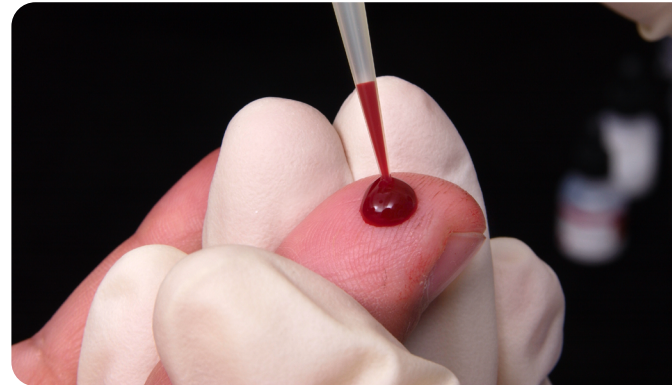


Laboratory Exposure Assessment and Symptom Monitoring Guide

NOVEMBER 2023



Contents

3 About the Exposure Assessment Guide

Introduction	3
Glossary	4
Related Resources	7
Acknowledgments.....	7

8 Overview of Exposure Events & Pathogen Summary

Exposure-related Responsibilities for Laboratory Staff.....	8
Potential Routes of Exposure.....	10
Pathogen Summary Table	11

16 Exposure Event Evaluations

Unknown Pathogen Exposure Event Form.....	16
Multiple Person Exposure Event	18
Anthrax, Woolsorter's Disease (<i>Bacillus anthracis</i>)	19
Blastomycosis (<i>Blastomyces dermatidis</i>).....	23
Brucellosis (<i>Brucella</i> spp.)	26
Glanders (<i>Burkholderia mallei</i>)	29
Melioidosis, Whitmore's Disease (<i>Burkholderia pseudomallei</i>)	32
Psittacosis (<i>Chlamydia psittaci</i>).....	36
Botulism (<i>Clostridium botulinum</i>).....	39
C. diff (<i>Clostridioides difficile</i>).....	42
Coccidioidomycosis, Valley Fever (<i>Coccidioides</i> spp.)	45
Q Fever (<i>Coxiella burnetii</i>).....	48
Eastern Equine Encephalitis (EEE)	51
Ebola Virus Disease.....	54
<i>Escherichia coli</i> (Verotoxigenic)	57
Tularemia (<i>Francisella tularensis</i>)	60
Hantavirus Pulmonary Syndrome	64
Hepatitis B Virus	67
Hepatitis C Virus	70
Human Immunodeficiency Virus (HIV)	73
Tuberculosis (<i>Mycobacterium tuberculosis</i>)	76
Meningitis, Meningococcal Disease (<i>Neisseria meningitidis</i>)	79
Norovirus	82
Rabies Virus.....	85
Salmonellosis (<i>Salmonella</i> spp.)	88
Shigellosis (<i>Shigella</i> spp.).....	91
Prion Diseases (Transmissible Spongiform Encephalopathies)	94
Venezuelan Equine Encephalitis (VEE)	97
Smallpox (Variola).....	100
COVID-19 (SARS-CoV-2).....	103
West Nile Virus (WNV)	106
Plague (<i>Yersinia pestis</i>).....	109

About the Exposure Assessment Guide

Introduction

Purpose

The purpose of this guide is to provide guidance and assistance to evaluate potential laboratory biological exposure events, and to provide resources and information that may be needed for treatment, symptom monitoring and follow up. There are many biological agents that can result in a laboratory associated infection (LAI) when exposure to them occurs. The pathogens chosen to include within this guide were selected by a workgroup from the most commonly documented LAIs from available literature. Use of this guide is meant to supplement or support existing occupational health programs.

Intended Use of Exposure Assessment Guide

1. This guide is intended to be used by those evaluating potential laboratory biological exposure events and/or involved with exposure follow ups.
2. Laboratories must conduct their own site specific biological risk assessments in order to determine the appropriate biosafety level (BSL) and practices needed prior to intended work. Laboratories must also conduct their own site specific biological risk assessments after potential biological exposure events have occurred to help determine any root causes and if any mitigations can be implemented to reduce the likelihood of recurrence. Complete the “Exposure Assessment” form in this guide to make your site specific low, moderate or high risk determination from potential exposure events.
3. Organism risk group information may be obtained by searching the ABSA International (Association for Biosafety and Biosecurity) Risk Group database: my.absa.org/Riskgroups. Organism risk group information can help a laboratory assess the consequences (e.g., low vs. moderate vs. high risks) if an exposure occurs.

Note: Laboratories (Entities) that are registered with the Federal Select Agent Program will have additional requirements, and specifically Tier 1 Select Agent registered labs will be required to have a comprehensive Occupational Health Program which includes medical surveillance as a requirement.

Visit selectagents.gov for more information.

Glossary

Administrative Controls

Changes in work procedures such as written safety policies, work practices, rules, supervision, schedules and training with the goal of reducing the duration, frequency and severity of exposures to hazardous materials or situations.

Aerosolization

The generation of liquid droplets or particles, five microns or less in diameter, that can be inhaled and retained in the lungs.

Antimicrobial

An agent that kills microorganisms or suppresses their growth and multiplication.

Antiseptic

A substance that inhibits the growth and development of microorganisms without necessarily killing them. Antiseptics are usually applied to body surfaces.

Barriers

Any method used to separate workers, the outside community and the environment from hazardous material; includes primary and secondary barriers.

Barriers, Primary

Specialized laboratory equipment with engineering controls designed to protect against exposure to hazardous laboratory materials, including, but not limited to, biologic safety cabinets, chemical fume hoods, enclosed containers, bench shields, animal cages, and engineered sharps injury-protection devices (e.g., safety needles, safety scalpels, and sharps containers).

Barriers, Secondary

Facility design and construction features to include, but not be limited to, directional air flow, entrance airlocks, controlled-access zones, HEPA-filtered exhaust air, facility controls, decontamination equipment, eyewash stations, protective showers, and sinks for hand washing.

Biohazardous Materials

Infectious agents or hazardous biologic materials that present a risk or potential risk to the health of humans, animals, or the environment. The risk can be direct through infection or indirect through damage to the environment. Biohazardous materials include certain types of recombinant DNA, organisms and viruses infectious to humans, animals, or plants (e.g., parasites, viruses, bacteria, fungi, prions, and rickettsia), and biologically active agents (e.g., toxins, allergens, and venoms) that can cause disease in other living organisms or cause significant impact to the environment or community.

Biological Risk Assessment

Process that includes the identification, the probability of occurrence and the severity of a potential adverse effect on human health or the environment associated with a specific use of an infectious agent or material.

Biological Safety Cabinets (BSCs)

BSCs are one type of biocontainment equipment used in biological laboratories to provide personnel, environmental, and product protection. Most BSCs (e.g., Class II and Class III) use high efficiency particulate air (HEPA) filters in both the exhaust and supply system to prevent exposure to biohazards.

BSL-1

Biosafety Level 1 is suitable for work involving well-characterized agents not known to consistently cause disease in immunocompetent adult humans, and present minimal potential hazard to laboratory personnel and the environment.

BSL-2

Biosafety Level 2 builds upon BSL-1. BSL-2 is suitable for work involving agents that pose moderate hazards to personnel and the environment. (Most Sentinel Laboratory facilities fall under the definition of BSL-2).

BSL-3

Biosafety Level 3 is applicable to clinical, diagnostic, teaching, research, or production facilities where work is performed with indigenous or exotic agents that may cause serious or potentially lethal disease through the inhalation route of exposure.

BSL-4

Biosafety Level 4 is required for work with dangerous and exotic agents that pose a high individual risk of aerosol-transmitted laboratory infections and life-threatening disease that is frequently fatal, for which there are no vaccines or treatments, or a related agent with unknown risk of transmission.

Containment

Methods used to shield or protect personnel, the immediate work environment, and the community from exposure to hazardous, radiologic, chemical, or biologic materials.

Decontamination

The removing of chemical, biologic, or radiologic contamination from, or the neutralizing of it on, a person, object, or area. Any process for removing and/or killing microorganisms. The same term is also used for removing or neutralizing hazardous chemicals and radioactive materials.

Disinfectant

A chemical or mixture of chemicals used to kill microorganisms, but not necessarily spores. Disinfectants are usually applied to inanimate surfaces or objects.

Disinfection

A physical or chemical process of reducing or eliminating microorganisms from a surface or space, but not necessarily spores.

Droplet Nuclei

The residue of dried droplets of infectious agents that is easily inhaled and exhaled and can remain suspended in air for relatively long periods or be blown over great distances.

Droplet Spread

The direct transmission of an infectious agent by means of the aerosols produced in sneezing, coughing, or talking that travel only a short distance before falling to the ground.

Engineering Controls

Refers to methods to remove a hazard or place a protective barrier between the worker and the workplace hazard, which usually involves building design elements and specialized equipment.

Exposure

Having come into contact with a cause of, or possessing a characteristic that is a determinant of, a particular health problem. A low exposure risk determination may result in the need for symptom monitoring only whereas a moderate and/or high exposure risk determination may result in the need for providing antibiotic treatment.

Fomite

An inanimate object that can be the vehicle for transmission of an infectious agent (e.g., bedding, towels or surgical instruments).

Hazard

Anything that can cause harm.

High Exposure Risk

Exposure likely occurred, serious illness, or significant impact

Immunocompetent

The capacity to develop a normal immune response following exposure to an antigen.

Immunocompromised

Having the immune system impaired or weakened, either by disease or a medication.

Incident

An unexpected event that causes or has the potential to cause loss, injury, illness, unsafe conditions, or disruptions to normal procedures.

Incubation Period

The time interval from exposure to an infectious agent to the onset of symptoms of an infectious disease.

Infection

Invasion of the body tissues of a host by an infectious agent, whether or not it causes disease.

Infectious Dose (ID)

The minimum number of microorganisms required for an infection to proceed.

Low Exposure Risk

Unlikely to occur, mild illness

Medical Surveillance

Monitoring of a person who might have been exposed to an infectious, chemical, radiologic, or other potentially causal agent, for the purpose of detecting early symptoms.

Mode of Transmission (of Infection)

Any mode or mechanism by which an infectious agent is spread to a susceptible host. Airborne transmission is the transfer of an agent suspended in the air (considered a type of indirect transmission). Direct transmission is the immediate transfer of an agent from a reservoir to a host by direct contact or droplet spread. Indirect transmission is the transfer of an agent from a reservoir to a host either through suspended air particles (airborne), carried by an inanimate objects (vehicleborne or via a "fomite"), or carried by an animate intermediary (vectorborne).

Moderate Exposure Risk

Possible exposure, generally treatable illness

Mitigate

To correct identified deficiencies and to make a hazard less severe. This includes corrective actions taken as a result of an inspection or audit, or after an incident.

Personal Protective Equipment (PPE)

Items worn by laboratory workers to prevent direct exposure to hazardous materials, including gloves, gowns, aprons, coats, containment suits, shoe covers, eye and face shields, respirators, and masks.

Predisposition

Increased likelihood of developing a particular disease based on a person's genetic and/or medical background.

Risk

The probability that an event will occur (e.g., that a person will be affected by, or die from, an illness, injury, or other health condition within a specified time or age span).

Risk Assessment

A process to evaluate the probability and consequences of exposure to a given hazard, with the intent to reduce the risk by establishing the appropriate hazard controls to be used.

Risk Factor

An aspect of personal behavior or lifestyle, an environmental exposure, or a hereditary characteristic that is associated with an increase in the occurrence of a particular disease, injury, or other health condition.

Risk Group 1 (RG1)

Agents that are not associated with disease in healthy adult humans. This group includes a list of animal viral etiologic agents in common use. These agents represent no or little risk to an individual and no or little risk to the community.

Risk Group 2 (RG2)

Agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are often available. These agents represent a moderate risk to an individual but a low risk to the community.

Risk Group 3 (RG3)

Agents that are associated with serious or lethal human disease for which preventive or therapeutic interventions may be available. These agents represent a high risk to an individual but a low risk to the community.

Risk Group 4 (RG4)

Agents that are likely to cause serious or lethal human disease for which preventive or therapeutic interventions are not usually available. These agents represent a high risk to the individual and a high risk to the community.

Routes of Exposure

Paths by which humans or other living organisms come into contact with a biohazard. Common routes of exposure are breathing (inhalation), eating or drinking (ingestion), mucous membrane exposure and parenteral (needlesticks, cuts, non-intact skin).

Sharps

Items capable of cutting or piercing human skin. Examples include hypodermic needles, syringes (with or without attached needles), Pasteur pipettes, scalpel blades, suture needles, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that have been in contact with infectious agents (e.g., used microscope slides and cover slips).

Sterilization

The use of physical or chemical process to completely destroy or eliminate all classes of microorganisms and spores.

Symptom

Any indication of disease noticed or felt by a patient.

Standard Precautions

Guidelines recommended by CDC for reducing the risk for transmission of bloodborne and other pathogens in hospitals, laboratories, and other institutions in which workers are potentially exposed to human blood and body fluids. The precautions are designed to reduce the risk for transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals, laboratories, and other institutions to the workers in these facilities.

Virulence

The ability of an infectious agent to cause severe disease, measured as the proportion of persons with the disease who become severely ill or die.

Zoonosis

An infectious disease that is transmissible from animals to humans.

Related Resources

- [ABSA Risk Group Database](#)
Available from: my.absa.org/Riskgroups
- [ABSA Laboratory Acquired Infection Database](#)
Available from: my.absa.org/LAI
- [APHL Clinical Laboratory Biological Exposure Monitoring Guide](#)
Available from: www.aphl.org/programs/preparedness/Documents/PHPR_Clinical_Laboratory_Biological_Exposure_Monitoring_Guide.pdf
- [ASM: Biological Safety, Principles and Practices, 5th Edition](#)
Available from: www.asmscience.org/content/book/10.1128/9781555819637
- [ASM: Sentinel Clinical Laboratory Guidelines](#)
Available from: www.asm.org/Articles/Policy/Laboratory-Response-Network-LRN-Sentinel-Level-C
- [APHL Biosafety Resources](#)
Available from: www.aphl.org/programs/preparedness/Biosafety-and-Biosecurity/Pages/BB-Resources
- [CDC Biosafety Resources](#)
Available from: www.cdc.gov/labs/strong-lab-safety
- [CDC Laboratory Training Resources](#)
Available from: www.cdc.gov/labtraining/index
- [CDC Biosafety in Microbiological and Biomedical Laboratories](#)
Available from: www.cdc.gov/labs/BMBL
- [Federal Select Biological Agents and Toxins Program \(FSAP\)](#)
Available from: www.selectagents.gov/index
- [FSAP: Select Agent Theft, Loss, Release \(Exposure Reporting, APHIS/CDC Form 3\)](#)
Available from: www.selectagents.gov/form3
- [FSAP: Select Agent Identification \(Notification Reporting, APHIS/CDC Form 4\)](#)
Available from: www.selectagents.gov/form4
- [MMWR: Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories](#)
Available from: www.cdc.gov/mmwr/preview/mmwrhtml/su6101a1
- [NIH: Risk Group Definitions](#)
Available from: www.phe.gov/s3/BioriskManagement/biosafety/Pages/Risk-Groups

Acknowledgments

APHL would like to thank the Sentinel Laboratory Partnerships and Outreach Subcommittee (SLPOS) and the Biosafety and Biosecurity Committee (BBC) for contributing their time and expertise to provide substantial guidance on the development of this resource. Special thanks to the APHL Sentinel Laboratory Training Collaborative Workgroup, the Massachusetts State Public Health Laboratory, Michigan Bureau of Laboratories, Minnesota State Public Health Laboratory, and Oregon State Public Health Laboratory for providing subject matter expertise and contributing to the development of this resource.

This project was 100% financed by federal funds. The total amount of funding received for the Public Health Preparedness and Response Program is \$1,768,631. This project was supported by Cooperative Agreement # NU600E00103 from CDC. Its contents are solely the responsibility of the author and do not necessarily represent the official views of the CDC.

Overview of Exposure Events & Pathogen Summary

Exposure-related Responsibilities for Laboratory Staff

Responsibilities of Employees Before a Biological Exposure

It is the responsibility of laboratory employees to do the following:

1. Follow Standard Precautions and other established institutional laboratory safety practices at all times.
2. Never perform laboratory procedures, manipulate microorganisms, process patient specimens or operate microbiology identification instruments if doing so will increase the risk for an LAI.
3. Know what to do and who to notify immediately if an exposure or suspected exposure has occurred.
4. Be familiar with laboratory infection control manuals and procedures and where they are located.
5. Know the location of first aid kits, eye wash stations and emergency showers, and how to use them.
6. Employees are urged to voluntarily self-declare health issues (immune suppression, pregnancy, immune suppressive drugs, etc.) to the designated medical provider to determine the possibility of an increased LAI risk while performing a particular job. *Note: Employees are advised to report changes in health status, but they cannot be compelled to do so. A provision should be developed and in place regarding how to handle this situation.*
7. Know any unique signs and symptoms of any aerosol-transmitted infectious agent that is routinely isolated and manipulated in the laboratory. Report such symptoms to supervisors if experienced.

Responsibilities of Employers After a Biological Exposure

The likelihood that an exposure will result in an LAI is directly related to several variables, including:

1. Concentration and the amount of the microorganism to which the employee was exposed.
2. Physical form of the microorganism (e.g., broth, colony, lyophilized, aerosol).
3. Innate virulence of the microorganism.
4. Length of time the worker was exposed to the microorganism.
5. Proper use of PPE.
6. Immunocompetency status of the exposed worker.
7. Portal of entry (intact, inflamed, abraded, or cut skin; needle stick; mucous membrane; respiratory route; oral route).
8. Never assume a laboratory injury or exposure is insignificant or unimportant.
9. Employees must be empowered to report all incidents, with the goal of protecting themselves, their colleagues and their families without fear of reprisal. Report all exposures to the supervisor immediately, and discuss the exposure to determine what, if any, actions need to be taken. Actively participate in the documentation of the exposure, and provide pertinent information that will be used in the development of the corrective-action plan.
10. Cooperate fully with the laboratory's approved postexposure processes and follow prudent medical advice.
11. Follow the directions of the supervisor to the degree they are judged to be reasonable.
12. Determine the degree to which these variables (and others if applicable) were involved in the exposure.
13. Make a decision regarding the degree of exposure.

Note: Exposures in laboratories can be mitigated by thorough hand washing, and although some are significant enough to document and take additional actions, all are potentially risky.

14. Agree to an acceptable course of action to prevent or reduce the chances of the employee's developing an LAI.
15. Communication or consultation with the employee's health-care provider may be necessary, depending upon the severity of exposure.
16. Initiate a root cause analysis to determine all facts regarding the exposure, the root causes, and an action plan to correct identified causes. The action plan needs to be developed, implemented, and monitored. Near misses also require an investigation like this if the incidents involving sharps and other potentially infectious materials
17. After an incident, retraining of personnel may be warranted, and procedure manuals may require review to ensure appropriate safety measures are listed.
18. Gather information from personnel who might have witnessed the incident or assisted in the clean-up.
19. Allow employees access to medical services for consultation.

Consultation with Occupational Health Clinicians

The employee and the supervisor of an employee who has experienced a potential exposure are to contact the employee health physician or nurse and discuss the exposure. These clinicians are the persons most likely to provide advice regarding timely chemoprophylaxis and to be able to administer appropriate antimicrobial agents.

Counseling Exposed Person

1. Keep the exposed employee well informed during the post-exposure period as information continues to be gathered and documented.
2. Tell the employee all the findings of the exposure investigation, the supervisor's opinion regarding the extent of exposure, what and when actions are expected to happen, whom he/she should see for medical consultation, where additional information can be found, and which post-exposure prophylaxis is advised and available.
3. Counsel the employee to seek medical advice and treatment for any acute illness that occurs after the exposure and during follow-up. The employee should receive a copy of the initial and final exposure report forms.

Potential Routes of Exposure

The following are examples of activities associated with exposure to infectious agents:*

Routes of Exposure/Transmission	Activities/Practices
Ingestion/Oral	<ul style="list-style-type: none"> • Pipetting by mouth • Splashing infectious material • Placing contaminated material or fingers in mouth • Eating, drinking, using lipstick or lip balm
Percutaneous Inoculation / Non-intact Skin	<ul style="list-style-type: none"> • Manipulating needles and syringes • Handling broken glass and other sharp objects • Using scalpels to cut tissue for specimen processing • Waste disposal (containers with improperly disposed sharps)
Direct Contact with Mucous Membranes	<ul style="list-style-type: none"> • Splashing or spilling infectious material into eye, mouth, nose • Splashing or spilling infectious material onto intact and nonintact skin • Working on contaminated surfaces • Handling contaminated equipment (i.e., instrument maintenance) • Inappropriate use of loops, inoculating needles, or swabs containing specimens or culture material • Bites and scratches from animals and insects • Waste disposal • Manipulation of contact lenses
Inhalation of Aerosols	<ul style="list-style-type: none"> • Manipulating needles, syringes and sharps • Manipulating inoculation needles, loops and pipettes (improper pipetting techniques) • Manipulating specimens and cultures • Spill cleanup • Sniffing culture plates

Note: Laboratories will have their own site specific (bio)safety plans that will address any additionally identified routes of transmission and related policies or restrictions in the lab, such as use of electronic devices, ear buds, etc.

* Source: Sewell DL. Laboratory-associated infections and biosafety. Clin Microbiol Rev 1995;8:389-405

Pathogen Summary Table

Disease (Organism/Agent)	Organism Type	Select Agent*†	Vaccine‡	Exposure Risks / Routes of Transmission‡§	Incubation Period	Symptoms <i>Will depend on mode of transmission</i>	Treatment
Anthrax, Woolsorters disease (cutaneous) <i>Bacillus anthracis</i>	Bacteria	Yes, Tier 1	Yes	Direct and indirect contact of broken skin with cultures and contaminated laboratory surfaces, accidental parenteral inoculation, exposure to infectious aerosols. LD50 is likely 2,500-55,000 for spores and will depend on the route of exposure. <10 spores necessary for cutaneous anthrax infection.	Typically 1–6 days, with a range up to 60 days	<ul style="list-style-type: none"> • Cutaneous: Small blisters or bumps; painless sore with black eschar, swelling around sore. • Inhalational: Fever and chills, chest discomfort, shortness of breath, confusion or dizziness, cough, nausea, vomiting, stomach pains, headache, sweats, extreme tiredness, body aches. • Gastrointestinal: Fever, chills, swelling of neck and neck glands, sore throat, painful swallowing, hoarseness, nausea, bloody vomiting, diarrhea or bloody diarrhea, headache, flushing, red eyes, stomach pain, fainting, abdominal swelling. • Injection Anthrax: Fever, chills, blisters or bumps that may itch, painless skin sore with black eschar, swelling around sore, subdermal or intramuscular abscesses. 	Ciprofloxacin or doxycycline.
Blastomycosis <i>Blastomyces dermatitidis</i>	Fungus	No	No	Accidental parenteral inoculation with infected tissues or cultures of yeast form. Pulmonary infections from inhalation of conidia from mold-form cultures.	3 weeks – 3 months	Flu like symptoms, fever, cough, night sweats, myalgia (muscle pain) and arthralgia (joint pain), weight loss and anorexia, chest pain, fatigue.	Itraconazole (primary cutaneous) or Amphotericin B (pulmonary or disseminated).
Brucellosis, Undulant fever, Mediterranean fever <i>Brucella abortus, B. suis, B. melitensis</i>	Bacteria	Yes, Non-tier 1	No	Ingestion, inhalation, accidental parenteral inoculation or contact with broken skin or mucosa. <i>Brucella</i> spp. have a very low infectious dose and are easily aerosolized. Direct exposure to samples or cultures (outside containment). ID is 10-100 organisms by aerosol or subcutaneous exposure.	5 days – 5 months	<ul style="list-style-type: none"> • Initial Symptoms: fever, sweats, malaise, anorexia, headache, pain in muscles, joint, and/or back, fatigue. • Chronic Symptoms: recurrent fevers, arthritis, swelling of the testicle and scrotum area, swelling of the heart (endocarditis), neurologic symptoms (in up to 5% of all cases), chronic fatigue, depression, swelling of the liver and/or spleen. 	<p>Doxycycline, rifampin, trimethoprim-sulfamethoxazole, fluoroquinolones, aminoglycosides, and other agents have been used in various combinations for a minimum of 6–8 weeks.</p> <p>If bacteria localize in organs and tissues and cause focal infection, surgical drainage could be indicated.</p> <p>Note: RB51 strain is resistant to rifampin.</p>

* Any potential exposure to a select agent is required to have a CDC/APHIS Form 3 completed and submitted (www.selectagents.gov/forms/form3.htm).

† All identified select agents are required to have a CDC/APHIS Form 4 completed (www.selectagents.gov/form4.htm).

‡ Immunization of employees in general, and these special situations in particular, is most effectively addressed in institutional employee health or infection control policies. Consult CDC's Vaccines website for information and updated immunization recommendations (<http://www.cdc.gov/vaccines>). Employers are to make laboratorians aware of the existence and availability of all vaccines. Laboratories (Entities) that are registered with the Federal CDC Select Agent Program will have additional requirements, and specifically Tier 1 registered labs will be required to have a comprehensive Occupational Health Program which includes medical surveillance as a requirement. Learn more at www.selectagents.gov.

§ Laboratories must conduct their own site specific biological risk assessments in order to determine the biosafety level and practices needed prior to intended work. Laboratories may have some variability for organism specific biosafety level practices based on their own comprehensive risk assessments. Search for organism risk group information in the ABSA Risk Group Database at my.absa.org/Riskgroups. Organism risk group information can help a laboratory assess the consequences if an exposure occurs.

Disease (Organism/Agent)	Organism Type	Select Agent [†]	Vaccine [‡]	Exposure Risks / Routes of Transmission ^{‡§}	Incubation Period	Symptoms <i>Will depend on mode of transmission</i>	Treatment
Glanders <i>Burkholderia mallei</i>	Bacteria	Yes Non-tier 1	No	Ingestion, inhalation, accidental parenteral inoculation, and contact with broken skin or mucosa with cultures and infected tissues, purulent drainage, blood and sputum. There is increased risk for individuals with diabetes.	1–14 days	Fever with chills and sweating, muscle aches, chest pain, muscle tightness, headache, nasal discharge, light sensitivity (sometimes with excessive tearing of the eyes), ulceration at the site of localized infection, lymphadenopathy, abscess formation.	Ciproflox or doxycycline. Recommended to verify treatment options prior to administration.
Melioidosis, Whitmore disease <i>Burkholderia pseudomallei</i>	Bacteria	Yes Non-tier 1	No	Ingestion, inhalation, inoculation, and direct contact via skin abrasions and mucous membranes.	1 day – years	<ul style="list-style-type: none"> • Localized: Localized pain or swelling, fever, ulceration, abscess. • Pulmonary: Cough, chest pain, high fever, headache, anorexia. • Bloodstream: Fever, headache, respiratory distress, abdominal discomfort, joint pain, disorientation. • Disseminated: Fever, weight loss, stomach or chest pain, muscle or joint pain, headache, seizures. 	Intravenous: <ul style="list-style-type: none"> • Ceftazidime every 6–8 hours, <i>or</i> • Meropenem every 8 hours. Oral therapy: <ul style="list-style-type: none"> • Trimethoprim-sulfamethoxazole every 12 hours, <i>or</i> • Amoxicillin/clavulanic acid (co-amoxiclav) every 8 hours. Recommended to verify treatment options prior to administration.
Psittacosis <i>Chlamydia psittacosis</i>	Bacteria	No	No	Infectious aerosols in the handling, care or necropsy of naturally or experimentally infected birds, mice and eggs.	5–14 days	Abrupt onset of fever and chills, headache, muscle aches, nonproductive cough, splenomegaly, rash.	Tetracyclines.
Botulism <i>Clostridium botulinum</i>	Bacteria	Yes Non-tier 1	Yes	Exposure to toxin, and especially associated with activities that have high potential for aerosol or droplet formation. 0.7–0.9 µg of inhaled aerosolized toxin is likely enough to kill a 70kg person.	6 hours – 10 days	Double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, difficulty breathing, thick-feeling tongue, dry mouth, muscle weakness.	Bivalent AB botulism antitoxin, ABE trivalent antitoxin or antitoxin F.
Coccidiomycosis <i>Coccidioides immitis</i> , <i>C. posadasii</i>	Fungus	No	No	Inhalation of spores. Rarely, contact with broken skin can cause cutaneous infection.	1–3 weeks	Fatigue, cough, fever, shortness of breath, headache, night sweats, muscle aches or pains, rash on upper body or legs.	Most uncomplicated infections self-resolve. Antifungal treatment with fluconazole or Amphotericin B is required for disseminated coccidiomycosis or in patients who are immunocompromised. Evidence suggests that individuals of african-american or filipino ethnicity are at risk for severe or disseminated coccidiomycosis.

Disease (Organism/Agent)	Organism Type	Select Agent [†]	Vaccine [‡]	Exposure Risks / Routes of Transmission ^{‡§}	Incubation Period	Symptoms <i>Will depend on mode of transmission</i>	Treatment
Q Fever <i>Coxiella burnetii</i>	Bacteria	Yes Non-tier 1	Not commercially available in US; only through specialized immunization programs.	<ul style="list-style-type: none"> Inhalation of infectious aerosols. Accidental parenteral inoculation. Exposure to experimentally or naturally infected animals, their tissues or body fluids. Infectious dose by inhalation is 10 organisms.	9–39 days (Red Book) 2–3 weeks (MMWR-Q Fever, 2013)	Acute: Fever, chills, myalgia, arthralgia, headache, pneumonia, hepatitis.	Adults: Doxycycline 100 mg twice a day for 14 days. Pregnant Women: Trimethoprim/sulfamethoxazole: 160 mg/800 mg twice a day throughout pregnancy but not beyond 32 weeks' gestation due to risk for hyperbilirubinemia (MMWR Q Fever, 2013).
Encephalitis, EEE <i>Eastern Equine Encephalitis virus</i>	Virus	Yes [¶] Non-tier 1	No	<ul style="list-style-type: none"> Inhalation of infectious aerosols, accidental parenteral inoculation. Exposure to infected animals and mosquitoes in the lab. 	1–10 days	Sudden onset of headache, high fever, chills, and vomiting; severe cases may progress to disorientation, seizures or coma.	Supportive therapy (no known treatment).
Ebola Virus Disease <i>Ebola Virus</i>	Virus	Yes Tier 1	No	Direct contact of infectious material with mucous membranes, accidental parenteral inoculation.	2–21 days	Fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal pain, unexplained hemorrhage.	Supportive therapy including oxygen and fluids (no known treatment).
VTEC Disease <i>Verotoxigenic Escherichia coli, Shigatoxigenic</i>	Bacteria	No	No	Accidental ingestion. Low infectious dose (10-100 organisms).	1–10 days	Severe stomach cramps, diarrhea (often bloody), vomiting, fever, hemolytic-uremic syndrome.	Supportive therapy (hydration).
Tularemia, Rabbit Fever, Deer Tick Fever <i>Francisella tularensis</i>	Bacteria	Yes Tier 1	No	Direct contact with infectious material on mucous membranes, accidental parenteral inoculation, ingestion, exposure via aerosols.	1–14 days; typically within 3–5 days	Symptoms depend on route of entry, all forms include fever (can be high). <ul style="list-style-type: none"> Pneumonic: Cough, chest pain, difficulty breathing. Oropharyngeal: Sore throat, mouth ulcers, tonsillitis, swollen lymph nodes. Glandular & Ulceroglandular: Skin ulcers and regional lymph node swelling. Oculoglandular: Inflammation of eye and lymph node near ear. Typhoidal: No localizing symptoms. 	Adults: Doxycycline 100 mg orally twice a day for 14 days. Ciprofloxacin (500 mg orally BID) is not FDA-approved for prophylaxis of tularemia but has demonstrated efficacy in various studies, and may be an alternative for patients unable to take doxycycline.
Hantavirus Pulmonary Syndrome <i>Hanta Virus</i>	Virus	No	No	Direct contact with infectious material with mucous membranes, accidental parenteral inoculation, ingestion, exposure via aerosols and animal bites in the lab.	1–8 weeks	Fatigue, fever, muscle aches, headaches, may also have: dizziness, chills, abdominal pain, nausea, vomiting, diarrhea. Acute respiratory distress syndrome (ARDS) can develop 4-10 days later.	Supportive therapy including oxygen.
Hepatitis B, HBV <i>Hepatitis B virus</i>	Virus	No	Yes	Parenteral inoculation, droplet exposure of mucous membranes, contact exposure with broken skin.	60–150 days	Fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, jaundice, joint pain, clay-colored bowel movements.	<ul style="list-style-type: none"> Acute: supportive care. Chronic: antiviral medication.

¶ Low pathogenic strain of South American genotype of eastern equine encephalitis virus exempt from select agent regulations.

Disease (Organism/Agent)	Organism Type	Select Agent [†]	Vaccine [‡]	Exposure Risks / Routes of Transmission ^{‡§}	Incubation Period	Symptoms <i>Will depend on mode of transmission</i>	Treatment
HIV/AIDS <i>Human Immunodeficiency Virus</i>	Virus	No	No	Parenteral inoculation, droplet exposure of mucous membranes, contact exposure with broken skin.	HIV: symptoms may appear within 2–4 weeks AIDS: can take up to 10 years	Flu-like illness, fatigue, swollen lymph glands, sore throat.	Antiretroviral therapy.
Tuberculosis <i>Mycobacteria tuberculosis</i>	Bacteria	No	Attenuated live Bacillus Calmette-Guerin used in foreign countries, but not recommended in US	<ul style="list-style-type: none"> Laboratory-generated aerosols. Accidental needle sticks. Note: <i>Mycobacterium bovis</i> , <i>M. africanum</i> , and <i>M. microti</i> can also cause disease in humans.	4–6 weeks	Pulmonary: Cough, fever, fatigue, night sweats, weight loss.	<ul style="list-style-type: none"> Intensive Phase: 2 months of daily isoniazid (INH), rifampin (RIF), pyrazinamide and ethambutol. Continuation Phase: 4 months of daily INH and RIF.
Meningococcal Disease, Meningitis <i>Neisseria meningitidis</i>	Bacteria	No	Yes	<ul style="list-style-type: none"> Manipulating suspensions or isolates outside a BSC. Parental inoculation, droplet exposure to mucus membranes, infectious aerosol and ingestion are primary hazards. Note: Sterile site isolates are considered greater risk.	2–10 days, typically 3–4 days	Sudden onset of fever, intense headache, nausea, vomiting, stiff neck and photophobia. Petechial rash with pink macules or vesicles may occur.	Ceftriaxone and penicillin.
Salmonellosis <i>Salmonella spp.</i>	Bacteria	No	Typhoid vaccine recommended for some travel	Manipulating suspensions or isolates which can create aerosols or splash potential.	6–72 hours	Gastroenteritis with nausea, vomiting, abdominal cramps, diarrhea, fever, chills, headache possible blood in the stool.	Anti-diarrheals, replacement fluids and electrolytes. Antibiotics may be used for complicated or blood stream infections.
Shigellosis <i>Shigella spp.</i>	Bacteria	No	No	Manipulating suspensions or isolates which can create aerosols or splash potential (ID is 10-200 organisms).	1–7 days	Watery diarrhea, abdominal cramping, nausea, vomiting, fever, and blood or mucus in the stool.	Arithromycin, ciprofloxacin, sulfamethoxazole/trimethoprim.

Disease (Organism/Agent)	Organism Type	Select Agent ^{††}	Vaccine [‡]	Exposure Risks / Routes of Transmission ^{‡§}	Incubation Period	Symptoms <i>Will depend on mode of transmission</i>	Treatment
Creutzfeldt-Jakob Disease Transmissible Spongiform Encephalopathies (TSE)	Prion	No	No	<p>The highest risk with high infectivity to tissues is needle sticks with direct inoculation. Any direct inoculation of high or low infectivity tissues should be avoided. Mucus membrane exposure and ingestion are hypothetical risks. No known cases of human TSE have occurred through occupational accident or injury.</p> <ul style="list-style-type: none"> • High infectivity specimens: brain or other central nervous system tissues. • Lower infectivity specimens: lymphoid tissues including spleen, lymph nodes, gut, bone marrow and blood. <p>WHO recommends that blood and other bodily fluids, except for CSF, should not be considered infectious and require no special precautions.</p>	Unknown	Progressive mental deterioration that soon becomes associated with progressive unsteadiness and clumsiness, visual deterioration, muscle twitching (myoclonus), a variety of other neurological symptoms and signs, and is often associated with a characteristic periodic electroencephalogram.	None.
Smallpox, Variola Major Virus (Smallpox), Variola Minor Virus (Alastrim) Variola Virus	Virus	Yes Tier 1	Yes	<p>Mucus membranes, broken skin, ingestion, parenteral inoculation of droplet or fine-particle aerosol inhalation.</p> <p>Note: Currently eradicated globally.</p>	7–17 days	Becomes associated with progressive unsteadiness and clumsiness, visual deterioration.	<ul style="list-style-type: none"> • Control of fever and prevention of dehydration and good wound care • Antibiotic treatment of secondary infection caused by bacteria.
Venezuelan Equine Encephalitis, Encephalomyelitis VEE Venezuelan Equine Encephalitis Virus	Virus	Yes** Non-tier 1	No	<ul style="list-style-type: none"> • Exposure to laboratory-generated aerosols. • Accidental needle sticks. 	1–6 days	Muscle twitching (myoclonus), a variety of other neurological symptoms and signs.	Supportive care, no antiviral treatment.
Plague (Bubonic Plague, Black Death) Yersinia pestis	Bacteria	Yes Tier 1	No	<ul style="list-style-type: none"> • Direct contact with cultures and infectious materials, and inhalation of infectious aerosols or droplets. • Accidental autoinoculation, ingestion. 	1–7 days 1–4 days for primary pneumonic plague	Often associated with a characteristic periodic electroencephalogram.	Streptomycin, gentamicin, levofloxacin, ciprofloxacin, doxycycline, moxifloxacin, chloramphenicol.

** Any subtypes of VEE except for Subtypes IAB or IC may be select agent exempt, provided the entity can verify the agent is within the exclusion category.

Exposure Event Evaluations

Unknown Pathogen Exposure Event Form

Exposure Event Summary

Date of Exposure: _____ Exposure Location(s): _____

Multiple people exposed? No Yes. Complete this form for each person to determine individual exposure risk.

Name/Identifier of Person Exposed: _____

Individual's Predispositions: Pregnant Immunocompromised Other: _____

Interactions with Pathogen

Individual worked with organism: Within BSC Outside BSC Did not work directly with organism

Individual did not work with organism, but was: Within five feet More than five feet away Unsure

Individual wore: Gloves Lab coat/gown Safety glasses Face shield Respirator (e.g., N95, PAPR)

Individual performed the following activities or types of manipulation with the organism:

Removed caps or swabs from culture containers, opened lyophilized cultures or cryotubes

Manipulated needles, syringes or sharps (scratch, puncture, cuts)

Aspirated/transferred body fluids

Vortex ††

Centrifuge setup or run

Sonication ††

Harvested tissue

Handled broken/leaky specimen or container

Blood culture bottle inoculation

Inoculation of media

Mixed, blended, ground or shook

Spilled infectious material

Cleaned up spill

Flamed a loop

Wet preps

Rapid antigen testing

Blood culture bottle subculture

Withdrew needles from stopper

Expelled air from tubes or bottles

Expelled last drop from a pipette

Separated needles from syringes

Prepared smears

Heat fixation

Stained slides

Gram stain

Opened a culture plate (even without manipulating culture) ††

Examined growth on media

Sniffed plate

Catalase test ††

Oxidase test

Slide agglutination

Urease test

Subculture isolate

Cooled loop in culture media

Liquid suspension preparation (e.g., pouring, splitting, decanting)

Spilled media with culture ††

Splashed media with culture ††

Filtered specimens under vacuum

Used automated system

Prepared isolate(s) for automated identification or susceptibility testing

Spotted for MALDI-TOF

Applied matrix for MALDI-TOF

Loaded plate in MALDI-TOF

Antimicrobial resistance testing

Threw contaminated items into biohazardous waste

Serology testing

Improper PPE doffing

Other: _____

Other: _____

Describe any additional precautions or engineering equipment used (e.g., splash guard):

†† Classified as an aerosol generating procedure (Note: centrifuging is considered an aerosol-generating event when performed without a sealed carrier).

‡‡ May require further investigation or case by case evaluation. Aerosols can be generated from most routine laboratory procedures but often are undetectable. The above procedures have previously been associated with the generation of infectious aerosols, however, your facility may have additional procedures to consider. Any procedure that imparts energy to a microbial suspension can produce infectious aerosols. Organism risk group information may be obtained by searching the [ABSA International Risk Group database](#). Organism risk group information can help a laboratory assess the consequences (e.g., low vs. moderate vs. high risks) if an exposure occurs to it.

Exposure Event Follow-up

Treatment and Monitoring

Post Exposure Prophylaxis (PEP):	Will begin	Declined	N/A
Serological Monitoring:	Will begin	Declined	N/A
Fever Watch:	Yes	No	N/A
Other Notes:			

Corrective Actions and Mitigations

Use the risk assessment determinations above to evaluate the overall risk of exposure according to the likelihood of occurrence and severity of consequences.

What needed correction/improvement?

What was done?

Date Completed: _____

Other Notes

Overall Risk Assessment

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Multiple Person Exposure Event

Use this form when there may be more than one person exposed in relation to a shared event.

Potentially Exposed Persons (Name or other identifier)	Exposure Date	Exposure Location	Pathogen Exposed To	Determined Exposure Risk	Post Exposure Prophylaxis and/or Treatment

Anthrax, Woolsorter's Disease (*Bacillus anthracis*)

About *Bacillus anthracis* Infection

Common Route/Mode of Transmission

Natural Environment

Anyone who has come into contact with anthrax spores could be at risk of getting sick. This can happen when people breathe in spores, eat food or drink water that is contaminated with spores, or get spores in a cut or scrape in the skin. Anthrax can be found naturally in soil and commonly affects domestic and wild animals around the world. Workers may be exposed to *B. anthracis* if they work with infected animals or contaminated animal products or in environments contaminated by these products. Workers at risk include farmers, veterinarians, livestock handlers, diagnostic laboratory workers, and those who work with animal products.

Laboratory Setting

Ingestion, inhalation, inoculation and direct contact via skin abrasions and mucous membranes. Direct and indirect contact of broken skin with cultures and contaminated laboratory surfaces, accidental parenteral inoculation, exposure to infectious aerosols. LD50 is likely 2,500-55,000 for spores and will depend on the route of exposure. <10 spores necessary for cutaneous anthrax infection.

Typical Incubation Period

Spores typically take one to six (1-6) days to be activated, but some spores can remain inside the body and take up to 60 days or more before they are activated. Cutaneous infection usually develops from one to seven (1-7) days after exposure. Inhalation infection usually develops within a week after exposure, but it can take up to two (2) months. Gastrointestinal infection usually develops from one to seven (1-7) days after exposure.

Prevention & Treatment

Vaccine

Anthrax Vaccine Adsorbed (AVA) protects against anthrax. It does not contain any anthrax bacteria and cannot give people anthrax. The anthrax vaccine is currently provided only to people who are at an increased risk of coming in contact with anthrax spores, such as members of the US military, certain laboratory workers and some people who handle animals or animal products (e.g., farmers, veterinarians and livestock handlers). The vaccine is not licensed for use in children under age 18, adults over age 65, or pregnant and nursing women. It is not typically available to the general public. The vaccine is approved by the Food and Drug Administration (FDA) for two different situations: (1) routine occupational use (before possible exposure) and (2) post-event emergency use (after possible exposure).

Treatment

Ciprofloxacin or doxycycline. Patients with serious cases of anthrax will need to be hospitalized. They may require aggressive treatment, such as continuous fluid drainage and help breathing through mechanical ventilation. All types of anthrax infection can be treated with antibiotics, including intravenous antibiotics. If someone has symptoms of anthrax, it's important to get medical care as quickly as possible to have the best chances of a full recovery.

After anthrax toxins have been released in the body, one possible treatment is antitoxin. Antitoxin should be used together with other treatment options. Currently, there are a few types of antitoxins that can be used for treating anthrax. Antibiotics can prevent anthrax from developing in people who have been exposed but have not developed symptoms. Ciprofloxacin and doxycycline could be used to prevent anthrax and each offers the same protection against anthrax.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Learn more at
[cdc.gov/anthrax](https://www.cdc.gov/anthrax)

Pathogenicity

Cutaneous Anthrax

- Without treatment: 80% survival rate
- With proper treatment: almost 100% survival rate

Inhalation Anthrax

- Without treatment: 10–15% survival rate
- With aggressive treatment: about 55% survival rate

Gastrointestinal Anthrax

- Without treatment: less than 50% survival rate
- With proper treatment: 60% survival rate

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Cutaneous Anthrax

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Group of small blisters/bumps, may itch								
Painless skin sore (ulcer) with black center Appears after the small blisters or bumps. Most often on the face, neck, arms or hands.								
Swelling can occur around the sore								
Other:								

Inhalation

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever and chills								
Chest discomfort								
Shortness of breath								
Confusion or dizziness								
Cough								
Nausea, vomiting or stomach pains								
Headache								
Sweats (often drenching)								
Extreme tiredness								
Body aches								
Other:								

Gastrointestinal

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever and chills								
Swelling of neck or neck glands								
Sore throat								
Painful swallowing								
Hoarseness								
Nausea and vomiting, especially bloody vomiting								
Diarrhea or bloody diarrhea								
Headache								
Flushing (red face) and red eyes								
Stomach pain								
Fainting								
Swelling of abdomen (stomach)								
Other:								

Symptom Notes

Additional Notes

Cutaneous anthrax is the most common form of anthrax infection, and it is also considered to be the least dangerous. Inhalation anthrax is considered to be the most deadly form of anthrax. Anthrax is not contagious.

Injection anthrax is another form, commonly encountered by intravenous drug use. Injection anthrax symptoms are similar to those of cutaneous anthrax, but injection anthrax can spread throughout the body faster and be harder to recognize and treat than cutaneous anthrax. Skin and injection site infections associated with injection drug use are common and do not necessarily mean the person has anthrax.

Recommendations for protecting workers are available from CDC's [National Institute for Occupational Safety and Health \(NIOSH\)](#). This guidance covers the use of respirators, protective clothing and the anthrax vaccine.

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Blastomycosis (*Blastomyces dermatidis*)

About *Blastomyces dermatidis* Infection

Common Route/Mode of Transmission

Natural Environment

Environmental fungus; can be found in moist soil and decomposing organic matter (e.g., wood and leaves). Infection can occur after breathing in spores. Asymptomatic in approximately 50% of cases. Typically acquired via inhalation of airborne conidia. Primary cutaneous blastomycosis is uncommon but can result from traumatic inoculation.

Laboratory Setting

Blastomycosis is typically acquired via inhalation of airborne conidia. Primary cutaneous blastomycosis is uncommon but can result from traumatic inoculation. Accidental parenteral inoculation with infected tissues or cultures of yeast form. Pulmonary infections from inhalation of conidia from mold-form cultures.

Typical Incubation Period

[Symptoms](#) usually appear between three (3) weeks and three (3) months after breathing in spores. In some people, particularly those with a weakened immune system, blastomycosis can spread from the lungs to other parts of the body, such as the skin, bones and joints, and the central nervous system (brain and spinal cord).

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Amphotericin B is recommended for moderate to severe disease, central nervous system disease, immunosuppressed patients, or pregnant patients. Itraconazole is recommended for mild to moderate disease and step-down therapy. For more detailed treatment guidelines, refer to the Infectious Diseases Society of America's Clinical Practice Guidelines for the Management of Blastomycosis. Itraconazole (primary cutaneous) or Amphotericin B (pulmonary or disseminated).

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Learn more at
cdc.gov/fungal/diseases/blastomycosis

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Note: Acute pulmonary blastomycosis can progress to acute respiratory distress syndrome (ARDS). Approximately 25 to 40% of symptomatic cases will develop extrapulmonary infection, which typically manifests as cutaneous, osteoarticular, genitourinary or central nervous system disease.

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Flu like symptoms								
Fever								
Cough								
Night sweats								
Myalgias (muscle pain)								
Arthalgias (joint pain)								
Anorexia								
Weight loss								
Chest pain								
Fatigue (extreme tiredness)								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Brucellosis (*Brucella* spp.)

Learn more at
cdc.gov/brucellosis

About *Brucella* Infection

Common Route/Mode of Transmission

Natural Environment

The most common way to be infected is by consuming unpasteurized/raw dairy products from infected animals, such as sheep, goats, cows or camels who may produce contaminated milk.

Laboratory Setting

Inhalation. Bacteria can also enter wounds in the skin or mucous membranes through contact with infected animals or infectious material. Exposures have included needle sticks, eye and wound splashes, and contact with infected material. Ingestion, inhalation, accidental parenteral inoculation or contact with broken skin or mucosa. *Brucella* spp. have a very low infectious dose and are easily aerosolized. Direct exposure to samples or cultures (outside containment). ID is 10-100 organisms by aerosol or subcutaneous exposure.

Typical Incubation Period

Brucellosis can cause a range of signs and symptoms, some of which may present for prolonged periods of time. Some signs and symptoms may persist for longer periods of time. Others may never go away or reoccur.

Prevention & Treatment

Vaccine

Human vaccine not currently available, though vaccines do exist for livestock; be aware that some can cause infection in humans.

B. abortus RB51 is a strain of *Brucella* developed specifically for immunization of cattle against brucellosis to allow serological differentiation between naturally infected and vaccinated animals. Other vaccines, such as *B. abortus* S19 for cattle and *B. melitensis* Rev-1 for sheep and goats, can also cause infection in humans. Accidental human exposure to RB51, though uncommon, has resulted in development of symptoms consistent with brucellosis. S19 and Rev-1 exposures should follow the same assessment guidance as for RB51. Serological monitoring is available for S19 and Rev-1 exposures.

Treatment

Generally, the antibiotics doxycycline and rifampin are recommended in combination for a minimum of 6-8 weeks. Persons should inform the treating physician if pregnant, allergic to doxycycline or rifampin, suffer from a reduced or absent immune response (immunosuppressed). Doxycycline, rifampin, trimethoprim-sulfamethoxazole, fluoroquinolones, aminoglycosides and other agents have been used in various combinations for a minimum of six to eight (6-8) weeks. If bacteria localize in organs and tissues and cause focal infection, surgical drainage could be indicated.

Note: RB51 strain is resistant to rifampin.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#) and their [Brucellosis Reference Guide: Exposures, Testing, and Prevention](#).

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms may occur anytime from five (5) days to five (5) months after initial exposure to *Brucella*; symptoms may also disappear for weeks or months only to return at a later date.

All Initial Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Sweats								
Malaise								
Anorexia								
Headache								
Pain in muscles, joint and/or back								
Fatigue								
Other:								

Persistent or Prolonged Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Recurrent fevers								
Arthritis								
Swelling of the testicles and scrotum area								
Swelling of the heart (endocarditis)								
Neurological symptoms (Occur in up to 5% of cases)								
Chronic fatigue								
Depression								
Swelling of the liver and/or spleen								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Glanders (*Burkholderia mallei*)

Learn more at
cdc.gov/glanders

About *B. mallei* Infection

Common Route/Mode of Transmission

Cases of human-to-human transmission of *B. mallei* have not been reported in the US. There is increased risk for individuals with diabetes.

Natural Environment

Contact with tissues or body fluids of infected animals. The bacteria enter the body through cuts or abrasions in the skin and through mucosal surfaces such as the eyes and nose. It may also be inhaled via infected aerosols or dust contaminated by infected animals.

Laboratory Setting

The bacteria that cause glanders are transmitted to humans through contact with tissues or body fluids of infected animals; sporadic cases have been documented in veterinarians, horse caretakers and laboratorians. The bacteria enter the body through cuts or abrasions in the skin and through mucosal surfaces such as the eyes and nose. It may also be inhaled via infected aerosols or dust contaminated by infected animals. Ingestion, inhalation, accidental parenteral inoculation, and contact with broken skin or mucosa with cultures and infected tissues, purulent drainage, blood and sputum.

Typical Incubation Period

Will vary depending on route of exposure. Localized infections may develop within one to five (1-5) days.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Tetracyclines, Ciprofloxacin, Streptomycin, Novobiocin, Gentamicin, Imipenem, Ceftrazidime, Sulfonamides. Ciproflox or doxycycline. Recommended to verify treatment options prior to administration.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Resources

- [Workshop on Treatment of and Postexposure Prophylaxis for *Burkholderia pseudomallei* and *B. mallei* Infection](#)
Lipsitz, R., Garges, S., Aurigemma, R., Baccam, P., Blaney, D. D., Cheng, A. C., Currie, B. J., Dance, D., Gee, J. E., Larsen, J., Limmathurotsakul, D., Morrow, M. G., Norton, R., O'Mara, E., Peacock, S. J., Pesik, N., Rogers, L. P., Schweizer, H. P., Steinmetz, I., Tan, G., ... Smith, T. L. (2012). Workshop on treatment of and postexposure prophylaxis for *Burkholderia pseudomallei* and *B. mallei* infection, 2010. *Emerging Infectious Diseases*, 18(12), e2. doi.org/10.3201/eid1812.120638
- [B. mallei \(Glanders\) and B. pseudomallei \(Melioidosis\) Fact Sheet](#)
Johns Hopkins University Center Health Security (2011). Available from: centerforhealthsecurity.org/sites/default/files/2023-02/glandersmelioidosis.pdf
- [Management of Accidental Laboratory Exposure to *Burkholderia pseudomallei* and *B. mallei*](#)
Peacock, S. J., Schweizer, H. P., Dance, D. A., Smith, T. L., Gee, J. E., Wuthiekanun, V., DeShazer, D., Steinmetz, I., Tan, P., & Currie, B. J. (2008). Management of accidental laboratory exposure to *Burkholderia pseudomallei* and *B. mallei*. *Emerging Infectious Diseases*, 14(7), e2. doi.org/10.3201/eid1407.071501

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Persons with diabetes are at increased risk. Symptoms will vary depending on route of infection.

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever with chills and sweating								
Muscle aches								
Chest pain								
Muscle tightness								
Headache								
Nasal discharge								
Light sensitivity Sometimes with excessive tearing of eyes								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Melioidosis, Whitmore's Disease (*Burkholderia pseudomallei*)

About *B. pseudomallei* Infection

Learn more at
cdc.gov/melioidosis

Common Route/Mode of Transmission

Natural Environment

The most common route of infection with melioidosis is through direct contact with contaminated soil and water, especially through open wounds on the skin. Humans and animals can also acquire the infection by inhaling dust particles or water droplets or ingesting water that is contaminated. Melioidosis occurs in the tropics, especially in South East Asia, where it is endemic.

Laboratory Setting

Ingestion, inhalation, inoculation and direct contact via skin abrasions and mucous membranes.

Typical Incubation Period

The time between an exposure to the bacteria that causes the disease and the emergence of symptoms is not clearly defined, but may range from one day to many years; generally symptoms appear two to four weeks after exposure.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Intravenous Ceftazidime administered every six to eight (6-8) hours, or Meropenem administered every eight (8) hours.

If oral therapy only, Trimethoprim-sulfamethoxazole taken every 12 hours, or Amoxicillin/clavulanic acid (co-amoxiclav) taken every eight (8) hours. Recommended to verify treatment options prior to administration.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Resources

- [Workshop on Treatment of and Postexposure Prophylaxis for *B. pseudomallei* and *B. mallei* Infection](#)
Lipsitz, R., Garges, S., Aurigemma, R., Baccam, P., Blaney, D. D., Cheng, A. C., Currie, B. J., Dance, D., Gee, J. E., Larsen, J., Limmathurotsakul, D., Morrow, M. G., Norton, R., O'Mara, E., Peacock, S. J., Pesik, N., Rogers, L. P., Schweizer, H. P., Steinmetz, I., Tan, G., ... Smith, T. L. (2012). Workshop on treatment of and postexposure prophylaxis for *Burkholderia pseudomallei* and *B. mallei* infection, 2010. *Emerging Infectious Diseases*, 18(12), e2. doi.org/10.3201/eid1812.120638
- [B. mallei \(Glanders\) and B. pseudomallei \(Melioidosis\) Fact Sheet](#)
Johns Hopkins University Center Health Security (2011). Available from: centerforhealthsecurity.org/sites/default/files/2023-02/glandersmeloidosis.pdf
- [Management of Accidental Laboratory Exposure to *B. pseudomallei* and *B. mallei*](#)
Peacock, S. J., Schweizer, H. P., Dance, D. A., Smith, T. L., Gee, J. E., Wuthiekanun, V., DeShazer, D., Steinmetz, I., Tan, P., & Currie, B. J. (2008). Management of accidental laboratory exposure to *Burkholderia pseudomallei* and *B. mallei*. *Emerging Infectious Diseases*, 14(7), e2. doi.org/10.3201/eid1407.071501

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

There are several types of melioidosis infection, each with their own set of symptoms. However, it is important to note that melioidosis has a wide range of signs and symptoms that can be mistaken for other diseases such as tuberculosis or more common forms of pneumonia.

Major risk factors include: diabetes, liver disease, renal disease, thalassemia, cancer or another immune-suppressing condition not related to HIV, chronic lung disease (e.g., cystic fibrosis, chronic obstructive pulmonary disease) and bronchiectasis.

Localized Infection

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Localized pain or swelling								
Fever								
Ulceration								
Abscess								
Other:								

Pulmonary Infection

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Cough								
Chest pain								
High fever								
Headache								
Anorexia								
Other:								

Bloodstream Infection

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Headache								
Respiratory distress								
Abdominal discomfort								
Joint pain								
Disorientation								
Other:								

Disseminated Infection

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Weight loss								
Stomach or chest pain								
Muscle or joint pain								
Headache								
Seizures								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Psittacosis (*Chlamydia psittaci*)

About *C. psittaci* Infection

Common Route/Mode of Transmission

Natural Environment

Psittacosis in people is most commonly associated with pet birds (e.g., parrots, cockatiels) and poultry (e.g., turkeys, ducks). The bacteria can infect people exposed to infected birds.

Laboratory Setting

Infectious aerosols in the handling, care or necropsy of naturally or experimentally infected birds, mice and eggs.

Typical Incubation Period

Five (5) to 14 days.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Tetracyclines.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Learn more at
[cdc.gov/pneumonia/atypical/psittacosis](https://www.cdc.gov/pneumonia/atypical/psittacosis)

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Abrupt symptom onset								
Fever								
Chills								
Headache								
Muscle aches								
Non-productive cough								
Splenomegaly								
Rash								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Botulism (*Clostridium botulinum*)

Learn more at
cdc.gov/botulism

About *C. botulinum* Infection

Common Route/Mode of Transmission

Natural Environment

Botulism is caused by a potent neurotoxin produced from *C. botulinum*, and rare strains of *C. butyricum* and *C. baratii*, which are anaerobic, spore-forming bacteria.

Transmission differs by type of botulism: foodborne, infant, wound, adult intestinal colonization or iatrogenic botulism.

Laboratory Setting

Exposure to toxin, and especially associated with activities that have high potential for aerosol or droplet formation.

0.7-0.9 µg of inhaled aerosolized toxin is likely enough to kill a 70kg person.

Typical Incubation Period

Six hours to 10 days.

Prevention & Treatment

Vaccine

Yes, see treatment information for options.

Treatment

Bivalent AB botulism antitoxin, ABE trivalent antitoxin or antitoxin F.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Resources

- [CDC Botulism Webpage](https://www.cdc.gov/botulism/index.html)
Available from: www.cdc.gov/botulism/index.html
- [CDC Botulism Diagnosis and Treatment Webpage](https://www.cdc.gov/botulism/testing-treatment.html)
Available from: www.cdc.gov/botulism/testing-treatment.html
- [Botulinum Toxin \(Botulism\) Fact Sheet](#)
Johns Hopkins University Center Health Security (2023). Available from: centerforhealthsecurity.org/sites/default/files/2023-02/botulism-2023-02-09.pdf

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Double vision (diplopia)								
Blurred vision								
Drooping eyelids (ptosis)								
Slurred speech								
Difficulty swallowing (dysphagia)								
Difficulty breathing								
Thick-feeling tongue								
Dry mouth								
Muscle weakness								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

C. diff (*Clostridioides difficile*)

Learn more at
[cdc.gov/cdiff](https://www.cdc.gov/cdiff)

About C. difficile Infection

Common Route/Mode of Transmission

Natural Environment

C. difficile is a gram-positive drumstick-shaped bacillus and a spore-forming obligate anaerobe that produces toxins. The organism is commonly found in water, air, human and animal feces, hospital surfaces and soil.

Transmission occurs via the fecal–oral route.

Laboratory Setting

Infectious aerosols are the most likely route of laboratory-acquired infections and could serve as a reservoir for the vegetative cells and spores.

Typical Incubation Period

Thought to be two to three days.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

C. diff infection will resolve within two to three days of discontinuing the antibiotic to which the patient was previously exposed in about 20% of patients, *C. diff* should usually be treated with an appropriate course (about 10 days) of treatment, including oral vancomycin or fidaxomicin.

Prophylaxis/Monitoring

After treatment, *C. diff* testing is not recommended if the patient's symptoms have resolved, as patients often remain colonized.

Resources

- [CDC C. diff Webpage](https://www.cdc.gov/cdiff/index.html)
Available from: www.cdc.gov/cdiff/index.html
- [Clostridioides difficile Infection](#)
Mada PK, Alam MU (2023). *Clostridioides difficile* Infection. StatPearls. Available from: www.ncbi.nlm.nih.gov/books/NBK431054/

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

There is an increased risk for individuals:

- With antibiotic exposure
- Individuals 65 years and older
- With a recent stay at a hospital or nursing home.

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Severe diarrhea								
Fever								
Stomach tenderness or pain								
Loss of appetite								
Nausea								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Coccidioidomycosis, Valley Fever (*Coccidioides* spp.)

About *Coccidioides* spp. Infection

Common Route/Mode of Transmission

Natural Environment

Soil in the southwestern US, parts of Mexico, and South America. Highly endemic areas include southern Arizona and California's southern San Joaquin Valley.

Coccidioidomycosis is typically acquired via inhalation of airborne arthroconidia, often after disturbance of contaminated soil (e.g., small-scale activities including construction or excavation, or large-scale events such as dust storms and earthquakes).

Primary cutaneous coccidioidomycosis, solid organ donor-derived coccidioidomycosis and fomite-transmitted coccidioidomycosis can also occur but are very uncommon.

Laboratory Setting

Inhalation of spores. Rarely, contact with broken skin can cause cutaneous infection.

Typical Incubation Period

One to three weeks.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Most uncomplicated infections self-resolve.

Antifungal treatment with fluconazole or Amphotericin B is required for disseminated coccidioidomycosis or in patients who are immunocompromised.

Evidence suggests that individuals of African-American or Filipino ethnicity are at risk for severe or disseminated coccidioidomycosis.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Learn more at

[cdc.gov/fungal/diseases/coccidioidomycosis/](https://www.cdc.gov/fungal/diseases/coccidioidomycosis/)

Resources

- [CDC Valley Fever \(Coccidioidomycosis\) Webpage](https://www.cdc.gov/fungal/diseases/coccidioidomycosis/index.html)
Available from: <https://www.cdc.gov/fungal/diseases/coccidioidomycosis/index.html>
- [Expert Opinion: What To Do When There Is *Coccidioides* Exposure in a Laboratory](#)
Stevens, D., Clemons, K., Levine, H., Pappagianis, D., Baron, E. J., Hamilton, J., Deresinski, S., Johnson, N. (2009) Expert Opinion: What To Do When There Is *Coccidioides* Exposure in a Laboratory, *Clinical Infectious Diseases*, Volume 49, Issue 6, 15 September 2009, Pages 919–923. doi.org/10.1086/605441
- [Information for Healthcare Professionals about Valley Fever \(Coccidioidomycosis\)](#)
Available from: www.cdc.gov/fungal/diseases/coccidioidomycosis/health-professionals.html

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fatigue								
Cough								
Fever								
Shortness of breath								
Headache								
Night sweats								
Muscle aches or pains								
Rash on upper body or legs								
Other:								

Symptom Notes

Required Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Isolate required to be submitted to the state public health laboratory: No Yes

Other Notes or Information

Q Fever (*Coxiella burnetii*)

Learn more at
[cdc.gov/qfever](https://www.cdc.gov/qfever)

About *C. burnetii* Infection

Common Route/Mode of Transmission

Natural Environment

This bacteria naturally infects some animals, such as goats, sheep and cattle. *C. burnetii* bacteria are found in the birth products (i.e., placenta, amniotic fluid), urine, feces and milk of infected animals.

People get infected by breathing in dust that has been contaminated by infected animal feces, urine, milk and birth products that contain *C. burnetii*. Direct contact (e.g., touching, being licked) with an animal is not required to become sick with Q fever. People may also get sick with Q fever by eating contaminated, unpasteurized dairy products. Rarely, Q fever has been spread through blood transfusion, from a pregnant woman to her fetus, or through sex.

Laboratory Setting

Infectious aerosols are the most likely route of laboratory-acquired infections. Experimentally-infected animals also may serve as potential source of exposure.

Typical Incubation Period

Typically three to 30 days. The Red Book states nine to 39 days, while the CDC MMWR "Q-Fever, 2013" states two to three weeks.

Prevention & Treatment

Vaccine

Not available for the general public. An investigational Phase I, Q fever vaccine (IND) is available on a limited bases from the special Immunizations Program of the USAMRIID, Fort Detrick, Maryland, for at-risk personnel under a cooperative agreement with the individuals requesting institution. The vaccine is only administered at USAMRIID and requires enrollment in their Q fever IND immunization program. Not commercially available in the US. Only through specialized immunization programs.

Treatment

Adults: Doxycycline§ 100 mg twice a day for 14 days.

Pregnant Women: Trimethoprim/sulfamethoxazole at 160 mg/800 mg twice a day throughout pregnancy but not beyond 32 weeks' gestation. Trimethoprim/sulfamethoxazole should be discontinued for the final eight weeks of pregnancy because of the risk for hyperbilirubinemia.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#) and [Prophylaxis after Exposure to *Coxiella burnetii*](#).

Resources

- [CDC Q Fever Webpage](#)
Available from: www.cdc.gov/qfever/index.html
- [Diagnosis and Management of Q Fever — US, 2013: Recommendations from CDC and the Q Fever Working Group](#)
Anderson, A., Bijlmer, H., Fournier, P.-E., Graves, S., Hartzell, J., Kersh, G.... Sexton, D. (2013). Diagnosis and Management of Q Fever — United States, 2013: Recommendations from CDC and the Q Fever Working Group. *Morbidity and Mortality Weekly Report*, 62(RR03);1-23. Available from: www.cdc.gov/mmwr/preview/mmwrhtml/rr6203a1.htm
- [Prophylaxis after Exposure to *Coxiella burnetii*](#)
Moodie, C. E., Thompson, H. A., Meltzer, M. I., & Swerdlow, D. L. (2008). Prophylaxis after Exposure to *Coxiella burnetii*. *Emerging Infectious Diseases*, 14(10), 1558-1566. doi.org/10.3201/eid1410.080576.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Infectious dose by inhalation is 10 organisms.

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Chills or sweats								
Fatigue (tiredness)								
Headache								
Myalgia (muscle ache)								
Nausea								
Vomiting								
Diarrhea								
Stomach pain								
Weight loss								
Non-productive cough								
Pneumonia								
Hepatitis								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Eastern Equine Encephalitis (EEE)

About EEE Infection

Common Route/Mode of Transmission

Natural Environment

Alphaviruses are zoonoses maintained and amplified in natural transmission cycles involving a variety of mosquito species and either small rodents or birds. Humans and equines are accidental hosts with naturally acquired alphavirus infections resulting from the bites of infected mosquitoes.

Laboratory Setting

Inhalation of infectious aerosols, accidental parenteral inoculation, exposure to infected animals and mosquitoes in the lab.

Typical Incubation Period

One to ten days.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Supportive therapy (no known treatment).

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Other Information

Low pathogenic strain of South American genotype of EEE virus exempt from select agent regulations.

Learn more at
cdc.gov/easternequineencephalitis

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Systemic

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Chills								
Fever								
Malaise								
Arthralgia (joint pain)								
Myalgia (muscle pain)								
Other:								

Encephalitic Form

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Headache								
Restlessness								
Drowsiness								
Anorexia								
Vomiting								
Diarrhea								
Cyanosis								
Convulsions								
Coma								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

* Low pathogenic strain of South American genotype of EEE virus exempt from select agent regulations.

Other Notes or Information

Ebola Virus Disease

About Ebola Infection

Learn more at
[cdc.gov/vhf/ebola](https://www.cdc.gov/vhf/ebola)

Common Route/Mode of Transmission

Natural Environment

It is hypothesized that people are initially infected with Ebola virus through contact with an infected animal, such as a fruit bat or nonhuman primate; this is called a spillover event. After that, the virus spreads from person to person, potentially affecting a large number of people.

The virus spreads through direct contact (such as through broken skin or mucous membranes in the eyes, nose or mouth) with:

- Blood or body fluids (urine, saliva, sweat, feces, vomit, breast milk, and semen) of a person who is sick with or has died from Ebola virus disease (EVD)
- Objects (such as needles and syringes) contaminated with body fluids from a person sick with EVD or the body of a person who died from EVD
- Infected fruit bats or nonhuman primates (such as apes and monkeys)
- Semen from a man who recovered from EVD (through oral, vaginal or anal sex).

The Ebola virus cannot spread to others when a person shows no signs or symptoms of EVD. Additionally, Ebola virus is not usually transmitted by food. However, in certain parts of the world, Ebola virus may spread through the handling and consumption of bushmeat (wild animals hunted for food). There is also no evidence that mosquitoes or other insects can transmit Ebola virus.

Laboratory Setting

Direct contact with infectious material with mucous membranes, accidental parenteral inoculation.

Typical Incubation Period

Two to 21 days.

Prevention & Treatment

Vaccine

Not available in the United States.

Treatment

Supportive therapy, including oxygen and fluids.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Resources

- [CDC Ebola Disease Webpage](https://www.cdc.gov/vhf/ebola/)
Available from: www.cdc.gov/vhf/ebola/
- [CDC Guidance for US Hospitals and Clinical Laboratories on Performing Routine Diagnostic Testing for Patients with Suspected Ebola Disease](https://www.cdc.gov/vhf/ebola/laboratory-personnel/safe-specimen-management)
Available from: www.cdc.gov/vhf/ebola/laboratory-personnel/safe-specimen-management

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Studies show that survivors of EVD have antibodies that can be detected in the blood up to 10 years after recovery.

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Severe headache								
Muscle pain								
Weakness								
Fatigue								
Diarrhea								
Vomiting								
Abdominal pain								
Unexplained hemorrhage (bleeding and bruising)								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

***Escherichia coli* (Verotoxigenic)**

About *E. coli* Infection

Common Route/Mode of Transmission

Natural Environment

Reservoir is human. Transmission is primarily direct or indirect fecal-oral route from symptomatic or asymptomatic carrier. Food contamination is common.

Laboratory Setting

Accidental ingestion. Low infectious dose (10-100 organisms).

Typical Incubation Period

One to 10 days.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Supportive therapy (hydration).

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Learn more at
[cdc.gov/ecoli](https://www.cdc.gov/ecoli)

Shiga toxin-producing *Escherichia coli* (STEC) —also referred to as Verocytotoxin-producing *E. coli* (VTEC) or enterohemorrhagic *E. coli* (EHEC)—is the *E. coli* pathotype most commonly linked with foodborne outbreaks.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Severe stomach cramps								
Diarrhea (often bloody)								
Vomiting								
Fever								
Hemolytic-uremic syndrome								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Tularemia (*Francisella tularensis*)

Learn more at
[cdc.gov/tularemia](https://www.cdc.gov/tularemia)

About *F. tularensis* Infection

Common Route/Mode of Transmission

Natural Environment

Humans can become infected through several routes, including:

- Tick and deer fly bites
- Skin contact with infected animals
- Ingestion of contaminated water
- Inhalation of contaminated aerosols or agricultural dusts
- Laboratory exposure.

In addition, humans could be exposed as a result of bioterrorism.

Laboratory Setting

Direct contact with infectious material on mucous membranes, accidental parenteral inoculation, ingestion or exposure via aerosols.

Typical Incubation Period

One to 14 days; symptoms may develop within three to five days.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Doxycycline (100 mg orally BID for 14 days).

Ciprofloxacin (500 mg orally BID) is not FDA-approved for prophylaxis of tularemia but has demonstrated efficacy in various studies, and may be an alternative for patients unable to take doxycycline.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Resources

- [CDC Tularemia Webpage](https://www.cdc.gov/tularemia/index.html)
Available from: <https://www.cdc.gov/tularemia/index.html>
- [Managing Potential Laboratory Exposures to *Francisella tularensis*](https://www.cdc.gov/tularemia/laboratoryexposure/index.html)
Available from: www.cdc.gov/tularemia/laboratoryexposure/index.html

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Pneumonic

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Cough								
Chest pain								
Difficulty breathing								
Fever								
Other:								

Oropharyngeal

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Sore throat								
Mouth ulcers								
Tonsillitis								
Swollen lymph nodes								
Fever								
Other:								

Glandular and Ulceroglandular

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Skin ulcers								
Regional lymph node swelling								
Fever								
Other:								

Oculoglandular

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Inflammation of eye								
Inflammation of lymph node near ear								
Fever								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Hantavirus Pulmonary Syndrome

Learn more at
[cdc.gov/hantavirus](https://www.cdc.gov/hantavirus)

About Hantavirus Infection

Common Route/Mode of Transmission

Natural Environment

In the United States, deer mice (along with cotton rats and rice rats in the southeastern states and the white-footed mouse in the Northeast) are hantavirus reservoirs. The rodents shed the virus in their urine, droppings and saliva.

The virus is mainly transmitted to people when they breathe in air contaminated with the virus. When fresh rodent urine, droppings or nesting materials are stirred up, tiny droplets containing the virus get into the air. This process is known as "airborne transmission." There are several other ways rodents may spread hantavirus to people:

- If a rodent with the virus bites someone, the virus may be spread to that person, but this type of transmission is rare.
- Scientists believe that people may be able to get the virus if they touch something that has been contaminated with rodent urine, droppings or saliva, and then touch their nose or mouth.
- Scientists also suspect people can become sick if they eat food contaminated by urine, droppings or saliva from an infected rodent.

The hantaviruses that cause human illness in the United States cannot be transmitted from one person to another. For example, you cannot get these viruses from touching or kissing an infected person or from a health care worker who has treated someone with the disease. In Chile and Argentina, rare cases of person-to-person transmission have occurred among close contacts of a person who was ill with a type of hantavirus called Andes virus.

Laboratory Setting

Direct contact with infectious material with mucous membranes, accidental parenteral inoculation, ingestion, exposure via aerosols or animal bites in the lab.

Typical Incubation Period

One to eight weeks.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Supportive therapy, including oxygen.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

ARDS can develop four to 10 days later

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fatigue								
Fever								
Muscle aches								
Headaches								
Dizziness								
Chills								
Abdominal pain								
Nausea								
Vomiting								
Diarrhea								
Other:								

Symptom Notes

Required Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Isolate required to be submitted to the state public health laboratory: No Yes

Other Notes or Information

Hepatitis B Virus

About Hepatitis B Infection

Learn more at
cdc.gov/hepatitis/hbv/

Common Route/Mode of Transmission

Natural Environment

Hepatitis B is most common in some countries in Asia, Africa, South America and the Caribbean. However, it occurs in nearly every part of the world. Hepatitis B is spread when blood or other body fluid infected with the hepatitis B virus enters the body of a person who is not infected. This can happen through multiple ways, including getting hepatitis B from an infected mother at birth or from a family member as a young child.

Laboratory Setting

Parenteral inoculation, droplet exposure of mucous membranes, contact exposure with broken skin.

Typical Incubation Period

Between 60–150 days.

Prevention & Treatment

Vaccine

Yes; refer to the [CDC website for additional information](#).

Treatment

Wash wounds and exposed skin immediately with soap and water, flush mucous membranes with water.

For HBV susceptible workers: HBIG and HepB vaccine should be administered as soon as possible after an exposure.

For vaccinated workers: See [CDC Guidance for Evaluating Health-care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management](#).

Prophylaxis/Monitoring

After exposure to hepatitis B virus, appropriate and timely prophylaxis can prevent infection and subsequent development of chronic infection or liver disease. The mainstay of postexposure prophylaxis is hepatitis B vaccine, but, in certain circumstances, hepatitis B immune globulin is recommended in addition to vaccine for added protection. Follow CDC's [treatment and medical care guidelines](#).

Resources

- [CDC Hepatitis B Webpage](#)
Available from: www.cdc.gov/hepatitis/hbv/index.htm
- [CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management](#)
CDC (2013). CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management. MMWR 2013;62(No. RR-10). Available from: www.cdc.gov/mmwr/pdf/rr/rr6210.pdf
- [CDC Hepatitis B Frequently Asked Questions for the Public | Vaccination](#)
Available from: www.cdc.gov/hepatitis/hbv/bfaq.htm#bFAQd01
- [CDC Hepatitis Postexposure Prophylaxis](#)
Available from: www.cdc.gov/hepatitis/hbv/pep.htm

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Fatigue								
Loss of appetite								
Nausea								
Vomiting								
Dark urine								
Jaundice								
Joint pain								
Clay-colored bowel movements								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Hepatitis C Virus

Learn more at
cdc.gov/hepatitis/hbv

About *Latin name* Infection

Common Route/Mode of Transmission

Natural Environment

Hepatitis C occurs in nearly every part of the world but is most common in some countries in Asia and Africa. Hepatitis C is spread through contact with blood from an infected person.

Laboratory Setting

Parenteral inoculation, droplet exposure of mucous membranes, contact exposure with broken skin.

Typical Incubation Period

Two to 12 weeks.

Prevention & Treatment

Vaccine

Although there is no vaccine for hepatitis C, it is recommend that you receive vaccines against the hepatitis A and B viruses.

Treatment

Antiviral medications including interferon, peginterferon, ribavirin, or any hepatitis C virus direct-acting antiviral agent.

Prophylaxis/Monitoring

CDC does not recommend postexposure prophylaxis for healthcare personnel exposed to hepatitis C virus. Instead, the source patient in question should be tested for hepatitis C virus RNA or hepatitis C antibodies.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Fatigue								
Dark urine								
Clay-colored stool								
Abdominal pain								
Loss of appetite								
Nausea								
Vomiting								
Joint pain								
Jaundice								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Human Immunodeficiency Virus (HIV)

About HIV Infection

Common Route/Mode of Transmission

Natural Environment

Sex, injectable drug use, needle stick, from mother to child (via pregnancy, birth or breastfeeding), contact with infected fluids on broken skin or mucous membranes.

Laboratory Setting

Parenteral inoculation (needle stick), droplet exposure of mucous membranes, contact exposure with broken skin.

Typical Incubation Period

Flu-like symptoms can develop two to four weeks after exposure, but some with acute infection have no symptoms. It can take up to 10 years to reach the most severe stage of infection, acquired immunodeficiency syndrome (AIDS).

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Occupational exposure is considered an urgent medical concern.

For most HIV exposures that warrant post-exposure prophylaxis: a basic four-week, two-drug regimen is recommended, starting as soon as possible after exposure (within 72 hours).

For HIV exposures that pose an increased risk of transmission (based on the infection status of the source and they type of exposure): a three-drug regimen may be recommended.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Learn more at
[cdc.gov/hiv](https://www.cdc.gov/hiv)

Scientists identified a type of chimpanzee in Central Africa as the source of human immunodeficiency virus (HIV) infection in humans. They believe that the chimpanzee version of the immunodeficiency virus (called simian immunodeficiency virus, or SIV) most likely was transmitted to humans and mutated into HIV when humans hunted these chimpanzees for meat and came into contact with their infected blood. Studies show that HIV may have jumped from apes to humans as far back as the late 1800s.

Over decades, the virus slowly spread across Africa and later into other parts of the world. The virus has existed in the United States since at least the mid- to late-1970s.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

The only way to know whether you have HIV is to be tested.

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Flu-like Symptoms								
Fever								
Chills								
Rash								
Night sweats								
Muscle aches								
Sore throat								
Fatigue								
Swollen lymph nodes								
Mouth ulcers								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Tuberculosis (*Mycobacterium tuberculosis*)

About *Latin name* Infection

Common Route/Mode of Transmission

Natural Environment

Airborne transmission of tuberculosis (TB) can occur when a person with active TB coughs, sneezes, speaks or sings.

Laboratory Setting

Exposure in the laboratory occurs via laboratory-generated aerosols or accidental needle sticks. The bacteria may be present in sputum, gastric lavage fluids, cerebral spinal fluid, urine and other tissues. The bacilli may survive in heat-fixed smears and be aerosolized in the preparation of frozen sections and manipulation of liquid cultures. Clinical specimens should be considered potentially infectious.

The infectious dose is <10 bacilli.

Typical Incubation Period

Four to six weeks.

Prevention & Treatment

Vaccine

An attenuated live bacille Calmette-Guérin is available but not used in the United States.

Treatment

TB regimens typically involve an intensive phase of two months followed by a continuation phase of four to seven months.

There are many drug combination options; the first-line anti-TB agents are considered isoniazid (INH), rifampin (RIF), ethambutol (EMB) and pyrazinamide (PZA).

Determining the susceptibility of the infecting TB strain is important to determine; drug-resistant TB is more difficult to treat.

Prophylaxis/Monitoring

Isoniazid may be used for prophylaxis. Follow CDC's [treatment and medical care guidelines](#).

Learn more at
[cdc.gov/tb](https://www.cdc.gov/tb)

M. bovis, *M. africanum*, and *M. microti* can also cause disease in humans.

Resources

- [Treatment of Tuberculosis](#)
American Thoracic Society, CDC, and Infectious Diseases Society of America (2003). Treatment of Tuberculosis. Morbidity and Mortality Weekly Report; 52(RR11);1-77.
Available from: www.cdc.gov/mmwr/preview/mmwrhtml/rr5211a1.htm
- [CDC TB Guidelines | Treatment](#)
Available from: www.cdc.gov/tb/publications/guidelines/treatment.htm

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

A person can develop latent TB (with no outward signs or symptoms) or active TB which primarily affects the lungs (pulmonary) but extra-pulmonary infections can occur.

Approaches to situations in which an employee has likely been exposed to *M. tuberculosis* are best addressed in institutional employee health or infection control policies, many of which are based on [CDC guidelines](#). If an employee is exposed to *M. tuberculosis*, the employer should arrange to have the employee skin- or blood-tested to determine if an exposure has occurred. The results of this test can be compared with the employee's baseline or previous annual test to detect a conversion.

Learn more about [TB risk factors](#).

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Cough (non-productive)								
Cough (productive)								
Hemoptysis								
Chest pain								
Weakness/fatigue								
Weight loss								
Chills								
Night sweats								
Fever								
Decreased appetite								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Meningitis, Meningococcal Disease (*Neisseria meningitidis*)

About *N. meningitidis* Infection

Learn more at
[cdc.gov/meningococcal](https://www.cdc.gov/meningococcal)

Common Route/Mode of Transmission

Natural Environment

Approximately 10% of the population is asymptotically colonized with *N. meningitidis*. A person with meningococcal disease can transmit it to another person through direct contact (close and lengthy) with infectious respiratory or throat secretions (commonly saliva).

Laboratory Setting

Parental inoculation, droplet exposure to mucus membranes, infectious aerosol and ingestion are the primary hazards to laboratory personnel. Most laboratory exposures have involved manipulation of isolates on an open laboratory bench. Manipulating suspensions or isolates outside a BSC.

Parental inoculation, droplet exposure to mucus membranes, infectious aerosol and ingestion are primary hazards. Sterile site isolates are considered greater risk.

Typical Incubation Period

Two to 10 days, commonly three to four days.

Prevention & Treatment

Vaccine

Yes. In the United States, two conjugate vaccines are available: Menactra® and Menveo® that protect against Groups A, C, Y and W-135, as well as two Group B vaccines: Bexsero® and Trumenba®.

Treatment

Ceftriaxone and penicillin are the drugs of choice to treat proven meningococcal disease, however there are some penicillin-resistant strains in the United States.

Employees who are **exposed percutaneously** to a *N. meningitidis* isolate from a sterile site should receive treatment with an appropriate antibiotic.

Employees who have a **mucosal exposure** to a *N. meningitidis* isolate from a sterile site should also receive antimicrobial chemoprophylaxis.

Prophylaxis/Monitoring

Rifampicin, ceftriaxone, ciprofloxacin are used as postexposure prophylaxis. Follow CDC's [treatment and medical care guidelines](#).

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Headache								
Nausea								
Vomiting								
Diarrhea								
Stiff neck								
Photophobia								
Confusion								
Rash (petechial)								
Fatigue								
Cold hands and feet								
Chills								
Rapid breathing								
Severe muscle or joint aches								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Norovirus

Learn more at
[cdc.gov/norovirus](https://www.cdc.gov/norovirus)

About Norovirus Infection

Common Route/Mode of Transmission

Natural Environment

Noroviruses are a group of related, single-stranded RNA, non-enveloped viruses that cause acute gastroenteritis in humans. Noroviruses are highly contagious and 10–100 viral particles may be sufficient to infect an individual.

Laboratory Setting

Norovirus is transmitted by hands contaminated through the fecal-oral route, directly from person to person, through contaminated food/water, or by contact with contaminated surfaces or fomites or aerosolized vomitus.

Typical Incubation Period

Between 12–48 hours.

Prevention & Treatment

Vaccine

There are currently no licensed vaccines for noroviruses.

Treatment

There is no specific medicine to treat people with norovirus illness. Prevent dehydration by drinking plenty of liquids to replace fluid lost from vomiting and diarrhea.

Prophylaxis/Monitoring

Diagnostic methods for norovirus focus on detecting viral RNA (genetic material) or viral antigen by use of reverse transcription-polymerase chain reaction (RT-PCR) assays.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Diarrhea								
Vomiting								
Nausea								
Stomach pain								
Fever								
Headache								
Body aches								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Rabies Virus

Learn more at
[cdc.gov/rabies](https://www.cdc.gov/rabies)

About Rabies Infection

Common Route/Mode of Transmission

Natural Environment

Saliva from infected animals can be transmitted through bites or superficial skin lesions/mucosa.

Laboratory Setting

Rabies virus is transmitted through direct contact (such as through broken skin or mucous membranes in the eyes, nose or mouth) with saliva or brain/nervous system tissue from an infected animal. Inhalation of aerosolized rabies virus is one potential non-bite route of exposure.

Typical Incubation Period

Three to 12 weeks. Will vary based on the location of the exposure site (how far away it is from the brain), the type of rabies virus and any existing immunity.

Prevention & Treatment

Vaccine

Yes.

Treatment

Post-exposure prophylaxis consists of a dose of human rabies immune globulin (HRIG) and rabies vaccine given on the day of the rabies exposure, and then a dose of vaccine given again on days three, seven and 14.

For people who have never previously been vaccinated against rabies: Post-exposure prophylaxis should always include administration of both HRIG and rabies vaccine. The combination of HRIG and vaccine is recommended for both bite and non-bite exposures, regardless of the interval between exposure and initiation of treatment.

People who have been previously vaccinated or are receiving pre-exposure vaccination for rabies should receive only vaccine.

Prophylaxis/Monitoring

Vaccine for laboratorians who do testing for rabies virus or provide animal care.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Weakness								
Headache								
Discomfort (prickling, itching at site of bite)								
Anxiety								
Confusion								
Agitation								
Hallucinations								
Hydrophobia								
Insomnia								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Salmonellosis (*Salmonella* spp.)

Learn more at
cdc.gov/salmonella

About *Salmonella* Infection

Common Route/Mode of Transmission

Natural Environment

Reservoir includes domestic and wild animals including poultry, reptiles, swine, cattle, rodents and pets. Humans can be asymptomatic carries, especially for *S. typhi*. Direct contact with infected animals, ingestion of contaminated foods and fecal-oral person-to-person transmission are all possible.

Laboratory Setting

Manipulating suspensions or isolates of *Salmonella* which create aerosols or splash potential and contaminated fomites.

Typical Incubation Period

Six to 72 hours, usually about 12–36 hours. Longer incubation periods of up to two weeks have been documented.

Prevention & Treatment

Vaccine

Only vaccine available for *S. typhi*. Typhoid vaccine recommended for some travel.

Treatment

Anti-diarrheals, replacement fluids and electrolytes. Antibiotics may be used for complicated or blood stream infections.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Gastroenteritis								
Nausea								
Vomiting								
Abdominal cramps								
Diarrhea								
Fever								
Chills								
Headache								
Possible blood in stool								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Shigellosis (*Shigella* spp.)

Learn more at
cdc.gov/shigella

About *Latin name* Infection

Common Route/Mode of Transmission

Natural Environment

Reservoir is human. Transmission is primarily direct or indirect fecal-oral route from symptomatic or asymptomatic carrier. Food contamination is common.

Laboratory Setting

Manipulating suspensions or isolates of *Shigella* which create aerosols or splash potential.

Typical Incubation Period

One to seven days, may range from 12–96 hours and up to one week for *Shigella dysenteriae* type 1.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Arithromycin, ciprofloxacin, sulfamethoxazole/trimethoprim.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Watery diarrhea								
Abdominal cramping								
Nausea								
Vomiting								
Fever								
Blood or mucus in stool								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Prion Diseases (Transmissible Spongiform Encephalopathies)

About Prion Disease Infection

Common Route/Mode of Transmission

Natural Environment

The only clear risk factor for the transmission of prion diseases—or transmissible spongiform encephalopathies (TSEs)—is the consumption of infected tissues such as human brain (in the case of kuru), meat or nervous tissue (in the case of bovine spongiform encephalopathy and related diseases such as feline spongiform encephalopathy).

Laboratory Setting

There have been no known cases of human TSE resulting from occupational accident or injury.

- High infectivity specimens: brain, spinal cord, eye and other central nervous system tissues
- Lower infectivity specimens: Cerebral spinal fluid (CSF), kidney, liver, lung, placenta, lymphoid tissues, lymph nodes, spleen, gut and bone marrow
- Non-infectious specimens: blood and other bodily fluids (except for CSF)

Direct inoculation, especially via needle sticks, of high infectivity materials (brain, spinal cord, eye) poses the highest risk, while direct inoculation of low infectivity materials (CSF, kidney, liver, lung, placenta, lymph nodes, spleen) should still be avoided. Mucus membrane exposure and ingestion are theoretical risks. WHO recommends that blood and other bodily fluids, except for CSF, should not be considered infectious and require no special precautions.

Typical Incubation Period

Unknown.

Prevention & Treatment

Vaccine

Not currently available.

Treatment

Supportive therapy (no known treatment).

Prophylaxis/Monitoring

Appropriate counseling should include the fact that no case of human TSE is known to have occurred through occupational accident or injury. A number of strategies to minimize the theoretical risk of infection following accidents have been proposed, but their usefulness is untested and unknown. For the present, the following common-sense actions are recommended:

- Contamination of unbroken skin with internal body fluids or tissues: wash with detergent and abundant quantities of warm water (avoid scrubbing), rinse and dry; brief exposure (one minute) to 0.1N NaOH or a 1:10 dilution of bleach can be considered for maximum safety.
- Needle sticks or lacerations: gently encourage bleeding; wash (avoid scrubbing) with warm soapy water, rinse, dry and cover with a waterproof dressing. Further treatment (e.g., sutures) should be appropriate to the type of injury. Report the injury according to normal procedures for your hospital or healthcare facility/laboratory.
- Splashes into the eye or mouth: irrigate with either saline (eye) or tap water (mouth); report according to normal procedures for your hospital or healthcare facility/laboratory.
- [Health and safety guidelines](#) mandate reporting of injuries, and records should be kept for no less than 20 years.

Learn more at
[cdc.gov/prions](https://www.cdc.gov/prions)

Prion diseases/TSEs are a family of rare progressive neurodegenerative disorders that affect both humans and animals.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Progressive mental deterioration								
Progressive unsteadiness or clumsiness								
Visual deterioration								
Muscle twitching (myoclonus)								
Other neurological signs or symptoms associated with a characteristic periodic electroencephalogram								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Venezuelan Equine Encephalitis (VEE)

About Venezuelan Equine Encephalitis Infection

Common Route/Mode of Transmission

Natural Environment

Venezuelan equine encephalitis (VEE) is an arbovirus typically found in South America, but now has been identified in US.

Route of infection occurs through bite from infected mosquito.

Laboratory Setting

Exposure to laboratory-generated aerosols. Accidental needle sticks.

Typical Incubation Period

One to six days.

Prevention & Treatment

Vaccine

There are some vaccines for both equines and humans but have limited functionality.

Treatment

No antiviral treatment. Supportive treatment only, for control of fever, prevention of dehydration and good wound care. Antibiotic treatment of secondary infection caused by bacteria.

Prophylaxis/Monitoring

Refer to Cornell University's [VEE Biological Agent Reference Sheet](#).

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Headache								
Dehydration								
Loss of appetite								
Nausea								
Vomiting								
Ataxia								
Loss of sensation								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

Smallpox (Variola)

About Smallpox Infection

Learn more at
cdc.gov/smallpox

Common Route/Mode of Transmission

Natural Environment

Currently eradicated worldwide. Smallpox needs a human reservoir. Infection occurs via the respiratory route from droplets or skin inoculation.

Laboratory Setting

Exposure to droplet or fine-particle aerosols via inhalation, mucus membranes, broken skin, ingestion, parenteral inoculation.

Typical Incubation Period

Seven to 19 days, commonly 10–14 days to onset of illness and two to four more days to onset of rash.

Prevention & Treatment

Vaccine

Yes. See [CDC vaccination information](#).

Treatment

Control of fever, prevention of dehydration and good wound care. Antibiotic treatment of secondary infection caused by bacteria.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Potential Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

If smallpox is suspected, immediately contact your local or state health department for consultation and assistance.

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Headache								
Vomiting								
Rash								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information

COVID-19 (SARS-CoV-2)

About SARS-CoV-2 Infection

Learn more at
cdc.gov/coronavirus/2019-nCoV

Common Route/Mode of Transmission

Natural Environment

The mode where people are infected with SARS-CoV-2 is through exposure to respiratory fluids carrying infectious virus.

Exposure occurs in three principal ways:

1. Inhalation of very fine respiratory droplets and aerosol particles.
2. Deposition of respiratory droplets and particles on exposed mucous membranes in the mouth, nose or eye by direct splashes and sprays.
3. Touching mucous membranes with hands that have been soiled either directly by virus-containing respiratory fluids or indirectly by touching surfaces with virus on them.

Laboratory Setting

Exposure to laboratory-generated aerosols including procedures with a high likelihood of generating aerosols or droplets.

Typical Incubation Period

Two to 14 days.

Prevention & Treatment

Vaccine

Yes. Three vaccines are available: Pfizer-BioNTech®, Moderna® and Johnson & Johnson's Jansse®.

Treatment

Most cases have mild illness and can recover at home. Healthcare provider might recommend options to relieve symptoms and support your body's natural defenses. The FDA has approved the antiviral drug Veklury (remdesivir) for adults and certain pediatric patients with COVID-19 who are sick enough to need hospitalization. FDA has issued EUAs for several monoclonal antibody treatments for COVID-19 for the treatment of mild or moderate COVID-19 in adults and pediatric patients (ages 12 and older weighing at least 40 kilograms, about 88 pounds) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization. View [CDC's COVID-19 treatments for severe illnesses](#).

Prophylaxis/Monitoring

There is currently no FDA-approved post-exposure prophylaxis for people who may have been exposed to COVID-19.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: High Low No or Minimal Risk

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever or chills								
Cough								
Shortness of breath or difficulty breathing								
Fatigue								
Muscle or body aches								
Headache								
New loss of taste or smell								
Sore throat								
Congestion or runny nose								
Nausea or vomiting								
Diarrhea								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

West Nile Virus (WNV)

Learn more at
cdc.gov/westnile

About West Nile Infection

Common Route/Mode of Transmission

Natural Environment

Spread to people by the bite of an infected mosquito. In rare cases it can be spread by blood transfusion, organ transplant, or mother to baby during pregnancy, delivery or breastfeeding.

Laboratory Setting

Inhalation of infectious aerosols, accidental parenteral inoculation. Exposure to infected animals and mosquitoes in the lab.

Typical Incubation Period

Two to six days but ranges from two to 14 days and can be several weeks in immunocompromised people.

Prevention & Treatment

Vaccine

No vaccine available.

Treatment

No specific treatment; clinical management is supportive. Patients with severe meningeal symptoms often require pain control for headaches and anti-emetic therapy and re-hydration for associated nausea and vomiting. Patients with encephalitis require close monitoring for the development of elevated intracranial pressure and seizures. Patients with encephalitis or poliomyelitis should be monitored for inability to protect their airway. Acute neuromuscular respiratory failure may develop rapidly, and prolonged ventilatory support may be required.

Prophylaxis/Monitoring

Follow CDC's [treatment and medical care guidelines](#).

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Headache								
Body aches								
Joint pain								
Vomiting								
Diarrhea								
Rash								
Neck stiffness								
Disorientation								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
OSHA					
Other:					
Other:					

Other Notes or Information

Plague (*Yersinia pestis*)

Learn more at
[cdc.gov/plague](https://www.cdc.gov/plague)

About *Y. pestis* Infection

Common Route/Mode of Transmission

Natural Environment

Plague is endemic in many Western states in the US. People can become infected from bites from infected fleas, or contact with infected animals or their tissues/bodily fluids.

Laboratory Setting

Primary hazards to laboratory personnel include direct contact with cultures and infectious materials from humans or animal hosts and inhalation of infectious aerosols or droplets generated during their manipulation. Autoinoculation and ingestion are also occupational risks.

Typical Incubation Period

One to seven days, one to four for primary pneumonic plague.

Prevention & Treatment

Vaccine

Not available for the general public. New plague vaccines are in development but are not expected to be commercially available in the immediate future.

Treatment

Gentamicin or streptomycin, levofloxacin, ciprofloxacin, doxycycline, moxifloxacin are all recommended antibiotic treatment options for plague in adults.

Prophylaxis/Monitoring

Doxycycline (100 mg twice daily) or ciprofloxacin (500 mg twice daily) are recommended as options for antibiotic prophylaxis for adults exposed to plague.

Exposure Summary

Potentially Exposed Person Identifier: _____ Date of Potential Exposure: _____

Incident Summary:

Evaluation Date: _____ Evaluated By: _____

Determined Exposure Risk Level: **High** **Low** **No or Minimal Risk**

Symptom Monitoring

Symptoms

Sign or Symptom	Presence			Date of Onset	On-going			Date of Resolution
	Yes	No	Unsure		Yes	No	Unsure	
Fever								
Headache								
Chills								
Weakness								
Lymphadenopathy								
Shortness of breath								
Chest pain								
Cough								
Other:								

Symptom Notes

Notifications

Notify the following:	When	Who	Phone	Fax	Email
Laboratory Manager/Supervisor					
Laboratory Safety Officer					
Employee or Occupational Health					
Others within facility/laboratory					
Local Health Department					
State Health Department					
CDC Select Agent Program For identified select agents: CDC/APHIS Form 4 For potential exposures: CDC/APHIS Form 3					
OSHA					
Other:					
Other:					

Other Notes or Information



Association of Public Health Laboratories

The Association of Public Health Laboratories (APHL) works to strengthen laboratory systems serving the public's health in the US and globally. APHL's member laboratories protect the public's health by monitoring and detecting infectious and foodborne diseases, environmental contaminants, terrorist agents, genetic disorders in newborns and other diverse health threats.

Learn more at www.aphl.org or email info@aphl.org.

© Copyright 2023, Association of Public Health Laboratories. All Rights Reserved.