

NIEHS WTP

Pathogen Safety Data Guide

Training Module

NOTE: This module should not be used as a comprehensive stand alone safety & health training module on infectious diseases.

Rather, users are encouraged to adapt and incorporate this module into new and existing programs. Also, the Trainer notes below each slide contain important information that should be reviewed prior to using this module.



Gap Analysis

“Guidance issued by federal authorities was inconsistent and left out key items that adversely affected worker safety and health.”



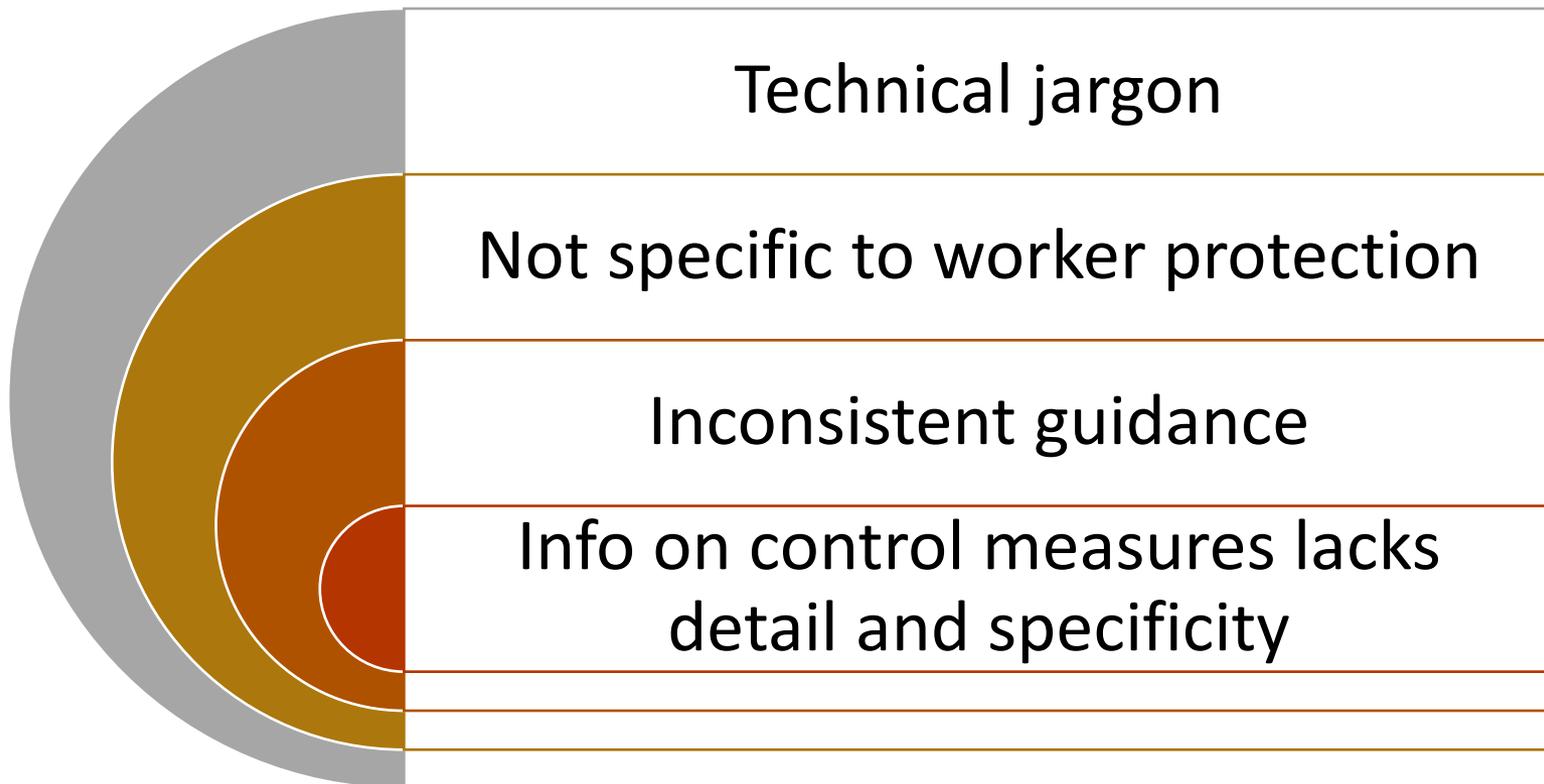
“Resources on infectious diseases from trusted sources is sometimes conflicting or lacking in enough specificity to be immediately helpful.”



NIEHS grantees and the safety and health community are encouraged to make use of NIEHS educational resources to strengthen their infectious disease training programs. The Guide can be integrated, adapted, and modified into existing training programs.



What Are typical problems with existing pathogen safety data?





Objectives



Upon taking this module, participants will:

1. Be able to access and use existing resources for pathogen safety data.
2. Explain or look up key terminology used in pathogen safety data resources.
3. Use existing pathogen safety data resources for development of infectious disease occupational exposure control plans



Section I: Background

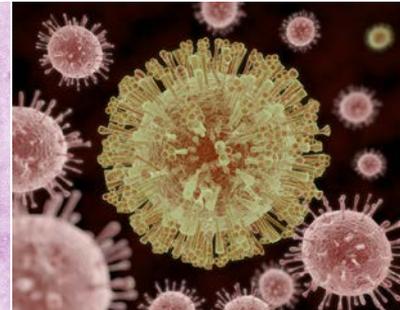
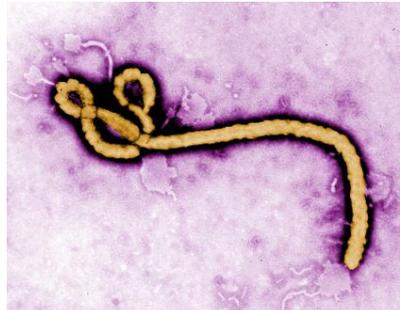
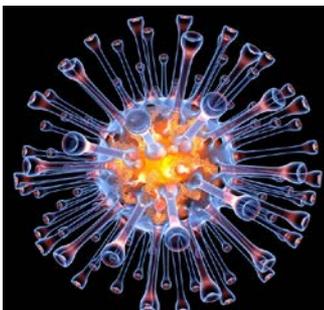
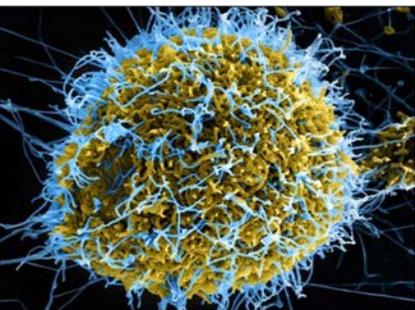
Section II: Introduction to Pathogen Safety Data and Occupational Hazards

Section III: Existing Sources of Pathogen Safety Data

Section IV: Occupational Exposure Risk Assessment

Section V: Infection Prevention & Control: Best Practice Example & Resources

Section VI: Selection of Control Measures





Activity 1: Introductions



Objective: Get to know one another, identify key infectious disease hazards in workplaces, and get oriented to the experience and needs of participants.

Task: Small group activity with worksheet question 1. Discuss the 3 questions and report back.

Breakout Time: 15 minutes

Reporting Time: 10 minutes

Total Time: 25 minutes



Activity 2: Terms & Definitions



Objective: To become familiar with key terms and definitions used in pathogen safety data resources and become comfortable using the glossary.

Task: Individual activity with worksheet question 2.

Breakout Time: 10 minutes

Reporting Time: 10 minutes

Total Time: 20 minutes



Activity 3: Characterizing Infectious Disease Hazards



Objective: Familiarize participants with existing pathogen safety data resources to identify an infectious agent's properties.

Task: Small group activity with worksheet question 3.

Breakout Time: 20 minutes

Reporting Time: 10 minutes

Total Time: 30 minutes



Activity 4: Occupational Risk Exposure Assessment & Selection of Controls



Objective: Participants will become familiar with using Pathogen Safety Data for assessing occupational exposure and selection of control measures for infectious agents.

Task: Small group activity with worksheet question 4. Discuss the questions and report back.

Breakout Time: 15 minutes

Reporting Time: 10 minutes

Total Time: 25 minutes



Activity 5: Brainstorm, Action Planning & Realistic Implementation Approach



Objective: Participants will begin planning for use of the Guide and Training Module in their infection prevention activities.

Task: Class activity

Total Time: 25 minutes



Pathogen Safety Data

- May include:
 - Classification
 - Epidemiology
 - Pathogen Reservoirs
 - Transmission Route
 - Pathogenesis
 - Laboratory Hazards
 - Exposure Controls
 - Personal Protection
 - Handling and Storage
 - Regulatory Information
 - Data of information update
 - References



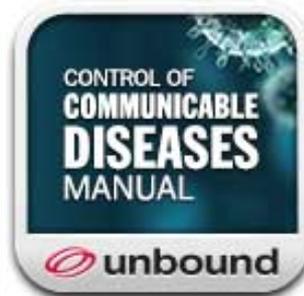
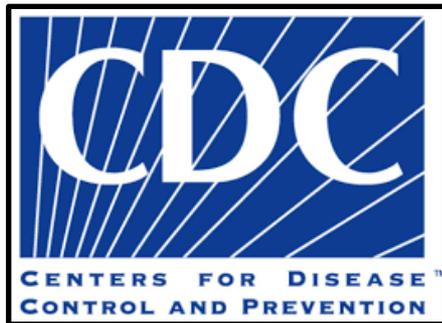
PSDS data is used to develop:

- Industry and site specific infectious disease prevention and control plans
- The complexity of these plans will depend on the type of work that is being done and whether or not the job tasks involve potential exposure to infectious agents



Existing Pathogen Safety Databases

	Public Health Agency of Canada	Agence de la santé publique du Canada
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National Institute of Allergy and Infectious Diseases





Public Health
Agency of Canada

Agence de la santé
publique du Canada

- PHAC PSD website: <http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php>
- Download the app to your iPhone, Smart phone, or blackberry
- **Audience: Clinical Laboratory Workers**
- **Review Strengths & Weakness:** Go to page 9 & 10 in the Guidebook



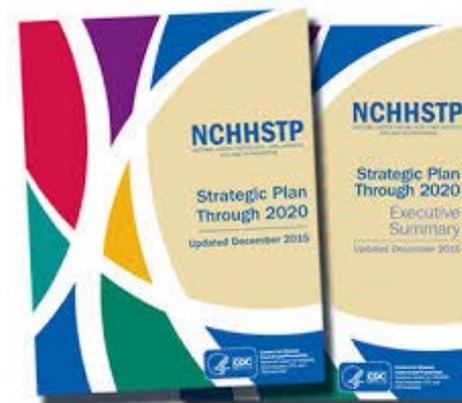
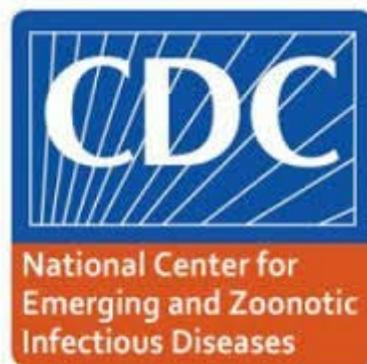
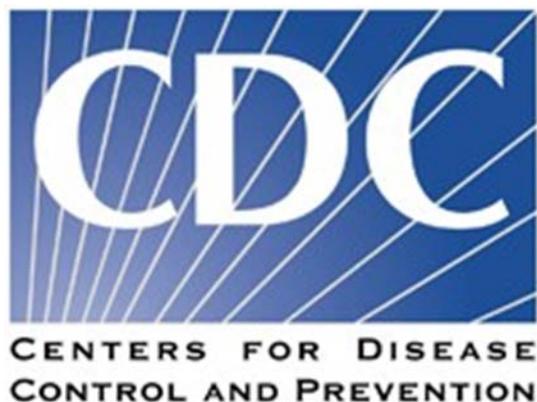


Comparison of Elements in a Safety Data Sheet to a Pathogen Safety Data Sheet

Element (Examples)	SDS	PSDS
Hazard Identification	Chemical or Product	Infectious Agent
Composition	Name, components, CAS#, concentration	Name, Taxonomy
Hazard Characterization	Toxicological information (e.g., LD50, carcinogenicity)	Pathogenicity, infectious dose, communicability, etc
Stability	Chemical stability, reactivity, incompatible materials	Drug susceptibility/resistance, survival outside the host
First aid	First aid measures	First aid measures, prophylaxis, immunization
Exposure controls	Exposure limits, protective equipment, engineering controls	Containment requirements (physical and operational controls), protective equipment
Physical and chemical properties	Odour, pH, flash point, etc.	N/A



U.S. Centers for Disease Control and Prevention (CDC) Divisions



National Center for Immunization and Respiratory Diseases (NCIRD)





- OSHA website: www.osha.gov
- OSHA enforces S&H standards and is authorized to issues new ones.
- OSHA does NOT have an infectious disease standard or a database of PSDSs.
- OSHA relies on CDC as the source of pathogen safety data.
- OSHA has important standards that are relevant.
- **Target Audience: Industry Workers**
- **Review Strengths & Weakness:** Go to page 16 & 17 in the Guidebook



Aerosol Transmissible Disease (ATD) Standard

Aerosol Transmissible
Disease Standard, §5199.

Website:

[http://www.dir.ca.gov/title
8/5199.HTML](http://www.dir.ca.gov/title8/5199.HTML)





Occupational Exposure Assessment for Infectious Diseases

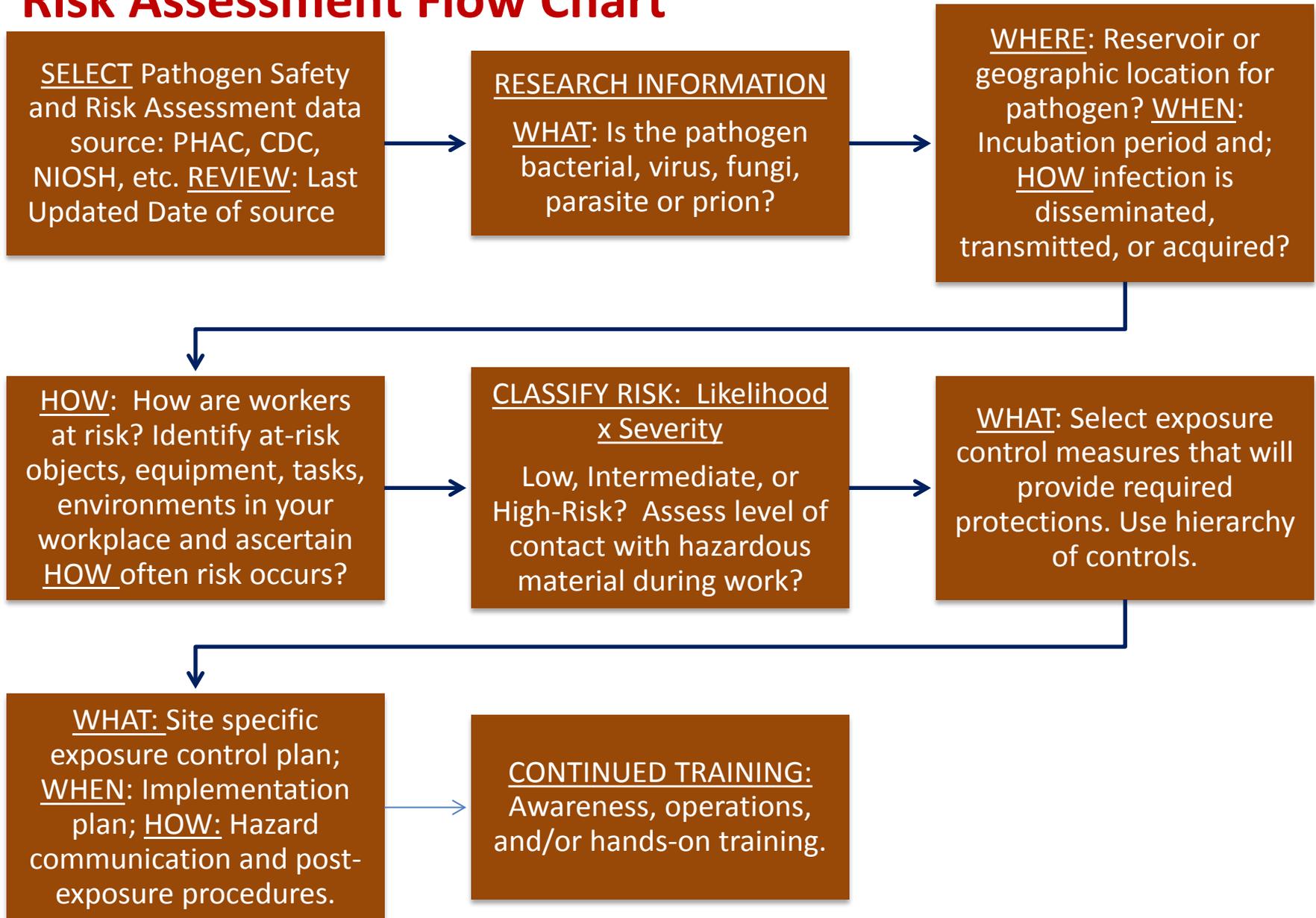
Some key considerations

Not
available

- Occupational Exposure Limits
- Toxicity
- Airborne or surface concentration
- Infectious dose

Pathogen Safety Data: What-Where-When-How

Risk Assessment Flow Chart



Pathogen Safety Data: Understanding Exposure Risk Levels

Occupational Exposure

- Conducting normal work activities
- Causal interaction
- Physical contact
- Providing direct medical/supportive care
- Conducting clinical laboratory or research
- Handling dead bodies
- Cleaning and disinfecting environments
- Performing maintenance work
- Handling, transporting, treating and disposing of waste
- *Reference: OSHA PPE Matrix*

Exposure Risk

Target Populations At-Risk

- Determine level of risk
- Determine minimum engineering and administrative controls required
- Determine if exposure has occurred
- Determine if symptoms are present
- Understand available post-exposure treatment options

Low Risk

Intermediate Risk

High Risk

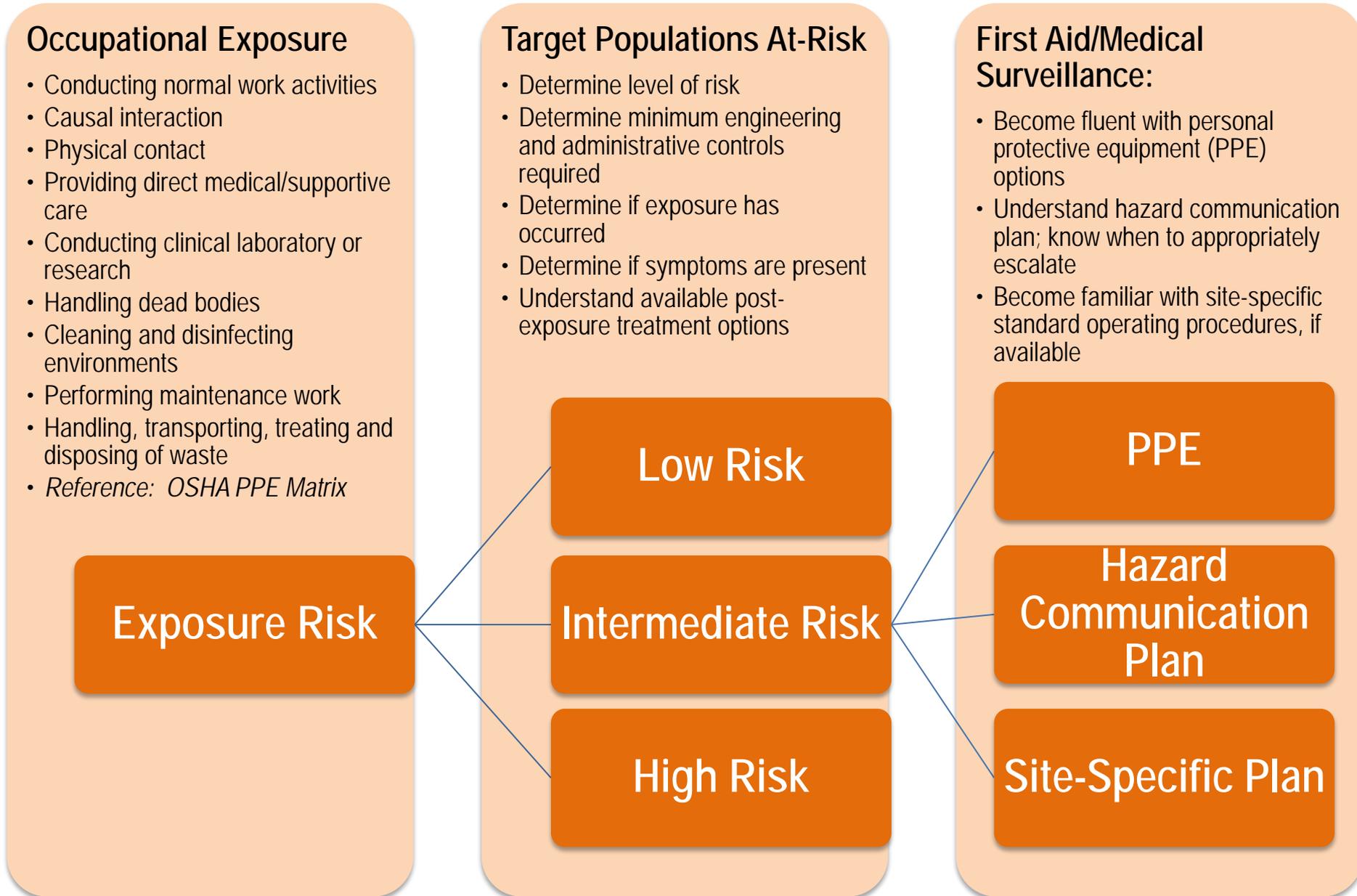
First Aid/Medical Surveillance:

- Become fluent with personal protective equipment (PPE) options
- Understand hazard communication plan; know when to appropriately escalate
- Become familiar with site-specific standard operating procedures, if available

PPE

Hazard
Communication
Plan

Site-Specific Plan





Selection of Controls, Consider:

What is the
likelihood of
Exposure?

What are the
consequences?

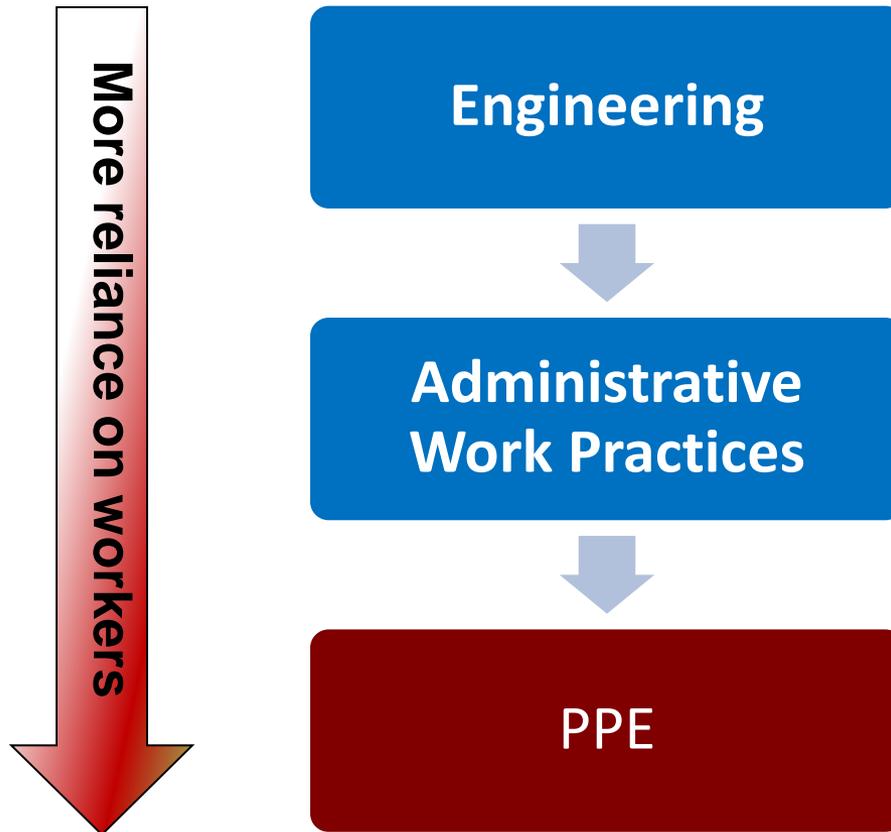
Have exposures
occurred?

Does exposure
result from
specific job
duties?

Hierarchy of
controls?



The Hierarchy of Control Measures





Conclusion

- We will now use the worksheet at each table to do the group activity to consider the use of the PSD Guide and Training Module in our work
- Instructions