

Step 2 – Work through the following exercise to determine the Consequences of an exposure to the suspected etiological agent.

Rate the consequences on a scale of 0 – 4, using the legend below:

Consequence = _____ (write a number between 0 and 4)

- *4 - Very High (catastrophic): Very serious human or animal disease; causes death or permanent disability in most cases; readily transmitted; limited or no effective treatments or preventative measures; extreme financial loss/cost; exotic and rare agents that are not found in the environment*
- *3 – High (critical): Serious human or animal disease; effective treatments available; probability of death or permanent disability is low; however, extended inpatient hospitalization or treatment will be lengthy; does not readily transmit for individual to individual; moderate economic loss;*
- *2 – Medium (marginal): Causes human or animal disease but disease is rarely severe or life threatening; unlikely to be a serious hazard to lab workers, the community, livestock or the environment. Found commonly in the environment; little to no economic loss or impact if released; treatment by medical professionals in outpatient setting.*
- *1 – Low (negligible): Unlikely to cause human or animal disease; if infected, disease is limited and easily treated; can be dealt with by in-house first aid; etc.*

a) What factors did you consider when coming up with this number?

Step 3 – Work through the following exercise to determine the Likelihood of an exposure to the suspected etiological agent.

Based on the current work activities (procedures), needed to be done in the field, and other mitigation controls (or lack of controls) what is the likelihood of the following, basing on the legend below:

Likelihood of Inhalational exposure: _____ (write a number between 0 and IV)

- What factors did you consider when coming up with this number?

Likelihood of Percutaneous exposure: _____ (write a number between 0 and IV)

- What factors did you consider when coming up with this number?

Likelihood of Ingestional exposure: _____ (write a number between 0 and IV)

- What factors did you consider when coming up with this number?

Likelihood of Direct contact (mucous membrane): _____ (write a number between 0 and IV)

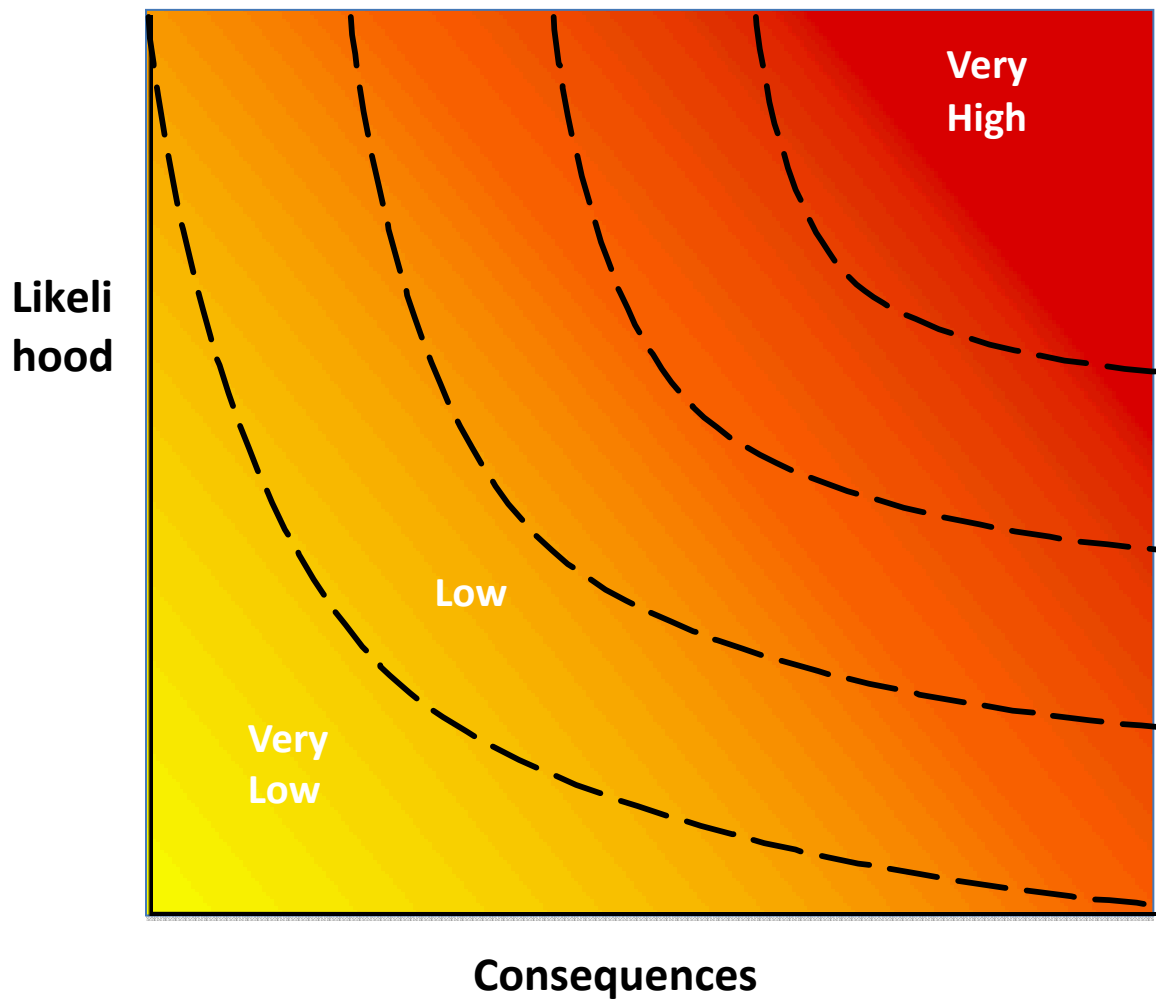
- What factors did you consider when coming up with this number?

Legend:

- *IV – Frequent: Likely to occur immediately; occurrences happen regularly; almost certain to occur in most circumstances*
- *III – Occasional: Probably will occur in time*
- *II – Remote: May occur in time; unlikely to occur but could happen*
- *I – Improbable: May occur but only in rare and exceptional circumstances*

Step 4 – Graph the values that you determined for the Likelihood and Consequences of an exposure to the suspected etiological agent on the graph provided.

Use the graph below to communicate the risk of an infection. Include a data point for inhalational, percutaneous, ingestional, and direct contact exposure:



Step 5 – Risk Evaluation. Take a minute to ask whether this risk would be acceptable?

What factors did you consider in evaluating the risk?

Risk Mitigation for Field Work

Step 1 – Identifying Mitigation Measures

Based on your scenario, identify at least 10 risk mitigation measures. Hint: Remember that mitigation measures should address both safety and security. List them here:

Step 2 – Understanding the Advantages and Disadvantages of Risk Mitigation Measures

- a) Pick one of the mitigation measures identified above and list the advantages and disadvantages of this mitigation measure, or that particular category of mitigation measures.

Mitigation measure:

Advantages:

Disadvantages:

- b) Fill out the following table:

Control Measure	Advantages	Disadvantages
Elimination or Substitution		
Engineering		
Administrative		
Practices & Procedures		
PPE		

Step 3 – Writing Draft SOPs

- a) Based on your scenario, write a draft SOP for one of the following mitigation measures using the template provided:
1. PPE
 2. Sample Collection
 3. Waste Disposal
 4. Sample Transport
- b) Record your notes for the following sections during class:

PPE

- What PPE is appropriate to protect yourself from the agent in your scenario? Why?
- Where is the PPE stored?
- Where is the PPE disposed of or cleaned?
- Are there any other considerations?



Sample Collection

- What type of samples will you be collecting? Why?

- How will you collect samples safely?



- How will the samples be stored?

- Are there any other considerations?

Waste Disposal

- What types of waste will be generated?
- Who is at increased risk if contaminated biological materials are not handled and treated properly?

- What potential incidents could occur?

- How can the risk associated with biological waste be mitigated?



- Are there any other considerations?

Sample Transport

- Why might transport security be particularly important for working in the Field?
- What can you do to determine your transport security needs?
- What are some ways biological materials can be kept secure in the field and during transport?
- Are there any other considerations?



Standard Operating Procedure Pattern

Conditions		
Who should use the SOP?		
When should it be used?		
Why should the SOP be used?		
Where should it be used?		
Context		
Input(s):		
Output:		
Preparation:		
Actions: What steps must be taken to move from the input to the output?		
Step 1		
Step 2		
Step 3		
Step 4		
Step 5		
Documentation		
Cross-references		
Regulatory dependencies/sources		

Biorisk Management Performance

Step 1 – Ways to include Biorisk Management Performance in Field and Laboratory work

- a) What are some ways that BRM performance could be measured for your scenario? Please explain and give an example.



- b) How would this information feed back into your Risk Assessment?