly necrosis of the upper and lower respiratory system. Other effects are cyanosis, respiratory inflammation, and pulmonary edema. If ingested, ricin can cause severe gastrointestinal lesions and irritate the oropharynx, esophagus, and stomach. Although clinically similar to caustic alkaline burns, lesions are usually delayed two or more hours after exposure. Ingestion may cause abdominal pain, nausea/vomiting, and profuse bloody diarrhea. In severe cases, shock develops. Late phase complications include cytotoxic effects on the liver, central nervous system, kidney, and adrenal glands, typically two to five days after exposure. The patient may be asymptomatic during the preceding one to five days. Injected ricin results in local tissue and muscle necrosis with eventual, rapidly progressive, multi-system organ failure.
Decontamination:	Yes, if exposure is from aerosolization and presentation is immediate.
Isolation:	No.
Protective measures:	Employ standard precautions. Use a surgical mask to prevent aerosol exposure to health care personnel (secondary aerosols are not expected to endanger health care workers). Decontaminate exposed areas with soap and water. A 1% hypochlorite solution (1:5 dilution of household bleach) can inactivate ricin.

Emergency Medical Services and Preparedness Section
24/7 Emergency Contact Number: 1-888-295-5156
Contact Number: 302-223-2999



- Evaluation:** Environmental testing only. Only trained professionals should collect samples for laboratory testing by double-bagging specimens and decontaminating the exterior of bags.
- Prophylaxis:** No vaccine or antitoxin is available for ricin.
- Treatment:** Treatment is based on the route of exposure. Respiratory support includes oxygen, intubation, and mechanical ventilation as needed. Supportive treatment includes monitoring of fluid and electrolyte status and fluid replacement.
- Reporting:** Report suspect cases immediately to the Division of Public Health, Office of Infectious Disease Epidemiology: 1-888-295-5156 (24/7 coverage).
- Additional information:** Visit the Centers for Disease Control and Prevention website: www.emergency.cdc.gov/agent/ricin/.