

Biosafety Risk Assessment

Enter information or place a check mark (✓) for the answer that best fits the question. After each section, summarize what contributes most to risk in order to ensure that safety controls and equipment are appropriate for the level of risk. Submit form for review by someone knowledgeable in biosafety.

Facility Name:	Lab Manager
Laboratory Section:	Room #(s):
Laboratory Procedure/Method:	Date:
Person Completing Risk Assessment:	

Section I: Viability and Infectivity of Sample or Control

<p>___ This testing protocol requires work with potentially infectious samples, but is being used to establish a lab value(s), (e.g. cholesterol) and is not being used to test for a known, live agent. (<i>Skip Section II and go to Section III.</i>)</p> <p>___ This procedure requires work with potentially infectious samples for a laboratory test for a known, live agent. Name of potential agent: _____</p> <p>___ This procedure requires work with a known, live infectious agent, e.g. culture used as control. Name of live agent: _____</p> <p>Comment: _____</p>

Section II: Agent Hazards

<p>Information on specific infectious agents can be found in the following sources:</p> <ul style="list-style-type: none"> • <i>Biosafety in Microbiological and Biomedical Laboratories</i> (https://www.cdc.gov/biosafety/publications/) • <i>The Centers for Disease Control and Prevention</i> (http://www.cdc.gov/) • <i>Canadian Pathogen Safety Data Sheets (PSDS)</i> (http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php) 		
1.	Route(s) of Transmission	Skin to skin contact Ingestion (swallowing) Mucus membrane exposure Percutaneous exposure, (e.g. needlestick, cut) Inhalation Unknown Which is the most common route(s) of transmission?
2.	Is the infectious dose known for humans?	Yes - Approximate Infectious Dose? No Comment:
3.	Are Laboratory Acquired Infections (LAI) associated with this agent?	Yes No Comment:
4.	Is there an available and recommended vaccine for this disease?	Yes No Comment:
5.	Is there an effective treatment for this disease e.g. antibiotics, antivirals, antiretrovirals?	Yes No Comment:
6.	Is anything else of significance known about the disease, e.g. duration of illness, severity of illness, duration of infections, and/or mortality?	

Which agent hazards contribute most to risk? (Mark all that apply.) Transmitted by Infectious Aerosols
 Low infectious dose Large number of LAIs No immunization or effective treatment

Comment:

Section III: Procedure Hazards

1.	What type of specimen/sample(s) will be used in this procedure?	Specimen, e.g. blood, feces, sputum, etc. Concentrated material, e.g. centrifuged Culture Other:
2.	What is the greatest volume of material existing at one time in one container in the procedure?	< 1 mL 2-10 mL > 10 mL Other:
3.	What is the <u>probability</u> for a spill or splash to the face of potentially infectious material to occur?	None Low Moderate High
4.	Are sharps used while performing this procedure?	Yes No Comment:
5.	Is glass used while performing this procedure?	Yes No Comment:
6.	What is the potential for infectious or potentially infectious aerosols to be generated while performing this procedure (e.g. pipetting, vortexing, sonication, etc.)?	None Low Moderate High
7.	Is an analyzer or laboratory instrument used in this procedure? If yes: Are potentially infectious aerosols created by the instrument? Are potentially infectious aerosols contained within the instrument?	Yes No Name of Instrument: Yes No Comment: Yes No Comment:

Which procedure hazards contribute most to risk? Check all that apply. High number of organisms present Large volume of infectious material Moderate to high probability of splash to face Moderate to high probability of puncture or cut from sharps or broken glass Creation of infectious or potentially infectious aerosols

Comment:

IV: Personnel Hazards

1.	Do laboratory personnel follow the written SOP for this procedure?	Yes No Comment
2.	Do laboratory personnel wear PPE as specified in laboratory policy?	Yes No Comment
3.	Do all laboratory personnel use other safety equipment as specified?	Yes No Comment
4.	Have all laboratory personnel been observed by a supervisor while performing this procedure and practicing biosafety principles?	Yes No Comment

Estimated Level of Risk from Personnel Hazards: Very High High Moderate Low Very Low

Comment:

V: Mitigation Strategies (safe policies, work practices, and equipment)

1.	Have laboratory safety practices and equipment used in this procedure been reviewed against an applicable <u>biosafety</u> standard, e.g. CLSI, BMBL (Biosafety in Microbiological and Biomedical Laboratories), etc?	Yes No Comment
2.	Does your laboratory have policies that control access to area(s) of the laboratory where potentially infectious materials are being tested or kept and are these enforced?	Yes No Comment
3.	Does your laboratory have policies/procedures that include safe work practices and use of safety equipment, including PPE that are applicable to this procedure?	Yes No Comment
4.	Do laboratory personnel receive appropriate training in the necessary precautions to prevent exposures while performing this procedure/method, and exposure evaluation procedures annually and when updated?	Yes No Comment
5.	Do personnel wash their hands in regard to this procedure/method after working with potentially contaminated materials, after removing gloves and before leaving the laboratory?	Yes No Comment
6.	Are gloves worn during this procedure when handling potentially infectious materials and changed when contaminated, when glove integrity is compromised and when otherwise necessary?	Yes No Comment
7.	Is protective clothing, i.e. lab coat, etc. worn while working with hazardous materials during this procedure, removed if contaminated with potentially infectious materials and before entering “clean” areas, e.g. cafeteria, offices, etc?	Yes No Comment
8.	Is a face shield, acrylic shield or other type of barrier used in this procedure when a splash to the face is anticipated, e.g. popping stoppers, etc?	Yes No Comment

9.	Do personnel doff (remove) PPE so that skin, clothing and the environment are not contaminated?	Yes No Comment
10.	Is a hand washing sink and an eyewash station readily available while performing this procedure?	Yes No Comment
11.	Is a spill kit or materials for spill cleanup readily available while performing this procedure and are personnel trained in spill cleanup procedures?	Yes No Comment
12.	Are sharps containers used and discarded before they are full for this procedure?	Yes No Comment
13.	Whenever practical, are improved work practices and improved engineering controls adopted to reduce sharps injuries for this procedure?	Yes No Comment
14.	Are work surfaces decontaminated after completion of work (or at end of shift) and after any spill or splash of potentially infectious material with a disinfectant for this procedure?	Yes No Comment
15.	Is laboratory equipment routinely decontaminated in addition to decontamination after spills and before repair for this procedure?	Yes No Comment
16.	Are potentially infectious materials placed in a durable, leak proof container for this procedure during collection, handling, processing, storage, or transport within the facility?	Yes No Comment
17.	Is laboratory waste discarded into appropriately designated containers in a manner that does not contaminate the leak-proof container or outside of bag for biohazardous waste for this procedure?	Yes No Comment
18.	Is this procedure performed in a manner that minimizes the creation of splashes and/or aerosols?	Yes No Comment
19.	Is a biological safety cabinet (BSC) or some other type of physical containment used when there is a probability of creation of infectious or potentially infectious aerosols?	Yes No Comment
20.	Are laboratory personnel encouraged to self-report when immunocompromised, e.g. pregnancy?	Yes No Comment

Comment:

Staff Review:

List all personnel who perform this procedure. *By initialing, personnel indicate that they have read and understood the risk assessment.

Personnel Performing Procedure				
Printed Name	Job Title	Evaluated on Safety	Experience Level (yrs.)	*Initials

Recommendations for Improvement:

Person Performing Risk Assessment: _____ **Title:** _____ **Date:** _____

This page is completed by a Person Knowledgeable in Biosafety.

Agent Hazards, if applicable:

- Transmitted by infectious aerosol
- Low infectious dose
- Large number of LAIs
- No immunization or effective treatment for illness
- Other:

Procedure Hazards:

- High number of organisms present, e.g. culture
- Large volume of infectious material
- Moderate to high probability of splash to face
- Moderate to high probability of puncture or cut from sharps or broken glass
- Creation of infectious or potentially infectious aerosols
- Other:

Personnel Hazards:

- Failure to follow written SOPs
- Failure to wear PPE as specified
- Failure to use available safety equipment
- Failure of supervisor to observe personnel practicing safety
- Other:

For this procedure, are the following mitigation strategies appropriate for the level of risk?

- Yes No Safety training
- Yes No Safety policies
- Yes No PPE
- Yes No Other safety equipment
- Yes No Work practices
- Yes No Employee compliance

Biosafety mitigation strategies appear to be appropriate for identified hazards. Yes No

Recommendations for improvement, if applicable:

Reviewed by: _____ Title: _____ Date: _____

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