

Terrorism Agents

Chemical Agents

Sarin

What is sarin?

Sarin is a chemical nerve agent ("nerve gas") developed as a battlefield weapon. Nerve agents are liquids that vaporize easily. Sarin can be encountered as either liquid or gas (liquid sarin does not evaporate as quickly as water).

What are the symptoms of sarin exposure?

When would symptoms show? Symptoms begin within 1 minute of exposure to vapor, and up to 30 minutes after contact with the liquid form. A runny nose and tightness in the chest are among the first symptoms. Miosis (small pupil) and dimmed vision follows. Nausea and vomiting are likely, and may be the first symptom after liquid contact. Loss of consciousness and seizure can occur within the first minute of exposure. Confusion or hallucinations are usually not associated with nerve agents.

What is the treatment for sarin exposure?

A person exposed to sarin should be brought to a hospital immediately for decontamination and administration of antidotes. Clothing should be removed at the hospital since it may contain trapped vapor.



Biological Agents

Smallpox, Anthrax, Pneumonic Plague, Brucellosis and Botulinum Toxin

Smallpox

What are the symptoms of smallpox?

When would symptoms show? Following exposure the incubation period is about 12 days. Early symptoms are fever, fatigue, or head and back aches. A rash follows in 2 to 3 days. The rash starts with flat red lesions, usually on the face, arms, or legs. In the second week lesions become pus-filled and crust over.

Is smallpox fatal?

Most patients will recover from smallpox. However, death may occur in about 30 percent of cases.

How does smallpox spread?

Smallpox is usually spread by face-to-face contact with an infected person. It spreads through infected saliva droplets. Contaminated clothing or bed linen can also spread the virus. Exposed clothing and contaminated surfaces should be cleaned with bleach and hot water.

Should I ask my doctor for a vaccination?

While the Center for Disease Control has emergency stocks of smallpox vaccine, an outbreak of smallpox is not expected and the vaccine is not available through your doctor. Additional doses of vaccine are currently being manufactured. If an outbreak is expected, public announcements will be made concerning vaccinations.

Is there a treatment for smallpox?

Is there a way to test a building or area for smallpox contamination? Currently there are no treatments for smallpox, but research into antiviral agents is being conducted. Tests to detect smallpox in the environment are also not currently available. Various agencies are investigating environmental tests.



Small Pox Lesions

If an outbreak occurs, what should be done to stop the spread of smallpox?

Vaccination and isolations will contain the spread of smallpox. Symptomatic patients should be medically isolated. People who come into contact with suspected carriers should be vaccinated and watched closely for symptoms.

If I suspect smallpox exposure, how should I report this?

Contact your local health department. The local health department will then report it to the FBI, CDC, and local law enforcement.

Anthrax

What are the symptoms of anthrax? When would symptoms show?

Symptoms typically begin 2 to 5 days after exposure. Symptoms vary, depending on the route of exposure. The three common routes are through the lungs, skin, or intestines:

Inhaled (lung) anthrax begins with symptoms similar to the flu (cough, fever, muscle aches). These symptoms may last 2 to 3 days and then may disappear for 1 to 2 days. After this time severe difficulty with breathing and shock can occur.

Cutaneous (skin) anthrax is a less threatening form, and is easily treatable with antibiotics. It begins as a raised bump. Within 1 to 2 days it develops into a blistered sore and then a painless ulcer, with a characteristic black area in the center. Lymph glands in the area near the wound may swell.

Intestinal anthrax is contracted by swallowing anthrax spores, often in contaminated meat. It begins with nausea, loss of appetite, vomiting, and fever. It is followed by abdominal pain, vomiting of blood, and severe diarrhea.

Is anthrax fatal?

If early treatment with antibiotics is given, anthrax is usually not fatal.

Is there a cure for anthrax?

Early antibiotic treatment is an important step in treatment. There are a number of different antibiotics that are effective against anthrax. These include penicillin, ciprofloxacin (Cipro), and doxycycline.

Can anthrax be spread from person to person?

Anthrax is not spread from person to person. If a person comes into contact with an anthrax patient, there is no need for that person to receive treatment unless they also were exposed to the same source of infection.

Should I be vaccinated against anthrax?

An anthrax vaccination is a series of six shots over a period of 18 months, followed by yearly boosters. Physicians do not have the vaccine and cannot give it. Emergency supplies will be available in the event of an outbreak, but there currently is no need to vaccinate the public.

Some people are asking their doctors to prescribe antibiotics in case of an anthrax attack. Should I keep antibiotics in my home?

Antibiotics have potential health risks when they are used indiscriminately. Children are especially vulnerable. Since widespread use of antibiotics would cause more harm than good, we do not recommend that you stockpile antibiotics or use them to prevent anthrax exposure.

Some people have been exposed to anthrax through the mail. If I receive a suspicious piece of mail, what should I do?

Do not open the piece of mail. Place it in a plastic bag and seal it shut (use tape or a ziplock bag). If the piece of mail was already opened and a suspicious material was spilled, do not clean up the spill. Leave the suspicious item where it is and leave the area. Wash your hands with soap and water. Call your local U.S. Postal Inspection Service, and they will determine if the suspicious mail is dangerous.

Pneumonic Plague

What are the symptoms of pneumonic plague? When would symptoms show?



Pneumonic plague occurs when the bacterium *Yersinia pestis* infects the lungs. The first signs of illness in pneumonic plague are like the flu (fever, headache, weakness, and cough productive of bloody or watery sputum), and appear within two to three days. The pneumonia progresses over two to four days and may cause septic shock.

Can plague be spread from person to person?

Person to person transmission occurs through respiratory droplets, which can only infect those who have face-to-face contact with the ill patient.

Is there a cure for plague?

Early treatment with antibiotics is essential. Several antibiotics are effective. There is no vaccine to prevent plague, but prophylactic antibiotic treatment for seven days will protect persons who have had face-to-face contact with infected patients.

Brucellosis

What are the symptoms of brucellosis? When would symptoms show?

The incubation period can be from five to sixty days, and usually is about one to two months. Fever, headache, weakness and fatigue are common symptoms, along with depression and mental status changes.

Is brucellosis fatal?

Brucellosis is usually not fatal.

Is there a cure for brucellosis?

Treatment with the drugs doxycycline and rifampin is effective. No vaccine is currently available.

Can brucellosis be spread from person to person?

Person to person transmission is unlikely. Brucellosis was first identified as a disease in goats, and ingestion of unpasteurized milk and cheese should be avoided.

Botulinum Toxin

What is botulinum toxin?

Botulinum toxins are neurotoxins produced by a species of bacteria. Intoxication would commonly occur through contaminated food. An aerosol containing botulinum toxin has been developed as a battlefield weapon, and could be sprayed in the air.

What are the symptoms of botulinum exposure? When would symptoms show?

In foodborne botulism, symptoms can occur as early as six hours or as late as ten days. With aerosol toxin inhalation, symptoms begin within one to three days. Symptoms of botulism include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness. Untreated botulism can lead to paralysis, difficulty breathing, and death.

Is there a treatment for botulinum exposure?

An anti-toxin is available from hospital Emergency Departments. Medical treatment (intubation and ventilation assistance) is necessary for advanced cases.

Can botulism be spread from person to person?

Botulism is not transmitted between people.