

Health Advisory:

How To Handle Situations Involving Suspicious Powdery Substances (Updated 2013)

July 25, 2013

This document will be updated as new information becomes available. The current version can always be viewed at

<http://health.mo.gov/emergencies/ert/alertsadvories/index.php>.

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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Health Advisory
July 25, 2013

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SUBJECT: How To Handle Situations Involving Suspicious Powdery Substances (Updated 2013)

Incidents involving the discovery of a suspicious powdery substance, often in or on a letter or package, continue to occur. Such a discovery often results in concern that the material may contain anthrax spores, ricin, or some other hazardous biological, chemical, or radioactive substance. In almost all instances, the powdery material does not contain any harmful substance and poses no risk to those who have contact with it. However, on very rare occasions, the material has been found to be hazardous. Consequently, whenever a suspicious powdery substance is encountered, reasonable steps need to be taken immediately to minimize exposure and facilitate evaluation of the incident by law enforcement officials, as proper assessment, examination, and handling is critical to minimize any threat to public health from any explosive component or materials, poison chemicals or gases, disease organisms, or ionizing radiation. If law enforcement officials believe the incident represents a true potential threat and that testing of the substance is indicated, they should contact the Missouri Department of Health and Senior Services (DHSS) for consultation, referral as may be needed, and testing services. If necessary, DHSS and local public health agency personnel can also provide assistance to help ensure that all potentially exposed persons are identified and managed appropriately.

Following the anthrax attacks in 2001, protocols were developed for situations where a suspicious powdery substance suspected to contain anthrax spores is discovered. The basic approach described in these documents is valid not only for potential exposures to anthrax spores, but also for exposures to ricin and other hazardous biological, chemical, or radioactive materials that could be disseminated via powdery substances. This Health Advisory replaces the March 30, 2009, Health Advisory entitled "How To Handle Situations Involving Suspicious Powdery Substances (Updated)," and provides an updated protocol for handling incidents involving such substances.

Questions regarding this protocol, or potential bioterrorist-associated diseases such as anthrax or ricin poisoning, should be directed to the department's Bureau of Communicable Disease Control and Prevention at 573/751-6113, 866/628-9891, or 800/392-0272 (24/7).

Questions regarding chemical or radiological issues should be directed to the department's Bureau of Environmental Epidemiology at 573/751-6102, or 800/392-0272 (24/7).

Questions regarding laboratory testing issues should be directed to the Missouri State Public Health Laboratory (MSPHL) at 573/751-3334, 573/522-1444, or 800/392-0272 (24/7).

IF A SUSPICIOUS POWDERY SUBSTANCE IS ENCOUNTERED, DO NOT PANIC – KEEP THE ACTUAL RISK OF THE SITUATION IN PERSPECTIVE

1. It is important to remember that in almost all instances in which a letter or package has been found to contain a suspicious powder, no hazardous substance has been identified. (**Note: the term “hazardous substance,” when used in this document, refers to any biological, chemical, or radioactive substance which could cause disease in those exposed to it.**) At the same time, it is wise to handle each situation of this type in a careful, reasonable manner, as described below.
2. Incidents involving a specific threat and/or the discovery of a suspicious powdery substance will be carefully investigated by law enforcement personnel and, if necessary, by public health officials. One of the first steps to take in such a situation is to immediately contact the local law enforcement agency.
3. If, in the unlikely event that anthrax spores are found to be present, and it is believed that specific persons may have inhaled these spores, these persons will be offered preventive (prophylactic) treatment with antibiotic medication to significantly decrease their chances of becoming ill. It is noteworthy that following the 2001 anthrax attacks, over 10,000 individuals who may have been exposed to the spores were placed on prophylactic antibiotics, and no cases of anthrax occurred among these persons. (For more information on anthrax, see <http://health.mo.gov/emergencies/ert/med/anthrax.php>.)
4. In the similarly unlikely event that ricin is discovered, exposed individuals will be identified and followed for the development of signs of illness (no specific preventive treatment exists). If such signs appear, these persons can then quickly be provided appropriate supportive medical care. (For more information on ricin, see <http://health.mo.gov/emergencies/ert/med/ricin.php>.)
5. It is also important to remember that persons with inhalational anthrax (the most dangerous form of the disease), or with ricin poisoning, do not transmit the disease to other persons. Person-to-person transmission of cutaneous anthrax has been reported, but is very rare and can be prevented.

Suspicious Letter or Package

What kind of mail should be considered suspicious?

Some characteristics of suspicious packages and envelopes include the following:

- Inappropriate or unusual labeling
 - Excessive postage
 - Handwritten or poorly typed addresses
 - Misspellings of common words
 - Strange return address or no return address
 - Incorrect titles or title without a name
 - Not addressed to a specific person
 - Marked with restrictions, such as “Personal,” “Confidential,” or “Do not x-ray”
 - Marked with any threatening language
 - Postmarked from a city or state that does not match the return address
- Appearance
 - Powdery substance felt through or appearing on the package or envelope
 - Oily stains, discolorations, or odor
 - Lopsided or uneven envelope
 - Excessive packaging material such as masking tape, string, etc.
- Other suspicious signs
 - Excessive weight
 - Ticking sound
 - Protruding wires or aluminum foil

If a package or envelope appears suspicious, **DO NOT TOUCH OR OPEN IT.**

What should people do if they get a letter or package containing, or contaminated with, a suspicious powdery substance?

See the flow chart beginning on the next page. **Note that if the suspicious powdery substance is found to be in or on some other item besides a letter or package (e.g., a surface where mail is opened), the same general procedures should be followed.**

Actions to Be Taken Following Identification of a Letter or Package Which Could Potentially Contain or Be Contaminated With a Hazardous Substance

Initial Actions if at Home

1. Do not shake or empty the contents of any suspicious package or envelope.
2. Do not carry the package or envelope, show it to others, or allow others to examine it.
3. Put the package or envelope down on a stable surface; do not sniff, touch, taste, or look closely at it or at any contents that may have spilled.
4. Alert others in the area about the suspicious package or envelope. Leave the area, leaving interior doors open, and take actions to prevent others from entering the area. If possible, shut off the ventilation system.
5. Wash hands (and other potentially exposed skin areas) with soap and water to prevent spreading potentially infectious, toxic, or radioactive material to additional areas of the skin. Seek further instructions for exposed or potentially exposed persons.
6. Contact the local law enforcement agency.
7. Create lists of persons who were in the room or area when the suspicious letter or package was recognized, and lists of persons who also may have handled the letter or package. Give these lists to law enforcement officials and, if they become involved, to local or state public health authorities.

Initial Actions if at Work

1. Do not shake or empty the contents of any suspicious package or envelope.
2. Do not carry the package or envelope, show it to others, or allow others to examine it.
3. Put the package or envelope down on a stable surface; do not sniff, touch, taste, or look closely at it or at any contents that may have spilled.
4. Alert others in the area about the suspicious package or envelope. Leave the area, leaving interior doors open, and take actions to prevent others from entering the area. If possible, shut off the ventilation system.
5. Wash hands (and other potentially exposed skin areas) with soap and water to prevent spreading potentially infectious, toxic, or radioactive material to additional areas of the skin. Seek further instructions for exposed or potentially exposed persons.
6. Notify a supervisor, security officer, or local law enforcement official. (Ensure local law enforcement officials are contacted.)
7. If possible, create lists of persons who were in the room or area when the suspicious letter or package was recognized, and lists of persons who also may have handled the letter or package. Give these lists to law enforcement officials and, if they become involved, to local or state public health authorities.

Local Law Enforcement Agency

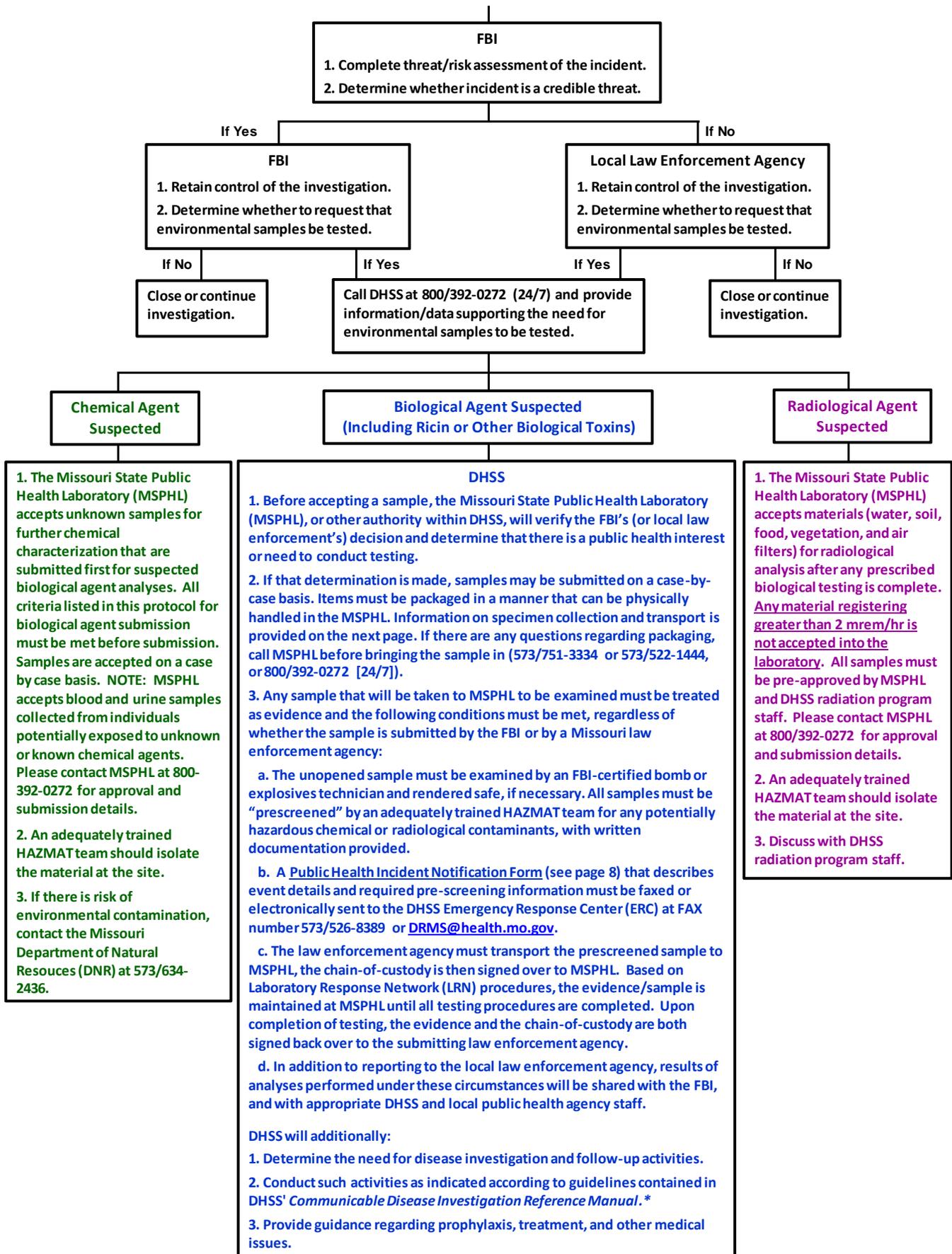
1. Begin investigation and determine the nature of the threat.
2. The FBI must be notified before any specimen is delivered to a public health laboratory.
3. Determine whether the item might contain or be contaminated with a hazardous substance.

If Yes

If No

1. Secure the area.
2. Contact appropriately trained HAZMAT team per standard procedures established for your local area.
3. Notify the regional office of the FBI and ask for the regional Weapons of Mass Destruction (WMD) Coordinator or designee. Phone numbers are:
 - a. Eastern MO – St. Louis Regional Office – 314/231-4324
 - b. Western MO – Kansas City Regional Office – 816/512-8200 (Joplin)
 - c. Central MO – Jefferson City Area Office – 573/636-8814 (St. Joseph, Springfield)
4. Notify the local public health agency (see local number), or the Missouri Department of Health and Senior Services (DHSS) at 800/392-0272 (24/7).
5. Start a list of names and telephone numbers for all persons who may have handled the letter or package, or otherwise been exposed to the suspicious material.
6. Notify persons who have handled the item to place all contaminated clothing worn when in contact with the item into plastic bags to be made available to local law enforcement, if needed. Instruct these persons to shower as soon as possible.

Close or continue investigation.



*DHSS' *Communicable Disease Investigation Reference Manual* is available at:
<http://www.health.mo.gov/living/healthcondiseases/communicable/communicabledisease/cdmanual/index.php>.

Environmental Specimens for Biological Analysis: Collection and Transport
(Includes Any Sample NOT From Clinical Sources)
Missouri Department of Health and Senior Services (800) 392-0272 (24 hours a day – 7 days a week)
State Public Health Laboratory (573) 751-3334 or (573) 522-1444

For further information, see the Missouri State Public Health Laboratory website:
<http://health.mo.gov/lab/index.php>

Remember that these samples may be **highly infectious or toxic!** Extreme caution should be taken in collecting, preparing for shipment, and transporting any material suspected of being contaminated with a biological or toxic agent.

NOTE: Environmental samples will only be accepted from a law enforcement agency, and the FBI must be, or have been, involved. Each sample can be no larger than 12 inches by 36 inches (including packaging). For larger samples, consult the Missouri State Public Health Laboratory (MSPHL) before submitting.

Samples may include paper, water, dry non-cotton swab samples from air vents or other surfaces, powders, soil, or other environmental samples. Only liquid samples need to be kept cold. All other samples can be transported at room temperature.

Environmental specimens received by MSPHL must be accompanied by paper documentation which includes the following:

1. Agency name and telephone number, and a contact person, for the submitting law enforcement organization along with chain of custody papers.
2. A **Public Health Incident Notification Form** (see page 8) that describes event details, and that the sample has been “prescreened” by an FBI-certified bomb or explosives technician and an adequately trained HAZMAT team, must be faxed or electronically sent to the DHSS Emergency Response Center (ERC) at FAX # 573-526-8389 or DRMS@health.mo.gov.

The sample being submitted should only be the suspect material. Additional items from the area that are suspected of being exposed should be bagged and held until testing is complete. For example, if a suspicious package/letter is received in a post office, only the suspicious package/letter should be brought to MSPHL for testing. All accompanying pieces of mail and the mail bag or letter tray should be bagged in plastic until testing of the suspicious package/letter is completed. Arrangements for where and how that material will be held are the responsibility of the investigating officials.

The specimen must be transported in a container that MSPHL personnel are able to open within a safety cabinet. This would include plastic bags or other devices that can be easily opened. This does not include sealed plastic buckets, etc.

MSPHL is unable to accommodate investigation-derived waste. If the HAZMAT team has collected the specimen, they should package their waste in a separate container from the specimen. Disposal of investigation-derived waste is the responsibility of the HAZMAT team.

Reporting Times:

All reporting times are the minimum time. Any individual specimen could take longer.

Anthrax

For environmental specimens, negatives could be reported in 24 hours if there is no suspicious growth. However, any suspicious growth would need to be investigated and could delay the reporting of negative results.

A specimen could be reported "presumptive positive" in 4-6 hours after receipt of the specimen, with complete identification and positive confirmation at 5 days.

Ricin

Presumptive results, either positive or negative, could be available in 3-4 hours after receipt of the specimen.

General Guidance for Managing Persons Who Have Had Exposure to an Unknown Powdery Substance

1. Persons exposed to a suspicious powdery substance should wash their hands with soap and water to prevent spreading potentially infectious, toxic, or radioactive material to other areas of the skin. If other areas of the skin (e.g., face, arms) have been exposed, they should be similarly washed.
 - a) If the initial evaluation of the incident finds evidence of significant risk of exposure to a hazardous substance (e.g., anthrax spores, ricin), exposed persons should, as soon as practical, remove contaminated clothing and store in labeled plastic bags (handling the clothing as little as possible to avoid agitation), and shower thoroughly with soap and water. A more detailed description of this process is described in the box below. Although this description was taken from a CDC ricin document, it provides, in general, a reasonable series of steps to take regardless of the nature of the suspicious material.

- Removing your clothing:
 - Quickly but carefully (to avoid agitation) take off clothing that may have the potentially hazardous material on it. Any clothing that has to be pulled over the head should be cut off the body instead of pulled over the head.
 - If you are helping other people remove their clothing, try to avoid touching any contaminated areas, and remove the clothing as quickly as possible while taking care to avoid agitation.
- Washing yourself:
 - As soon as possible, wash any potentially hazardous material 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.
- Disposing of your clothes:
 - After you have washed yourself, carefully place your clothing inside a plastic bag. Avoid touching contaminated areas of the clothing. If you can't avoid touching contaminated areas, or you aren't sure where the contaminated areas are, wear rubber gloves, turn the bag inside out and use it to pick up the clothing, or put 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. If you wear contacts, put them in the plastic bag, too.
 - Seal the bag, and then seal that bag inside another plastic bag. When finished, wash your hands with soap and water. Disposing of your clothing in this way will help protect you and other people from any potentially hazardous material that might be on your clothes.
 - When the local or state health department or emergency personnel arrive, tell them what you did with your clothes. The health department or emergency personnel will arrange for further disposal. Do not handle the plastic bags yourself.

- b) If the initial evaluation of the incident does not find evidence of significant risk of exposure to a hazardous substance, then individuals may, when they go home, shower with soap and water, and wash their clothing in the normal manner using laundry detergent.
2. Asymptomatic persons exposed to an unknown powdery substance should not be started on prophylactic medications unless there is specific evidence that the substance contains a particular agent (e.g., anthrax) for which prophylactic drugs would be recommended. If law enforcement personnel evaluate the incident and believe it to represent a credible threat, the substance can be tested and, if the results are positive, any necessary prophylaxis can quickly be instituted. Beginning a prophylactic drug regimen prior to receiving positive laboratory results should only be considered if there is specific evidence that a particular agent, for which prophylaxis is indicated, is likely to have been present in the powdery material.
3. If evaluation of the incident by law enforcement personnel indicates the absence of a credible risk, and no environmental testing is done, prophylactic medications would not be indicated.
4. If an exposed person begins to demonstrate signs/symptoms of illness, he/she should promptly contact a medical provider, and should be sure to mention the powder exposure to the provider. If the individual is going to a

medical facility (such as an emergency room), the facility should be contacted in advance if there is any possibility the person may currently have contamination on his/her skin or clothing. Also, one resource that may be helpful in some situations is the Missouri Poison Center at 314/772-5200 (in St. Louis) or 800/222-1222 (outside St. Louis).

When a medical provider is evaluating an individual who has been (or potentially been) in contact with a suspicious powdery substance, the following should be considered:

- a. If the signs/symptoms are consistent with those seen in early-stage inhalational anthrax (e.g., fever, cough, headache, nausea/vomiting, fatigue, muscle aches, sweating, chest discomfort), and no environmental laboratory results are available, then a decision must quickly be made as to whether to begin treatment for anthrax. This decision must take into account the signs/symptoms, their onset in relation to the time of exposure, and the probability (as best can be determined) that the substance might contain anthrax spores. Clinicians caring for such patients should consult with infectious disease specialists, and with public health officials. If it is concluded that the initiation of treatment is indicated, then the recommended regimen for treating anthrax disease (which differs from the prophylaxis regimen) should be used, and treatment should begin immediately (a delay in initiating proper antibiotic treatment in patients with early-stage inhalational anthrax will substantially lessen the chances for survival). If, as a result of laboratory testing, it is subsequently found that the individual was not exposed to anthrax spores, and does not have anthrax, then the treatment regimen can be discontinued or modified as necessary.
 - b. Signs/symptoms seen in early ricin poisoning by inhalation (difficulty breathing, fever, cough, nausea, chest tightness) can be generally similar to those seen in early inhalational anthrax. In a patient with ricin poisoning, proper supportive medical care should be provided (no specific prophylaxis or treatment for ricin is available). This can include appropriate respiratory support (oxygen, intubation, ventilation, PEEP, and hemodynamic monitoring) and treatment for pulmonary edema, as necessary.
 - c. If signs/symptoms suggest other etiologies, then the patient should be managed as clinically appropriate, taking into consideration other potential terrorist agents that might have been present in the powdery material, as well as other causes for the patient's disease that are unrelated to the powder exposure or a potential terrorist act. Consultation should be obtained from relevant clinical specialists, as well as from public health officials.
5. If the suspicious powdery substance is found to contain anthrax spores, all individuals potentially exposed to aerosolized spores should be offered prophylactic antibiotics as quickly as possible. Public health officials will be involved in investigating the extent of the exposures, and will provide recommendations as to which specific persons should be offered prophylaxis. All persons receiving prophylaxis should be provided education on anthrax disease and its signs/symptoms. They should be told to contact a medical provider immediately if they develop signs/symptoms consistent with early anthrax disease. Persons with exposure to anthrax spores who develop such signs/symptoms should immediately be started on an anthrax treatment regimen. Prophylaxis and treatment recommendations are found in:
- CDC. Use of anthrax vaccine in the United States. *MMWR* 2010; 59(RR-6). <http://www.cdc.gov/mmwr/pdf/rr/rr5906.pdf>
 - Stern EJ, et al. Conference report on public health and clinical guidelines for anthrax. *Emerg Infect Dis* 2008, April. http://wwwnc.cdc.gov/eid/article/14/4/07-0969_article.htm
 - Inglesby TV, et al. Anthrax as a biological weapon, 2002. *JAMA* 2002;287: 2236-2252 <http://jama.jamanetwork.com/article.aspx?articleid=194886>

Additional prophylaxis and treatment recommendations may be made once the antibiotic sensitivities of the anthrax organisms have been determined.

6. If the substance is found to contain ricin, all exposed persons should be provided education on ricin poisoning and its signs/symptoms. They should be told to contact a medical provider immediately if they develop signs/symptoms consistent with such poisoning.
7. No screening tests are available for the detection of either anthrax infection or ricin exposure in an asymptomatic person. Nasal swab cultures should not be used to diagnose cases of anthrax or to evaluate whether a person has been exposed. Nasal swab cultures may, in some instances, be utilized by public health researchers conducting an investigation of an anthrax attack.
8. More information for medical and public health professionals on anthrax, ricin, and other biological, chemical, and radiological terrorist threats is available on the department's Emergency Response and Terrorism – Diseases & Disasters website at <http://health.mo.gov/emergencies/ert/diseasesdisasters.php>. Information for the general public is also available on this site.

24-Hour Emergency Numbers

Missouri Information Analysis Center (MIAC)	866/362-6422
Missouri State Emergency Management Agency (SEMA)	573/751-2748
Missouri Department of Natural Resources (DNR) Spill Line	573/634-2436
Missouri State Highway Patrol (MSHP)	800/525-5555
Missouri Poison Center	314/772-5200 (in St. Louis) 800/222-1222 (outside St. Louis)
Missouri Department of Health and Senior Services	800/392-0272