

# Biological Agent Fact Sheet

## Alameda County Public Health Department

Question	Anthrax	Botulism	Plague	Smallpox
1. What is this bacteria/virus & how might I be exposed to it?	<i>Bacillus anthracis</i> is a bacteria that grows naturally in soil. If Anthrax is released in a powder form by a terrorist it may enter through the lungs & possibly cuts in the skin. It is not spread person to person. There are natural outbreaks that occur every now and then that have nothing to do with a terrorist event.	Botulism is a rare but serious paralytic illness caused by a nerve toxin that is produced by the bacteria <i>Clostridium botulinum</i> . This bacteria is commonly found in the soil & grows best in low oxygen conditions. Botulism is not transmitted from person-to-person. If Botulism is released by a terrorist it would probably be in an aerosolized form.	Plague is caused by a bacteria. Usually Plague is spread to a person by a wild rodent (especially rats) with infected fleas. However, a bioterrorism-related infection may be caused by inhaling the bacteria that may be placed into the air, which could then cause a pneumonia known as pneumonic plague.	Smallpox is an acute viral illness that is caused by the Variola Virus. It is spread from person to person through the air when near a person with smallpox & by skin contact with fluid from the smallpox blisters.
2. What are the symptoms if I am exposed and contract the disease?  (not all exposures lead to disease)	Symptoms usually develop within 7 days. Fever, body aches, pains, tiredness, cough, & mild chest discomfort-possible short recovery phase. Then onset of sweating, shortness of breath, difficulty breathing, blueness around nailbeds or lips, shock. Death occurs 24-36 hours after onset of severe symptoms, if untreated in over 90% of those affected.	The classic symptoms of botulism include blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, & muscle weakness. These are all symptoms of the muscle paralysis caused by the bacterial toxin. If untreated, these symptoms may progress to cause paralysis of the arms, legs, trunk and respiratory muscles. In <u>Foodborne</u> botulism, symptoms generally begin 18 to 36 hours after eating contaminated food, but they can occur as early as 6 hours or as late as 10 days.	Fever, cough, shortness of breath, chest pain, & spitting up blood. Symptoms can occur within 1-3 days of exposure.	Flu like symptoms, usually a high fever for 2 to 4 days, body aches & pains, & vomiting. Followed by blister like skin lesions that appear quickly-similar to chicken pox lesions. They begin in the mouth, on the lips and face and progress to the rest of the body. The rash scabs over in 1 to 2 weeks. They often leave pitted scars or pockmarks when healed.
3. Will I get sick if I am exposed?	Many people will become sick after they are exposed to Anthrax, unless antibiotics are given. This depends on how much of the bacteria you are exposed to & how long you are exposed. Patients may experience fever, body aches & pains/tiredness, non-productive cough & mild chest discomfort. Later, patients may experience severe respiratory distress with increased difficulty breathing, shortness of breath, sweating, blueness around nailbeds or lips, shock.	If you eat foods containing botulism toxin, it is likely that you will become ill. If the botulism toxin is released by terrorists in an aerosolized form, than it is possible to get ill within 12-36 hours. About 5% of people who are infected with botulism die from the disease.	This depends on how close you were to the bacteria & how long you were exposed. If you were within 5-6 feet of an infected Person, infection is possible. If you have been in household or face-to-face contact with a person who has pneumonic plague, then you should see a doctor or call the local health department to see if you will need medicine	Smallpox is highly contagious- about 30% of those who have close physical contact, contract the disease
4. Is there any treatment if I get sick?	Although effectiveness may be limited after symptoms are present, high dose antibiotic treatment should be undertaken. Supportive therapy, like breathing machines (ventilator), may be necessary. Antibiotics given soon after exposure, but before symptoms develop is very effective in preventing the illness.	The respiratory failure & paralysis that occur with severe botulism may require a person to be on a breathing machine (ventilator) for weeks, plus intensive medical & nursing care. After several weeks, the paralysis slowly improves. If diagnosed early, <u>foodborne</u> botulism can be treated with an antitoxin which blocks the action of toxin circulating in the blood.	There are medications that can be given to someone who gets the plague. The medications (antibiotics) work better if they are given within 8 to 24 hours after the time symptoms begin.	As of this printing no widespread vaccines are available.
5. What do I need to do to protect my family from this exposure?	Nothing, if there is no known release/attack. If Anthrax is released in a powder form by a terrorist, it is possible it could enter through the lungs or cuts in the skin. Listen to local media and the Public Health Department for information. It is not spread person to person.	Nothing if there is no known release. Since the bacteria is not transmitted person-to-person, there is essentially no risk of others contracting the disease from an infected person.	Check with everyone in your family to see if they have been in face-to-face contact with anyone who has gotten sick. If so, then call your doctor or the local health department to see if they will need medicine to stop them from getting sick.	Be alert to signs and symptoms of infection. Keep aware of news in your community & national news.

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6. Can I get some sort of immunization shot or medicine to prevent me from getting the disease?	There is a vaccine, but it is only currently available for military personnel, and its effectiveness is unknown. Contact your doctor or local Health Department & listen to public health advisors on TV, Radio, etc. Antibiotics can be given to those who might have been exposed.	Contact your doctor or local Health Department & listen to public health advisors on TV, Radio, etc.	Contact your doctor or local Health Department & listen to public health advisors on TV, Radio, etc. There is no vaccine for plague	Contact your doctor or local Health Department & listen to public health advisors on TV, Radio, etc.
7. Are children or the elderly at greater risk because of their age?	As is the case with other diseases younger children & the elderly are more prone to infection because their immunity is not as strong as healthy adults.	A terrorist would most likely attack all age groups. As with most illness/disease the young and elderly can suffer due to their immunity not being as strong as the generally healthy. If someone has problems with their lungs, they may have more difficulty recovering.	Possibly, especially if they have breathing problems or chronic illnesses.	Those that are immunosuppressed would be at greater risk. This could be age dependent.
8. Do I need to wash the clothes or the environment where any (A)exposed or (B) diseased person has been?	A) Exposed-very unlikely that exposure to Anthrax "powder" on the clothes of the exposed person could expose someone; wear "exposed" clothes to designated place for decontamination (as directed by public health authorities); also very unlikely that contaminated environment would cause exposure—can be washed with household soap & water.  B) Diseased-There is nothing special that needs to be done for diseased persons since the bacteria is not spread through contact.	A- Exposed-very unlikely that exposure to botulism from a terrorist attack on the clothes of the exposed person could expose someone. Wash clothes with soap & water & clean environmental surfaces.  B- Diseased- no there is nothing special that needs to be done	A-Exposed-very unlikely that plague bacteria on the clothes of the exposed person could expose someone. Wash clothes with soap & water & clean environmental surfaces.  B- Diseased- Blood soiled from a person with plague should be washed with household bleach & water	A- Exposed- very unlikely that exposure to smallpox from a terrorist air attack on the clothes of the exposed person could expose someone. Wash clothes with soap & water & clean environmental surfaces.  B- Diseased- The germ in a sick person can be in secretions from blisters on the skin & possibly on clothes & the environment. Both can be washed with household bleach.
9. Are there any areas of the city I need to avoid?	Listen to Alameda County Health Department alerts for areas to avoid. There are no restrictions one should adhere to unless directed to do so by the Health department.	No, since the botulism bacteria is not spread through the air or by contact, no particular area needs to be avoided.	Listen to Department of Health alerts for areas to avoid.	In a terrorist attack no area will be more dangerous than the other. Those places that have a high rate of smallpox breakout should be avoided.
10. Is there any equipment I need to wear that will prevent accidental exposure?	No.	No, since the botulism bacteria is not spread through the air or by contact, it is not necessary to wear protective equipment. Standard Personal Protective Equipment (PPE) should always be used however.	No, there is no special equipment you need to buy. Regular masks provided while a patient is in the hospital will be available as needed.	No, there is no equipment you need to buy. Special masks are used in health care facilities. If you visit these facilities they will provide them for you.
11. Can I be exposed and not know it? If this is true, can I go to my doctor for testing?	Yes, you can be exposed & not be aware of it. No tests exist until you become ill. If there is evidence of a potential exposure, antibiotics can be given that are very effective in preventing the illness from developing.	Yes, food containing the botulism bacteria does not taste any different. For most labs, there is no specific test to diagnose botulism. You would need to see your doctor as soon as possible if the symptoms described in #2 appear.	Yes, you may be exposed & not know it. There is no test unless you become ill.	Yes, you may be exposed and not recognize it
12. Should I be cautious or concerned about the area where these persons are confined?	No, there is no person to person transmission.	No, since the botulism bacteria is not spread through the air or by contact, the area where infected persons are located is considered safe.	Yes, avoid direct contact with infected persons or areas determined to have been contaminated during the terrorist attack. If you are within 3 feet of an infected person you may be exposed.	Yes. Smallpox is spread through the air in the immediate area where an infected person is located. Many hospitals have special isolation rooms where those exposed to Smallpox can be safely located while they are infectious (2-3 weeks).
13. If I am exposed to the disease can I expose others?	No.	No.	Yes, but only after you become ill.	Yes, but only after you become ill.