

Anthrax Investigation Guidelines

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Anthrax

Disease Management and Investigative Guidelines

SURVEILLANCE CASE DEFINITION

A. Clinical Description for Public Health Surveillance:

An illness with acute onset characterized by several distinct clinical forms including:

- Cutaneous: A skin lesion evolving over 2-6 days from a papule, through a vesicular stage, to a depressed black eschar.
- Inhalation: A brief prodrome resembling a viral respiratory illness followed by development of hypoxia and dyspnea with x-ray evidence of mediastinal widening.
- Intestinal: Severe abdominal distress followed by fever and signs of septicemia.
- Oropharyngeal: Mucosal lesion in the oral cavity or oropharynx, cervical adenopathy and edema and fever.

B. Laboratory Criteria for Diagnosis:

- Isolation of *Bacillus anthracis* from a clinical specimen, or
- Anthrax electrophoretic immunotransblot (EITB) reaction to the protective antigen and/or lethal factor bands in one or more serum samples obtained after onset of symptoms, or
- Demonstration of *B. anthracis* in a clinical specimen by immunofluorescence

C. Case Classification:

- Confirmed: A clinically compatible illness that is laboratory confirmed.
- Probable: A clinically compatible case that is epidemiologically linked to a confirmed case.

D. Laboratory Tests:

Isolates of this organism are not required to be sent to the State Public Health Laboratory; however, they are equipped to test for it if requested.

- Laboratory Kit: Miscellaneous infectious substance.
- Remarks: For additional information and/or questions concerning isolate collection, sample transport and laboratory kits call (785) 296-1620. An online manual of laboratory tests is also available at <http://www.kdhe.state.ks.us/labs/links.html>

E. Bioterrorism Potential:

Anthrax is a potential bioterrorism weapon. If the case has no remarkable travel history and is not employed in an occupation that is prone to exposure, then a bioterrorist event should be considered. If you suspect that you are

dealing with a bioterrorism situation, contact the Health Officer, on-call epidemiologist and the State Health Department immediately.

F. Outbreak Definition:

A single case of inhalation anthrax is so unusual that it should be reported and investigated immediately as a potential bioterrorist event. Two or more cases of cutaneous or gastrointestinal anthrax with a common source or suspected common source should be investigated as an outbreak with adequate resources applied to the investigation.

INVESTIGATOR RESPONSIBILITIES

A. Investigation Related Tasks and Activities:

- Conduct an epidemiological investigation to identify the possible source of infection and to locate additional cases and/or contacts in the community.
- Identify the source of infection (*e.g.*, imported wool, livestock, or soil) and prevent further transmission.
- Identify contacts that may have been exposed to the source of infection and refer them for proper prophylaxis therapy.
- Report all confirmed and probable cases to the Bureau of Epidemiology & Disease Prevention, using established methods.
- Establish and maintain a detailed line listing of all cases and contacts with accurate identifying and locating information.
- Identify cases and/or clusters that may be associated with a bioterrorist event.

B. Notifications:

- Telephone report within 4 hours of suspect or confirmed cases to the Local Health Officer, the on-call epidemiologist (local) and KDHE (1-877-427-7317).
- Mail or deliver notification letter and/or disease fact sheet to case, contacts and other appropriate individuals or groups (if appropriate and/or requested).

EPIDEMIOLOGY

Anthrax is primarily a disease of wild and domestic herbivorous (*i.e.*, plant-eating animals). Livestock may be exposed through feed containing contaminated bonemeal. Anthrax is rare in the United States but sporadic cases may occur. Anthrax in animals is common in Central and South America, southern and eastern Europe, Africa and Asia. Persons at greatest risk of contracting anthrax are those whose occupations may expose them to contaminated meat, hides or wool. Veterinarians and others who handle and treat infected animals are also at increased risk.

DISEASE OVERVIEW

A. Agent:

Bacillus anthracis is a gram-positive, encapsulated, spore-forming, nonmotile rod.

B. Clinical Description:

An acute bacterial disease which usually involves the skin, but may involve the upper throat, lower respiratory tract, chest cavity or intestinal tract.

- **Cutaneous anthrax** begins as a pruritic papule. Within 1-2 days the formation of a 1-3 cm. fluid-filled vesicle occurs. The vesicle typically dries and forms a coal-black scab or depressed eschar. It most frequently occurs on the hands and forearms of persons working with infected livestock. There may be regional lymphadenopathy, and systemic symptoms such as fever, malaise and headache. The case-fatality rate for cutaneous anthrax ranges from 5-20%.
- **Inhalational anthrax** initial symptoms are mild and often resemble an upper respiratory infection. Severe symptoms follow within 3-5 days, including: respiratory distress, fever, shock and death. Radiological exams typically show a widened mediastinum. Treatment rarely prevents death once the severe symptoms begin. The case-fatality rate for inhalation anthrax is 85-100%.
- **Intestinal anthrax** is rare and is usually associated with foodborne outbreaks. Symptoms include: abdominal pain, fever, and sepsis. Even with treatment, the case-fatality rate is about 50%.
- **Oropharyngeal anthrax** symptoms include: sore throat, dysphasia, fever regional lymphadenopathy and toxemia. Lesions may be seen in the oral cavity involving the posterior wall, the hard palate or the tonsils. Most persons die from toxemia and sepsis.
 - **Differential Diagnosis:** Cellulitis from other organisms, tularemia, plague, acute pneumonia, bacterial or viral gastroenteritis.

C. Reservoirs:

Animals, usually hoofed herbivores are the reservoir. When exposed to the environment *B. anthracis* produce spores. The spores are resistant to both disinfection and adverse environmental conditions and may remain viable in contaminated soil for years. Dried and/or processed skins and hides of infected animals may harbor the spores and are fomites by which the disease may be spread.

D. Mode(s) of Transmission:

- **Cutaneous anthrax** is transmitted by contact with tissues of animals dying of the disease. Biting flies that have partially fed on such animals may also transmit the disease. Contact with contaminated hair, wool, and hides or contact with soil associated with infected animals or contaminated bonemeal used in gardening may also transmit the organism.

- **Inhalation anthrax** occurs through the inhalation of *B. anthracis* spores. This usually occurs in environments related to processing of animal hides and wool. Infections may occur among laboratory workers through the aerosolization of spores.
- **Intestinal anthrax** occurs from eating contaminated meat; there is no evidence that milk from infected animals transmits anthrax.
- **Oropharyngeal anthrax** occurs from eating contaminated meat; there is no evidence that milk from infected animals transmits anthrax.

E. Incubation Period:

Usually 2-5 days following exposure, range 1-42 days.

F. Period of Communicability:

Person-to-person transmission has not been documented. Products and soil contaminated with *B. anthracis* spores may remain infectious for decades.

G. Susceptibility and Resistance:

Unknown, all persons should be assumed susceptible. Vaccinated individuals should be considered potentially susceptible, especially to inhalational anthrax. Second attacks are rare.

H. Treatment

Penicillin is the antibiotic of choice. Erythromycin, tetracycline, and chloramphenicol and ciprofloxacin are also effective. High-dose penicillin combined with streptomycin or ciprofloxacin should be used for treating inhalational anthrax.

STANDARD CASE INVESTIGATION AND CONTROL METHODS

Standard investigation activities include the following: 1) Confirmation of the diagnoses (*i.e.*, case definition), 2) Collection of relevant demographic and clinical data (*e.g.*, age, sex, disease syndromes and/or symptoms), 3) Determination of the setting (*e.g.*, community, hospital, daycare or other facility), and 4) Investigation of possible epidemiologic links among cases (*e.g.*, cluster, household, co-workers, etc). This can be accomplished by completing the appropriate sections of the Anthrax investigation form. Most of the information can be obtained from the case person, healthcare provider and/or the medical record. The investigator may want to also review previously reported cases in the region and/or state. Additional investigation activities include:

A. Identify Potential Source of Infection:

To help identify the source of the infection, the investigator should focus their investigation within the incubation period days and on the following potential source(s) of infection.

- Ascertain type of Anthrax (*i.e.*, cutaneous, inhalational, or gastrointestinal).

- Determine occupation as certain types of workers are at increased risk for anthrax (e.g., farmer, dairyman, veterinarian, wool processor, weaver, butcher, slaughterhouse employee, tanner, taxidermist, hunter, or laboratory worker).
- Contact with animals and/or animal products.
- Ingestion of undercooked meat.
- Exposure to animal products (e.g., hair, skins, paint brushes, leather, and wool) imported from outside the USA, especially Haiti and Asia.

B. Identify Potential Exposed Individuals / Populations (Contacts):

Any person who has come into contact with the source of infection is defined as a contact. This may include physical contact with an animal case or a contaminated product, ingestion of contaminated food, and possible inhalation of spores. Contacts are not persons that have been in close proximity to a case.

C. Isolation, Work and Daycare Restrictions:

None.

D. Follow-up of Cases:

None.

E. Protection of Contacts:

- Persons who were exposed to the source of infection should be defined as a contact and be provided appropriate education and followed for signs of infection.
- People not at risk for inhalational anthrax do not need post exposure prophylaxis; it is not recommended for those at risk for cutaneous anthrax, for medical providers taking care of anthrax cases or for those who routinely open or handle mail.
- Chemoprophylaxis should be considered for those at risk for inhalational anthrax; recommended therapy is ciprofloxacin or doxycycline for at least 60 days.
- Vaccination is recommended in combination with antibiotic prophylaxis if a bioterrorism event is suspected.

F. Environmental Measures:

Implicated food items must be removed from the environment. If a commercial food item is implicated, the State Health Department will coordinate the follow-up with appropriated outside agencies.

G. Education:

Workers with potential exposure to anthrax should be educated about the modes of transmission, care of skin abrasions and personal cleanliness. Protective clothing should be worn.

MANAGING SPECIAL SITUATIONS

Bioterrorism:

A single diagnosed or suspect case of inhalation anthrax is so unusual that it should be considered a potential bioterrorism event. Contact one of the following numbers immediately in order of priority as shown:

- Kansas On-call Epidemiologist 877-427-7317
- CDC Bioterrorism response coordinator 404-639-0385
- An announced threat of dissemination, though most likely a hoax, should be taken seriously and the State Health Department and the local FBI Duty Officer notified. 816-512-8200

A. Safety Considerations for Public Health and Other Health Care

Professionals:

Because anthrax is not transmitted person-to-person, public health, other health care, and emergency response personnel are not likely to be at risk during the investigation of a typical announced threat (e.g., delivery of a powdery substance to a work site) or the investigation of a scene implicated in an unannounced outbreak. A possible exception would be a terrorist mechanism designed to continually disseminate spores into an enclosed space over an extended period of time.

B. Definition of the Population-at-Risk:

Defining the population-at-risk is essential to guide response activities. Public health authorities will play the lead role in this effort, but must consult with law enforcement, emergency response and other professionals in the process. The definition of the population-at-risk may have to be re-evaluated and redefined at various steps in the investigation, assessment and response to a bioterrorist event. Once the mechanism and scope of delivery has been defined, the identification of the symptomatic and asymptomatic exposed individuals can be completed and recommendations for the treatment and/or chemoprophylaxis made.

C. Specific Control Measures Include:

- Decontamination: Rarely necessary, even in announced threats. However, if there is a high level of suspicion that individuals have been contaminated, those potentially contaminated should shower with soap and water immediately. Clothing, shoes and personal articles should be placed in a plastic bag, sealed, and labeled with the person's name and contacting information.
- Post-exposure prophylaxis (PEP): In most anthrax threat situations, PEP is not recommended. However, if the level of suspicion is high that an aerosol exposure has taken place, potentially exposed individuals should begin antimicrobial prophylaxis if a definitive determination cannot be made within 24 hours. If the threat of actual exposure is highly credible or confirmed, exposed persons should begin antimicrobial prophylaxis and be vaccinated as soon as possible. Ciprofloxacin or doxycycline should be

given for at least 60 days with the vaccine given at 0, 2, and 4 weeks under an Investigational New Drug (IND) application with the Food and Drug Administration. Prophylaxis for inhalation anthrax must be given within the first three days (during the prodromal phase) to be effective. Prophylaxis after that time will be ineffective.

- Isolation: None
- Quarantine: None
- Line lists: A central responsibility of the investigative staff is to maintain detailed line lists of cases, suspect cases, exposed, and potentially exposed individuals with accurate identifying and locating information as well as appropriate epidemiological information. These lists will be essential for early identification of infection among the exposed.
- Pharmaceuticals: In the event of an outbreak of anthrax, adequate quantities of appropriate antibiotics will be procured from the Strategic National Stockpile. Procurement, storage, and distribution will be coordinated through the Kansas Department of Health and Environment. Local and state public health officials must play a central role in determining which individuals should have priority for receipt of limited pharmaceuticals.

ADDITIONAL INFORMATION / REFERENCES

- American Academy of Pediatrics. 2003 *Red Book: Report of the Committee on Infectious Disease, 26th Edition*. Illinois, Academy of Pediatrics, 2003.
- Heymann. D., ed., *Control of Communicable Diseases Manual, 18th Edition*. Washington, DC, American Public Health Association, 2004.
- Case definitions for Infectious Conditions Under Public Health Surveillance, Division of Public Health Surveillance and Informatics, Nationally Notifiable Infectious Diseases, United States 2005. Available at: <http://www.cdc.gov/epo/dphsi/PHS/infdis2005.htm>
- Kansas Department of Health and Environment, Bureau of Epidemiology. *Disease Protocols*, 2001.
- County of Los Angeles, Department of Health, Public Health Programs and Services, *Communicable Diseases Manual*, June 2003.
- Oklahoma State Department of Health, Communicable Diseases Division. *The Epidemiologic Follow-up of Communicable Diseases in Oklahoma*, 2001.
- Missouri Department of Health and Senior Services, Section of Communicable Disease Control & Veterinary Public Health, *Communicable Disease Investigation Reference Manual*. 2001.
- Oregon Health Services Website. Available at <http://www.ohd.hr.state.or.us>
- Commonwealth of Massachusetts, Department of Public Health Website. Available at <http://www.state.ma.us/dph/>
- CDC Website. Available at <http://www.cdc.gov/health/default.htm>

Anthrax

Case # _____

- Confirmed
 Probable
 Suspect

Report Source

Lab Hospital Physician / HCP Other _____

County _____

Reporter Name _____

Report Date / /

Primary M.D. / HCP _____

Phone () - Phone () -

Case Identification

Name: _____
Last First InitialAddress: _____
Street CityZip: - Phone: () - Alternative Contact: Parent Spouse Other _____Name: _____
Last First InitialPhone: () -

Workplace / School / Daycare: _____

Occupation / Grade: _____

Demographics

Gender: Male FemaleBirth Date: / / Or if unknown, Age:

Race:

- White Black Asian
 American Indian / Alaska Native
 Native Hawaiian / Pacific Islander

Hispanic / Latino: Yes No

Clinical Information

Clinical Data

Onset date / / Diagnosis date / / Illness duration: daysAnthrax Type Pulmonary Cutaneous Intestinal

Signs and Symptoms

Generalized Symptoms

Y N UNK N/A

 Fever Temperature . F / C Chills Myalgia Joint Pain Fatigue Other, Specify _____

Pulmonary Symptoms

Y N UNK N/A

 Cough Dyspnea Chest pain Other, Specify _____

Gastrointestinal Symptoms

Y N UNK N/A

 Nausea Vomiting Pain Other, Specify _____

Cutaneous Symptoms

Y N UNK N/A

 Pre-existing wound Edema Erythema Regional lymphadenopathy

Location _____

 Other, Specify _____

Neurological Symptoms

Y N UNK N/A

 Headache Photophobia Neck pain/stiffness Other, Specify _____

Hospitalization

Y N UNK N/A

 Hospitalized for this illness

Hospital name _____

Admit date / / Discharge date / /

Y N UNK N/A

 Died from illness Death date / / Autopsy

Laboratory Data

CPK Collection Date / / Not Done Results _____

CBC Collection Date / / Not Done Results _____

WBC's _____ Hb _____ Hct _____ Plt _____ Differential Segs _____ Bands _____ Lymphs _____ Monos _____

CSF Collection date / / Not Done Results _____

WBC's _____ Hb _____ Hct _____ Plt _____ Differential Segs _____ Bands _____ Lymphs _____ Monos _____

Blood, Gram Stain Collection Date / / Pos. Neg. Not Done Results _____

Blood, Culture Collection Date / / Pos. Neg. Not Done Results _____

Nasal Swab, Gram Stain Collection Date / / Pos. Neg. Not Done Results _____

Nasal Swab, Culture Collection Date / / Pos. Neg. Not Done Results _____

Sputum, Gram Stain Collection Date / / Pos. Neg. Not Done Results _____

Sputum, Culture Collection Date / / Pos. Neg. Not Done Results _____

Skin/Wound Biopsy / Culture Collection Date / / Not Done Site _____ Results _____

Immunochemistry of Biopsy Specimen Collection Date / / Not Done Site _____ Results _____

Serum Antibody titre Collection Date / / Not Done Results _____

Date / / Results _____

Date / / Results _____

PCR for Anthrax Date / / Site _____ Results _____

Serum Collection Date / / Not Done Results _____

Biopsy Collection Date / / Not Done Site _____ Results _____

Other Collection Date / / Not Done Site _____ Results _____

Chest X-ray Date / / Not Done Results _____

Other X-ray Date / / Not Done Results _____

CT Scan Date / / Not Done Results _____

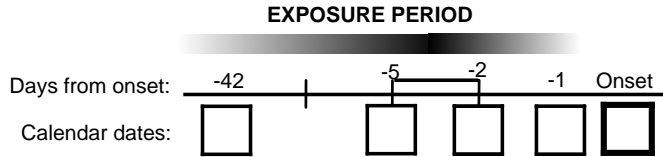
MRI Date / / Not Done Results _____

Notes: _____

Medication, Treatment, and/or Medical Procedures

Infection Timeline

Enter onset date in heavy box.
Count forward and backward to
calculate probable exposure
and contagious periods.



Exposure

Y N UNK N/A

Travel out of the county, state, or country
 Out of: County State Country
 Destinations/Dates: _____

Contact with anyone with similar symptoms

Works handling mail at: _____

Works opening mail at: _____

Handled suspicious mail on: []/[]/[]

Was in same room as suspicious mail on: []/[]/[]

Y N UNK N/A

Had contact with someone who handled suspicious mail on: []/[]/[]

Contact with animal hide on: []/[]/[]

Consumed uncooked/undercooked meat on: []/[]/[]

Other _____

Other _____

Occupation _____

Notes: _____

Epi-Linkage

During the exposure period, was the case...

Y N UNK N/A

Associated with a known outbreak?

A close contact of a confirmed or probable case?

Has the initial case been reported? Yes No

Specify nature of contact: Household Sexual

Daycare Other _____

If yes to any question, specify relevant names days, places, etc:

Notes: _____

Case could not be interviewed No risk factors or exposures could be identified

Most likely exposure/site: _____ Site name/address: _____

Where did exposure probably occur? In State, County: _____ Out of state Not in US UNK

Contact Management and Follow-up

Name: _____
 Last First Initial

Address: _____
 Street City

Zip: []-[] Phone: ([])[]-[]

Date of Birth []/[]/[]

Exhibiting Signs/Symptoms: Yes No

Contact Type: Household Sexual

Daycare Other _____

Call Back Date: []/[]/[] N/A

Name: _____
 Last First Initial

Address: _____
 Street City

Zip: []-[] Phone: ([])[]-[]

Date of Birth []/[]/[]

Exhibiting Signs/Symptoms: Yes No

Contact Type: Household Sexual

Daycare Other _____

Call Back Date: []/[]/[] N/A

Name: _____
Last First Initial

Address: _____
Street City
Zip: [][][][][] - [][][][] Phone: ([][][]) [][][] - [][][][]

Date of Birth [][]/[][]/[][][][]
Exhibiting Signs/Symptoms: Yes No
Contact Type: Household Sexual
 Daycare Other _____
Call Back Date: [][]/[][]/[][][] N/A

Name: _____
Last First Initial

Address: _____
Street City
Zip: [][][][][] - [][][][] Phone: ([][][]) [][][] - [][][][]

Date of Birth [][]/[][]/[][][][]
Exhibiting Signs/Symptoms: Yes No
Contact Type: Household Sexual
 Daycare Other _____
Call Back Date: [][]/[][]/[][][] N/A

Name: _____
Last First Initial

Address: _____
Street City
Zip: [][][][][] - [][][][] Phone: ([][][]) [][][] - [][][][]

Date of Birth [][]/[][]/[][][][]
Exhibiting Signs/Symptoms: Yes No
Contact Type: Household Sexual
 Daycare Other _____
Call Back Date: [][]/[][]/[][][] N/A

Notes: _____

Public Health Issues

- Y N UNK N/A
- Employed as food handler
 - Non-occupational food handling (e.g. potlucks, receptions) during contagious period
 - Employed as health care worker
 - Employed in child care or preschool
 - Attends child care or preschool
 - Household member or close contact in high-risk occupation or setting (HCW, child care, food)
 - Outbreak related
 - Other, specify: _____

Public Health Actions

- Hygiene education provided
- Restaurant inspection
- Child care inspection
- Work or child care restriction for household member
- Exclude from high-risk occupation (e.g., foodhandler, daycare, etc.) or situations diarrhea ceases / stool sample negative
- Initiate contact investigation
- Other, specify: _____
- Other, specify: _____

Additional Comments

Administration

Investigator name _____ Phone ([][][]) [][][] - [][][][]
Signature _____ Investigation complete date [][]/[][]/[][][][]
Estimated investigation time (hrs) [][] . [][]

Anthrax Investigation and Documentation Checklist

Report Received: _____ / _____ / _____

Health Officer and State Notified: _____ / _____ / _____

Assigned to Investigator: _____ / _____ / _____

Reported to State Surveillance System: _____ / _____ / _____

Met Case Definition: Yes No _____ / _____ / _____

Case Interview Completed: Yes No _____ / _____ / _____
MOGE Reason: _____

Biologic Sample to State Laboratory: _____ / _____ / _____
 Yes No

Contacts Identified and/or Interviewed: _____ / _____ / _____
 Yes No None

Names: _____

New Case(s) Identified: Yes No _____ / _____ / _____

Names: _____

Contact(s) Received Prophylaxis: _____ / _____ / _____
 Yes No

Letter/Information Sheet(s) Sent: _____ / _____ / _____

Completed Investigation Worksheet: _____ / _____ / _____

Case Closed and Filed: _____ / _____ / _____

Anthrax Type: Inhalational Cutaneous Intestinal Oropharyngeal

Notes: _____

Case Name: _____ **Number:** _____

Principal Investigator: _____ **Initials:** _____

Case Reviewed By: _____ **Date:** ____ / ____ / ____

KANSAS NOTIFIABLE DISEASE FORM

Today's Date: ___ / ___ / ___

Patient's Name: _____
Last First Middle

Day Phone: _____ Evening Phone: _____

Residential Address: _____

City: _____ Zip: _____ County: _____

Ethnicity: Hispanic or Latino Not Hispanic or Latino Unknown

Race: American Indian/Alaska Native Asian Black or African American
Native Hawaiian or Other Pacific Islander White Unknown
(Circle all that apply)

Sex: M F Date of Birth: ___ / ___ / ___ Age if DOB unknown: _____

Disease Name: _____

Symptoms:
Onset: ___ / ___ / ___ State the 3 most prominent symptoms:

Symptom 1: _____ Symptom 2: _____ Symptom 3: _____

Outbreak associated? Y N Died? Y N

Institutional Residence? None Nursing Home Correctional Residential Hospital Psych

Physician Name: _____ Physician Phone: _____

Laboratory Information:

Specimen Collection Date: ___ / ___ / ___ Date Reported To You: ___ / ___ / ___

Name of Test Performed: _____ Results of Test: _____

Name of Laboratory: _____ Laboratory Results Attached? Y N

Treatment Information:

Date of Treatment: ___ / ___ / ___ Treatment Type and Dosage: _____
Treatment Status: Complete On-going Discontinued

Name of person reporting: _____ Phone: _____

Comments: _____

Mail reports to your local health department or to: BEDP – Disease Surveillance, 1000 SW Jackson, Suite 210, Topeka, KS 66612-1274. Reports can also be *faxed toll free* to: 1-877-427-7318. (Rev. 04/2004)

Case and Contact(s) Management Worksheets

Contents:

- **Case Activity and Travel Worksheet – Infectious Period**
To be used to track activities and travel of a case during the infectious period.
- **Case Transportation Worksheet – Infectious Period**
To be used to track detailed travel activities of a case during the infectious period.
- **Primary Contact(s) / Site Worksheet**
To be used to create a line listing of contacts of a case. May also be used to identify sites and/or places that infections may have occurred (e.g., daycare, school, etc.).
- **Contact Tracking / Tracing Form**
To be used for individual tracking of all contacts identified on the Primary Contact(s) / Site Worksheet.
- **Contact Surveillance Form**
To be used to track the signs and symptoms associated with the disease amongst the contacts.

Worksheet Instructions

- **Case Activity and Travel Worksheet — Infectious Period:** This worksheet is to be used to track the case’s daily activities and travel during the infectious period. It is intended to help the investigator capture detailed information in an organized format.
 - The upper portion of the worksheet contains information specific to the case including name and information specific to the disease including incubation period, treatment dates, etc.
 - The upper portion also contains a Case Number. The Case Number is a number assigned by the investigator to each case. It is important to assign this number as it serves as the link between this worksheet and the Case Transportation, Primary Contact, Contact Tracking and Contact Surveillance Worksheets.
 - The lower portion of the worksheet is a “blank” calendar that the investigator may use to record the case’s activities and travel during the infectious period. The “key” to the checkboxes is located on the bottom of the worksheet.
- **Case Transportation Worksheet - Infectious Period:** This worksheet is to be used if there is a need to capture detailed travel information (*i.e.*, airline flight information) about a case and/or contacts. It is anticipated that this worksheet may never be used but is included in the case/contact management worksheets for use should the situation arise.
 - The upper portion of the worksheet contains information specific to the case including name and information specific to the disease including incubation period, treatment dates, etc.
 - The upper portion also contains a Case Number. The Case Number is a number assigned by the investigator to each case. It is important to assign this number as it serves as the link between this Worksheet and the Case Activity, Primary Contact, Contact Tracking and Contact Surveillance Worksheets.
 - The lower portion of the worksheet is structured to allow the investigator to capture detailed travel information.
- **Primary Contact(s) / Site Worksheet:** This worksheet is to be used to create a line listing of the contacts of a case.
 - The upper portion of this worksheet contains information about the case and the lower portion contains the names and key information about the contacts. The Case Number is a number assigned by the investigator to each case. It is important to assign this number as it serves as the link between this worksheet and the Case Activity, Case Transportation, Contact Tracking and Contact Surveillance Worksheets.
 - The Contact Information portion of the worksheet contains the column entitled “Contact Worksheet #“. Each contact is assigned a number by the investigator and detailed information about the contact is captured on the Contact Tracking / Tracing Worksheet. It is important to assign this number as it serves as the link between these two Worksheets.
- **Contact Tracking / Tracing Worksheet:** This worksheet is used to capture detailed information about each contact identified on the Primary Contacts / Site Worksheet.
 - The case information portion of this worksheet contains two data fields. The Case Number is a number assigned by the investigator to each case and links this worksheet to the Case Activity, Case Transportation and Contact Surveillance Worksheets. The Contact Worksheet # links this Worksheet to an individual line listing on the Primary Contacts / Site Worksheet.
 - The remaining sections of the Worksheet are intended to provide specific contact identification, exposure data, follow-up and disposition information about each contact.
- **Contact Surveillance Worksheet:** This worksheet is used to track the signs and symptoms associated with the disease amongst the contacts. It is intended to be “self reported” and used by the contact(s) during quarantine.
 - The case information portion of this worksheet contains two data fields. The Case Number is a number assigned by the investigator to each case and links this worksheet to the Case Activity, Case Transportation and Contact Surveillance Worksheets. The Contact Worksheet # links this Worksheet to an individual line listing on the Primary Contacts / Site Worksheet.

Case Activity and Travel Worksheet – Infectious Period (Please Print)

CASE INFORMATION

Name of Primary Case: _____
Last First Middle Nickname / Alias: _____

Case Number: _____ Interview Date: ____/____/____ Interviewer Name: _____

Infectious Period Start Date:¹ ____/____/____ Symptom Onset Date: ____/____/____ Treatment Start Date: ____/____/____

Clinical Improvement Date: ____/____/____ Disease or Condition Under Surveillance: _____

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Date: <input type="checkbox"/> F <input type="checkbox"/> R <input type="checkbox"/> C <input type="checkbox"/> O	Date: <input type="checkbox"/> F <input type="checkbox"/> R <input type="checkbox"/> C <input type="checkbox"/> O	Date: <input type="checkbox"/> F <input type="checkbox"/> R <input type="checkbox"/> C <input type="checkbox"/> O	Date: <input type="checkbox"/> F <input type="checkbox"/> R <input type="checkbox"/> C <input type="checkbox"/> O	Date: <input type="checkbox"/> F <input type="checkbox"/> R <input type="checkbox"/> C <input type="checkbox"/> O	Date: <input type="checkbox"/> F <input type="checkbox"/> R <input type="checkbox"/> C <input type="checkbox"/> O	Date: <input type="checkbox"/> F <input type="checkbox"/> R <input type="checkbox"/> C <input type="checkbox"/> O
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Key: F = Fever, R = Rash, C = Cough, O = Other

¹The period of infectiousness may begin before the case is symptomatic and last after symptoms have abated. Refer to the disease specific protocols for detailed information.

Case Transportation Worksheet – Infectious Period (Please Print)

CASE INFORMATION

Name of Primary Case: _____ Nickname / Alias: _____
Last First Middle

Case Number: _____ Interview Date: ____/____/____ Interviewer Name: _____

Infectious Period Start Date:² ____/____/____ Symptom Onset Date: ____/____/____ Treatment Start Date: ____/____/____

Clinical Improvement Date: ____/____/____ Disease or Condition Under Surveillance: _____

TRAVEL INFORMATION Complete as much information as possible for each type of public transportation used by case during infectious period.

Date of Travel	Time of Travel (AM/PM Circle)	Transport Type (e.g., bus, plane, etc)	Carrier / Company Name	Route / Flight #	Origin City	Origin State	Origin Country	Destination City	Destination State	Destination Country
____/____/____	____:____ AM PM									
____/____/____	____:____ AM PM									
____/____/____	____:____ AM PM									
____/____/____	____:____ AM PM									
____/____/____	____:____ AM PM									
____/____/____	____:____ AM PM									

Page _____ of _____

²The period of infectiousness may begin before the case is symptomatic and last after symptoms have abated. Refer to the disease specific protocols for detailed information.

Primary Contact(s) / Site Worksheet (Please Print)

CASE INFORMATION

Name of Primary Case: _____ Nickname / Alias: _____
Last First Middle

Case Number: _____ Interview Date: ____/____/____ Interviewer Name: _____

Site Name or Place: _____ Disease or Condition Under Surveillance: _____

CONTACT INFORMATION

Name of Person (Last, First) and/or Name of Site	Location	Phone Number	Date of First Exposure	Date of Last Exposure	Contact Form #	Call Back Date
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A
		()	___/___/___	___/___/___		___/___/___ <input type="checkbox"/> N/A

Contact Tracking / Tracing Form (Please Print)

CASE INFORMATION

Name of Primary Case: _____ Case Number: _____
Last First Middle

Contact Form Number: _____
 This number ties this form to the Primary Contact(s) / Site Worksheet

CONTACT INFORMATION

Contact Name: _____ Nickname/Alias: _____
Last First Middle

Address: _____ Phone Number: () _____
Street City State Zip

Alternative Contact: _____ Parent Spouse Friend Other
Last First Middle

Address: _____ Phone Number: () _____
Street City State Zip

School/Employer Name: _____ Address: _____
Street City State Zip

DEMOGRAPHICS

Date of Birth: ___/___/___ Age: ___ Gender: Male Female
 Height: _____ Weight: _____ Hair Color: _____ Complexion: _____

Race: White Black Asian
 Am. Indian / AK Native Native HI. / Pacific Islander

Hispanic / Latino
 Yes No

EXPOSURE INFORMATION

Date of 1st Exposure: ___/___/___
 Date of Final Exposure: ___/___/___
 Case/Contact Type: _____
 1 = Household contact, family member, others spending ≥ 3hrs in household with an infectiousness case.
 2 = Non-household contact with contact < 6 feet with an infectious case ≥ 3 hrs.
 3 = Non-household contact with contact < 6 feet with an infectious case ≤ 3 hrs.
 4 = Non-household contact with contact ≥ 6 feet with an infectious case ≥ 3 hrs.
 5 = Non-household contact with contact ≥ 6 feet with an infectious case ≤ 3 hrs.
 6 = Other, specify: _____

CONTACT / FOLLOW UP DATES

Date Contact Form Initiated: ___/___/___
 Date of Contact Notification: ___/___/___
 Follow up Date: ___/___/___
 N/A
 Disposition Date: ___/___/___
 Notes: _____

DISPOSITION

Located:
 Referred for Treatment
 Referred for Assessment
 Already Hospitalized
 Isolated
Other: _____

Not Located:
 Unable to Locate
 Moved to Another Jurisdiction
 Location: _____
Deceased:
 Disease Suspected
 Unrelated to Disease

Contact Surveillance Form (Please Print)

CASE INFORMATION (Filled out by interviewer)

Case Number: _____

HOUSEHOLD / CONTACT INFORMATION (Filled out by interviewer)

Contact Name: _____ Nickname/Alias: _____
Last First Middle

Address: _____ Phone Number: () _____
Street City State Zip

Sex: Male Female Age: _____ Date of Household Visit: ___/___/___ Contact Form Number: _____
This number ties this form to the Primary Contact(s) / Site Worksheet

MISC. INFORMATION (Filled out by interviewer)

Date of Last Exposure to Case: ___/___/___ Date Vaccinated or Prophylaxis: ___/___/___ Call Back Date: ___/___/___

HOUSEHOLD OR CONTACT CLINICAL SIGNS TRACKING (Filled out by contact or household member)

Instructions: Record Your Temperature Each Day In The Boxes Below. If Fever Is Greater Than 101°F Call The Following Telephone Number Immediately: () _____

Daily Temp	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28

Instructions: If Symptoms Develop, Mark The Symptoms Started And Call The Telephone Number Listed Above Immediately

Symptoms	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28

NOTES (Record any additional symptoms, observations or questions for the investigator)

Date: _____

Dear: _____,

I am writing in regards to some recent laboratory test results that you should have received. I work with the Local Health Department and as part of my job I provide information and answer questions about certain diseases that are reported to us.* I would like to speak to you about your laboratory tests and provide information to you as well as to obtain some additional information about your results. Everything we receive from you or your healthcare provider is **STRICTLY CONFIDENTIAL**. The purpose for collecting this information is to educate patients and to collect information for public health planning and support our disease prevention activities.

Please contact me at your earliest convenience so that we may discuss this matter further. If your healthcare provider has not yet discussed this with you, I would encourage you to make an appointment or call them as soon as possible.

I look forward to discussing this matter with you and will be happy to answer any questions that you may have regarding this investigation at that time. My telephone number is _____. Thank you in advance for your assistance.

Sincerely,

Investigator Name, Title

Phone #

Address Line 1

Address Line 2

City, State Zip Code

*The Kansas Department of Health and Environment (KDHE) has the authority to define what diseases are of public health importance and to require the reporting of such diseases. Under this authority KDHE has established regulations making certain diseases reportable (K.S.A. 65-118 and K.S.A. 65-128, and amendments thereto). These regulations outline reporting requirements and control measures that apply to both confirmed cases of such diseases and contacts of confirmed cases. Local health departments are required to collect information for the KDHE and implement control measures.

Date: _____

Dr: _____,

I am writing to you in regards to your patient, _____. The Health Department recently received notice that this patient may have been diagnosed with _____, which is a reportable disease under State rules and regulations. The Health Department routinely contacts patients with reportable diseases to gain more information, provide education, and make necessary referrals and support. In order to do this, I would like to speak to you regarding the laboratory results and risk history of this patient.

Please contact me at your earliest convenience so that we may obtain the information required for this report. If it is more convenient for you to fill out the report form on your own and mail or fax it to me, please feel free to do so. I have enclosed a copy of it with this letter. I would also like to remind you that during our investigation we may be contacting your patient directly, it is strongly recommended that you contact your patient to discuss this diagnosis and inform them of our investigation. All of the information that we obtain from either you or your patient is **STRICTLY CONFIDENTIAL**.

I look forward to discussing this matter with you and will be happy to answer any questions that you may have regarding this investigation at that time. My telephone number is _____. Thank you in advance for your assistance.

Sincerely,

Investigator Name, Title
Phone #
Fax #
Address Line 1
Address Line 2
City, State Zip Code

*The Kansas Department of Health and Environment (KDHE) has the authority to define what diseases are of public health importance and to require the reporting of such diseases. Under this authority KDHE has established regulations making certain diseases reportable (K.S.A. 65-118 and K.S.A. 65-128, and amendments thereto). These regulations outline reporting requirements and control measures that apply to both confirmed cases of such diseases and contacts of confirmed cases. Local health departments are required to collect information for the KDHE and implement control measures.

	Public Health Fact Sheet Anthrax
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What is anthrax?

Anthrax is caused by *Bacillus anthracis*, a bacterium that has the ability to form spores. A spore is a cell in a dormant condition but may come to life under the right conditions.

What are the symptoms?

Anthrax may affect several different parts of the body, each having a unique set of symptoms.

- **Cutaneous:** Most anthrax infections occur when the bacteria enter a cut or abrasion on the skin. Skin infection begins as a raised itchy bump that resembles an insect bite but within 1-2 days develops into a vesicle and then a painless ulcer, usually 1-3 cm in diameter, with a characteristic black necrotic or dying area in the center. Lymph glands in the adjacent area may swell. About 20% of untreated cases of cutaneous anthrax will result in death.
- **Inhalation:** Initial symptoms may resemble a cold. After several days, the symptoms may progress to severe breathing problems and shock. Inhalation anthrax usually results in death in 1-2 days after onset of the acute symptoms.
- **Intestinal:** The intestinal disease form of anthrax follows the consumption of contaminated meat and is characterized by an acute inflammation of the intestinal tract. Initial signs of nausea, loss of appetite, vomiting, and/or fever are followed by abdominal pain, vomiting of blood, and severe diarrhea. Intestinal anthrax results in death in 25-60% of cases.

How is anthrax spread?

Anthrax is not known to spread from person-to-person. Infections may occur by handling products from infected animals or by breathing in anthrax spores from infected animal products (e.g., wool). People may also become infected with gastrointestinal anthrax by eating undercooked meat from infected animals. Anthrax may also be used as a weapon. This happened in the United States in 2001. Anthrax was deliberately spread through the postal system by sending letters with powder containing anthrax resulting in 22 cases of anthrax.

Who gets anthrax?

In the United States anthrax is extremely rare; however, anyone can get anthrax if they are exposed to contaminated wool, hides, leather or hair products of infected animals, or if they eat undercooked meat from infected animals. Workers who are exposed to dead animals and animal products from countries where anthrax is more common are at the highest risk. It is more common in South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean and the Middle East. Anthrax in animals rarely occurs in the United States with most

reports of animal infection coming from Texas, Louisiana, Mississippi, Oklahoma and South Dakota.

How is it diagnosed?

Anthrax is diagnosed by isolating *B. anthracis* from the blood, skin lesions, or respiratory secretions or by measuring specific antibodies in the blood of suspected cases.

How is disease anthrax treated?

Doctors can prescribe a variety of antibiotics for anthrax. To be effective, treatment should be started early. If left untreated, the disease can be fatal.

How can you prevent anthrax?

Most people in the United States are at minimal risk for coming into contact with anthrax. There is a vaccine for anthrax. The Advisory Committee for Immunization Practices (ACIP) currently recommends the vaccine for individuals who come in contact in the workplace with imported animal hides, furs, bonemeal, wool, animal hair and bristles; and for individuals engaged in diagnostic or investigational activities which may bring them into contact with anthrax spores. Because anthrax is also considered to be a potential agent for use in biological warfare, the Department of Defense vaccinates all military personnel.

Where can I get more information?

- Your Local Health Department
- Kansas Department of Health and Environment, Epidemiologic Services Section (877) 427-7317
- Your doctor, nurse, or local health center

This fact sheet is for information only and is not intended for self-diagnosis or as a substitute for consultation. If you have any questions about the disease described above or think that you may have an infection, consult with your healthcare provider. This fact sheet is based on the Centers for Disease Control and Prevention's Health and Safety topic fact sheets.

	Public Health Fact Sheet Anthrax, Bioterrorism
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What is a possible bioterrorism incident?

A bioterrorism incident is an event where an infectious agent is used to threaten harm to an individual(s). This may occur when a person receives a letter labeled with the name of a possible bioterrorist agent (e.g., anthrax) or a telephone caller threatens to use such an agent as a weapon. Use or threatened use of any biologic agent as a weapon is a Federal Crime and will be thoroughly investigated by the Police Department and the FBI.

How likely is it that I have actually been exposed to a bioterrorism agent?

All known incidents have turned out to be hoaxes (fakes). However, the Health Department and the Kansas Department of Health and Environment will assure that all necessary steps are taken to evaluate the incident and protect your safety.

What will be done to evaluate this incident?

The Health Department, the Department of Emergency Management, Police, Fire, and Emergency Medical Services will work together with the State Department of Health, the Centers for Disease Control and FBI to evaluate the incident and determine whether you have been exposed to a real biologic agent which could cause disease. Evaluation of the incident will include examining the circumstances of the incident, the suspect material, and the type of exposure that you may have received.

When will I know if I have been exposed to a hazardous biologic agent?

Because different organisms and toxins may be used as bioterrorist agents, the suspect material must be collected for laboratory testing. Test results will be able to identify the presence of hazardous biologic agents or toxins in approximately 24-48 hours. The results will be discussed with you as soon as they are available.

Do I need to decontaminate myself and throw away my clothes and/or belongings?

Emergency Personnel should have already instructed you to wash your hands and any other part of your body that contacted the suspect material with soap and water. Specific recommendations regarding decontamination of clothes and personal effects will vary according to the situation. In some cases, a dilute solution of bleach may be recommended. Unless specifically instructed to do so, you do not need to perform other decontamination procedures or discard your belongings. If necessary, Emergency Personnel will complete the decontamination of the environment in which the suspect material was found.

Do I need any treatment now, such as antibiotics or vaccines?

To date, all previous known incidents have been hoaxes. Should the laboratory tests on the suspect material indicate that you truly have been exposed to a biologic agent, there are medications that you can take to prevent you from becoming ill. Results of the tests will be back in time for you to begin preventive treatment.

Am I a risk to my family? Can I spread anything?

Most of the diseases caused by bioterrorist agents (e.g., anthrax) are not contagious from person to person. Even in the unlikely event that you truly have been exposed you would have to become ill yourself to be able to spread the infection. Results of the laboratory tests on the suspect material will be available in time for you to take antibiotics to prevent you from spreading anything to your family.

What should I do now?

You must complete a Data Collection Form before you leave the site of the incident so you can be contacted with the results of the investigation. After Emergency Personnel authorize you to leave, you may continue your usual activities at work or home. It is not necessary for you to visit a hospital or doctor's office. If you wish to contact your private physician to discuss your possible exposure, please feel free to do so. As a precaution, we recommend that you take your temperature daily to watch for fever.

What should I do if I develop any symptoms before the results of laboratory tests are ready?

If you should develop any symptoms or a fever (greater than 100° F), immediately contact your doctor. You and/or your doctor should also contact the Health Department. Recommendations will then be given to you and your health care provider on how to best evaluate and treat your symptoms, based on the circumstances of this possible exposure incident.

When will it be safe for me to return to the exposure site?

Investigators of the incident will notify the authorities when it is safe to return to the site. If this is a place of work, your supervisor will then contact you when it is safe to return.

Who can my doctor or I contact if we have questions?

- Your Local Health Department.
- Kansas Department of Health and Environment, Epidemiologic Services Section (877) 427-7317.

This fact sheet is for information only and is not intended for self-diagnosis or as a substitute for consultation. If you have any questions about the disease described above or think that you may have an infection, consult with your healthcare provider. This fact sheet is based on the Centers for Disease Control and Prevention's Health and Safety topic fact sheets.