



# **Parts 472 and 554 - Medical Services and First Aid, Bloodborne Infectious Diseases**

**Student Materials  
MTI Level Two Compliance Course  
Consultation Education and Training Division  
Michigan Occupational Safety and Health Administration  
Michigan Department of Labor and Economic Opportunity  
[www.michigan.gov/miosha](http://www.michigan.gov/miosha)  
517-284-7720**



## Part 472. Medical Services and First Aid

First Aid, Eyewashes/Showers, and Bloodborne Infectious Diseases



1



## Part 472. Medical Services and First Aid



First Aid, Eyewashes/Showers, and Bloodborne Infectious Diseases



2

# Objectives

## Discuss:

- **First aid** requirements: provision of services and first aid kit contents.
- **Eyewash and safety shower** requirements: when required, acceptable travel distance, MIOSHA policy, and exemptions.
- **Bloodborne infectious diseases** requirements: who is covered, basic terminology, and MIOSHA requirements.

3

3

## MIOSHA Part 472

### Medical Services and First Aid

- Ready availability of medical services for:
  - Advice
  - Consultation
- Trained person(s) to render first aid
- Eyewash and body showers
  - Injurious materials
  - Corrosive materials

### MIOSHA Compliance Instructions:

- [Medical Services and First Aid G.I. and Construction](#) and
- [Eyewash/Shower Equipment](#)



4

4

# Availability of First Aid

- Must ensure a four-minute response time for serious hazards in a workplace that can cause life threatening injury such as:
  - electric shock,
  - amputations, and/or
  - severe chemical exposures
- Low hazard locations: 15-minute response time is acceptable.



5

5

## First Aid – Employer responsibilities

- Must provide trained first aid responders if cannot rely on local ambulance service, clinic or hospital
- Provide medical supplies – first aid kits
- Determine appropriate medical supplies/first aid kits based on the hazards anticipated



6

6

# First Aid Providers and Part 554 Bloodborne Infectious Diseases

If employees are expected to respond and render first aid as part of their job duties, the employer must comply with Part 554 Bloodborne Infectious Diseases.



7

7

## Remote Locations

---

Employers with employees who work in remote locations or alone must develop and implement procedures to ensure feasible prompt medical services and first aid.

8

8



# Activity

- Describe three examples of remote locations or lone employees which would require a plan for communication and first aid.
- List three examples of ways employers can stay in contact with employees on remote sites or single employee jobs.



9

9

## What is required to be in a first aid kit?

- Determined by employer
- Guidelines for First Aid Kits - ANSI Z308.1-2015  
[MIOSHA Compliance Instruction: Medical Services and First Aid for General Industry and Construction](#)
- Based on the hazards/injuries likely
  - Cuts = Bandages
  - Strains/sprains = Cold pack
  - Hypothermia = Blanket/wrap
  - Insect bites = Sting ointment
  - Other



10

10



# Eyewash and Safety Shower

- An eyewash / safety shower is defined in the Agency Instruction as a plumbed or self-contained meeting the ANSI Z358.1 – 2014.
- Each must be simple to operated and have a quick opening valve (activated in one second or less as defined by ANSI)
- Eyewash must be capable of providing at least 0.4 gallons (1.5 liters) per minute for 15 minutes (6 gallons for self-contained/non-plumbed units).
- [MIOSHA Compliance Instruction - Eyewash](#)



11

11



Acceptable Eye Wash Stations?

12

12



# Eyewash and Safety Shower (continued)

Self-contained emergency showers shall be capable of delivering a minimum of 20 gallons/minute for 15 minutes (300 gallons)



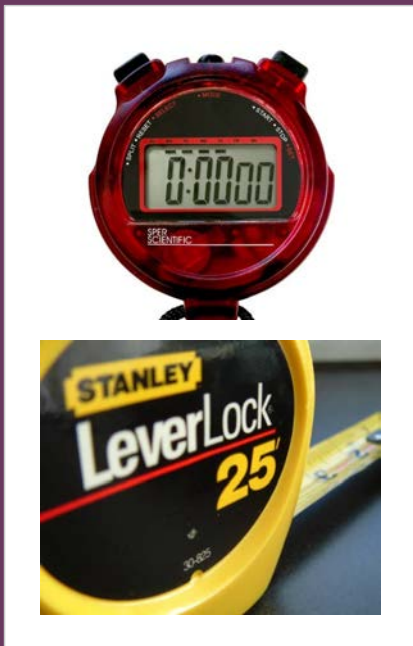
13

13

# Eyewash and Safety Shower (continued)

Eyewash/ Safety Shower must be located:

- 10 second travel time or less (approximately 55 feet or less)
- Easily accessible
  - No obstacles
  - No closable doorways
  - No turns



14

14

14

# Nozzle Covers

- Protective covers CANNOT require manual removal prior to use
- Nozzle covers removed by water pressure upon activation are permitted



Photo by Robert Cudmore from Marseille, France (eyewash station) [C BY-SA 2.0]






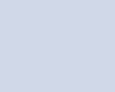


15

15

## Eyewashes and Showers – When required?

- Consult SDS and Label hazard statements and pictograms

Haz Com/GHS Hazard Classification:	Hazard Statements:	Pictograms:
Skin Corrosion/Irritation - Category 1A, 1B and 1C	"Severe skin burns and eye damage"	 
Serious Eye Damage/Eye Irritation - Category 1	"Serious eye damage"	 
Serious Eye Damage/Eye Irritation - Category 2A	"Serious eye irritation"	 

16

16

# Examples of SDS Section 2

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Skin corrosion : Category 1B

Serious eye damage : Category 1

Germ cell mutagenicity : Category 2

### GHS Label element

Medicinal devices are not subject to GHS labeling.

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.  
H341 Suspected of causing genetic defects.

Check for these  
on the SDS

17

17

# Examples of SDS Section 2

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification

Skin Irrit. 2 H315

Eye Irrit. 2A H319

### 2.2. Label elements

#### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US)

: Warning

Hazard statements (GHS-US)

: H315 - Causes skin irritation

H319 - Causes serious eye irritation

Check for these  
on the SDS

18

18

## Eyewashes and Showers – When required? Mixtures

GHS Classification or pH Criteria	GHS Category	% in mixture (eyewash/shower needed)
Skin Corrosion/Irritation	Category 1A, 1B and 1C	$\geq 5\%$
Serious Eye Damage/Eye Irritation	Category 1	$\geq 1\%$
Serious Eye Damage/Eye Irritation	Category 2A	$\geq 10\%$
pH $\geq 11.5$ or $\leq 2.0$ (unless mixture tested and determined to be $>2$ and $<11.5$ or a mild acid or base/alkaline)	N/A	$\geq 1\%$

19

19

## Eyewashes and Showers – When required?

### Mixtures where old SDS and pH information is available:

- pH  $\geq 11.5$
- pH  $\leq 2.0$
- If pH of a mixture is unknown, and the mixture contains  $\geq 1\%$  of a chemical with a pH  $\geq 11.5$  or  $\leq 2.0$ , it is considered under Hazard Communication as a Category 1 and emergency eyewash would be required if exposure exists.

Note: pH alone may not be the determining factor. Weak acids and bases/alkaline chemicals may not be harmful (i.e., lemon juice, soapy water) even though they may have a high or low pH.

20

20

# SDS Activity

## Evaluate SDSs

- Determine if emergency eyewash station would be required
- Assume that employees have potential for splash to eyes
- What was the basis for your decision?

21

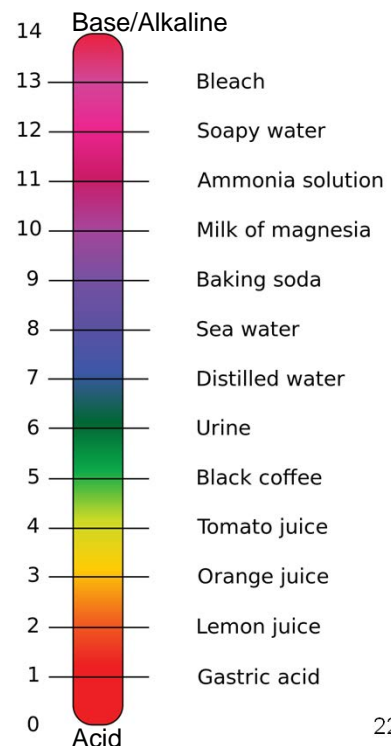
21

## What does pH tell us?

- Chemical pH alone is not the determining factor. It must be injurious to the eye.

Exempt from the eyewash requirement:

- Soapy water for washing hands and face.
- Weak acids use in food preparation.



22

22

# Eyewash and Safety Shower (continued)

Examples of injurious substances (not related to pH):

- Formaldehyde
- Methylene chloride
- Phenol
- Methyl Ethyl Ketone Peroxide (MEKP)

23

23

# Eyewash and Safety Shower (continued)

If there is a potential for a significant splash that could affect more than a face splash the employer must have a shower in addition to an eye wash.



24

24

# Notable Exceptions

In a battery charging area:

- where the batteries are not removed from equipment for charging and
- employees do not perform battery maintenance tasks.



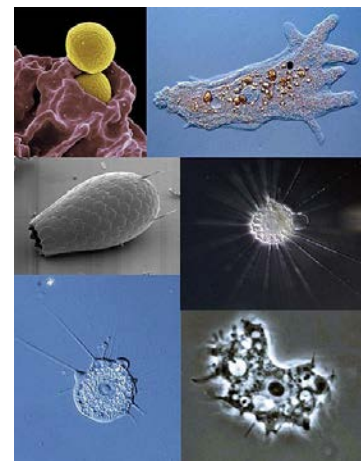
Photo by Kevin Rutherford

25

25

## Testing and inspections: ANSI Z358.1 – 2014

- Follow manufacturer's instructions
- Flush sediment
- Reduce microbial grow in stagnant water of "dead leg" pipes
- Ensure proper flow and operation



26

26



# Temperature: ANSI Z358.1 – 2014

- Tepid = between 60 - 100°F
- Below 60°F – concern for hyperthermia or discomfort causing operator to reduce flushing time
- Above 100°F – proven to be harmful and may enhance chemical interaction with eye or skin



27

27

## Eyewash Exceptions Custodial/Housekeeping

- Typically handle and may be exposed to chemical products that are injurious or corrosive
- Must have emergency eyewash/shower at dispensing station (if injurious or corrosive chemicals used)
- Not required to have emergency eyewash/shower during the traveling portion
  - Employees must have Hazard Communication training
  - Wear appropriate PPE



28

28

# Dipping and coatings Only (Part 526)

Exception only for dipping and coating operations a cold water pipe carrying potable water not exceeding 25 psi with a quick opening valve and at least 48" of 3/4" hose.

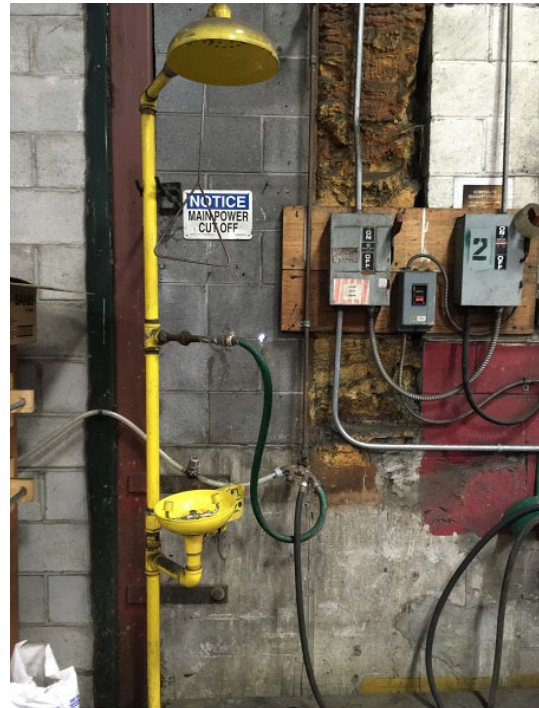
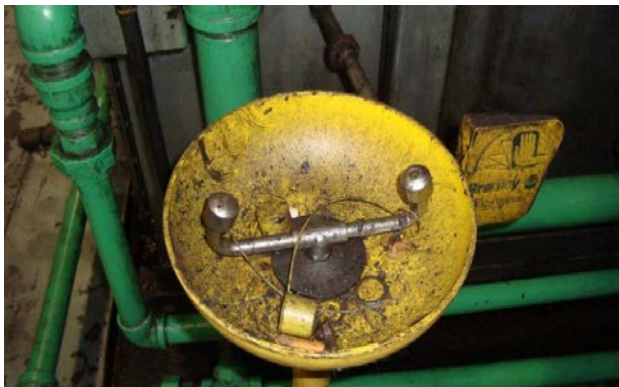


25 psi ?

29

29

## What We See



30

30

# WHAT WE SEE



31

31

## Quiz Time

True or False

- A. Employees who work alone must be first aid trained.
- B. pH is the only determining factor for the installation of eyewash / safety shower.
- C. OSHA/MIOSHA has specific requirements for the contents of first aid kits.

32

32

# Assessment

- The purpose of this assessment is to validate the knowledge learned in class.
- Passing score of 70% correct is required.
- Class reference materials/books are not allowed to be used during the assessment.
- Collaboration/discussion with others is not allowed during the assessment.

33

33

## Part 554 Bloodborne Infectious Diseases



34

# Part 554

## Bloodborne Infectious Diseases

**MIOSHA Training Institute (MTI)  
Level Two Course**

**Presented By:**  
**Consultation Education and Training (CET) Division**  
**Michigan Occupational Safety and Health Administration**  
**Michigan Department of Labor and Economic Opportunity**  
**[www.michigan.gov/miosha](http://www.michigan.gov/miosha)**  
**517-284-7720**



35

## Objectives

- Determine the applicability of Part 554 Bloodborne Infectious Diseases standards to specific personnel and facilities.
- Evaluate written exposure control plan.
- Identify proper engineering, work practices and personal protective equipment controls to reduce or eliminate exposure.
- Implement a program for proper management, decontamination and disposal of contaminated material.
- Evaluate availability and accessibility of exposed and injured employees to first aid and medical services.

36

36

## Horizontal vs. Vertical Standards

- Horizontal Standards
  - More general standards applicable to multiple industries.
- Vertical Standards
  - Apply to a particular industry, or to particular operations, practices, conditions, processes, means, methods, equipment or installations.

4

37

## Module I

Determine the applicability of Part 554 Bloodborne Infectious Diseases standards to specific personnel and facilities.

38

38



## History

- 1991 – OSHA Standard for Bloodborne Pathogens.
- MIOSHA Bloodborne Infectious Diseases Standard (different from OSHA rule)
- 2000 – Needlestick Safety and Prevention Act.
- Provisions in the Act incorporated into:
  - OSHA Bloodborne Pathogens Standard and
  - MIOSHA Bloodborne Infectious Diseases Standard
- 2012 – Office of Regulatory Reinvention recommendations to eliminate rules that are more restrictive than OSHA
- 2014 – Revised MIOSHA Standard

39

39

## Bloodborne Infectious Diseases Standard Overview

1. Scope
2. Definitions
3. Exposure Determination
4. Exposure Control Plan
5. Universal Precautions
6. Engineering Controls
7. Work Practices
8. Protective work clothing and equipment
9. Housekeeping
10. Regulated Waste Disposal
11. Laundry
12. HIV/HBV Labs
13. Vaccine and Postexposure
14. Communication of hazards
15. Recordkeeping
16. Information and training

40

40



## Rule 1. Scope

- Applies to all employers that have employees with occupational exposure to blood and other potentially infectious material.
- Exceptions:
  - Agriculture
  - Construction
  - Maritime
  - Employers/employees under Federal OSHA



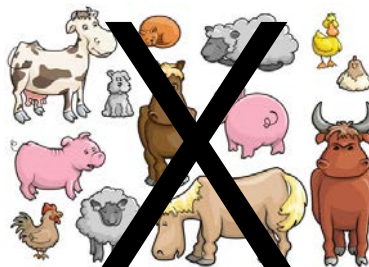
Refer to OSHA FAQ #Q1-Q2

41

41

## Rule 2. Definitions – Blood

- Blood: human blood, human blood components, and products made from human blood.
- Notice human blood appears **three** times. Animal blood does not fall under the scope of the standard.



42

42

## Rule 2. Definitions

### Other Potentially Infectious Materials (OPIM)

#### Materials included:

- Semen
- Vaginal secretions
- Amniotic fluid
- Cerebrospinal fluid
- Peritoneal fluid
- Pleural fluid
- Pericardial fluid
- Synovial fluid
- Saliva in dental procedures

#### \*NOT included:

- Vomit
- Urine
- Feces
- Sweat
- Tears
- Spit

\*Unless visually contaminated with blood or OPIM

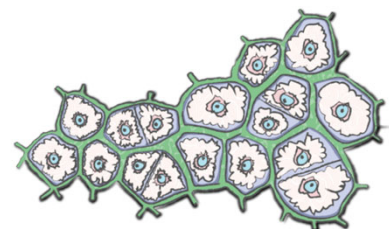
43

43

## Rule 2. Definitions - OPIM

### OPIM is also:

- Any bodily fluid that is visibly contaminated with blood
- All body fluids in situations where it is difficult or impossible to differentiate between body fluids
- Any **unfixed** tissue or other than intact skin from a living or dead human
- Cell, tissue containing HIV
- Blood, organs, organ cultures, solutions and tissue from HIV, HBV experimental animals



44

44

## Rule 2. Definitions - Pathogens

- Bloodborne pathogens are pathogenic microorganisms present in human blood and can cause disease in humans
- These pathogens include:
  - Hepatitis B virus (HBV)
  - Human immunodeficiency virus (HIV)
  - Hepatitis C virus (HCV) [not mentioned in Std. but included]
  - Others, such as: Ebola, Syphilis, etc.

45

45

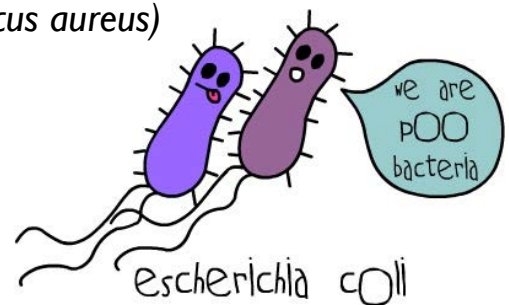
## Rule 2. Definitions - Exclusions

The following are excluded as they do not meet the definition of a bloodborne pathogen:

- Influenza
- MRSA (Methicillin-resistant *Staphylococcus aureus*)
- Hepatitis A
- E. Coli

Note:

This does not mean there is no need to protect employees if they are at risk.



46

46

## Rule 2. Definitions - Contaminated

Contaminated: presence or the reasonably anticipated presence of blood or other potentially infectious materials (OPIM) on an item or surface.



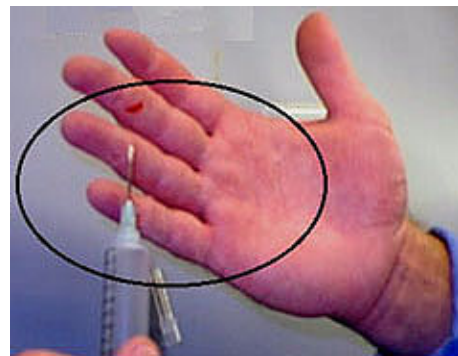
47

47

## Rule 2. Definitions – Sharps

Contaminated Sharps: contaminated object that can penetrate the skin, including:

- Needles
- Scalpels
- Broken glass
- Broken capillary tubes
- Exposed ends of dental wires



48

48

## Rule 2 Definitions – Contaminated Sharp?

Which of these could be a contaminated sharp?



49

49

## Rule 2. Definitions – Parenteral

**Parenteral** is a route of exposure that involves piercing the skin or mucous membranes.



50

50

## Rule 2. Definitions – Exposure

Exposure: reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or [OPIM] that may result from the performance of an employee's duties.



51

51

## Rule 2. Definitions – NOT Exposure

The following is not considered “exposure”.

Incidental occupational exposures that are:

- Neither reasonable
- Nor routinely expected
- Not anticipated to occur in normal course of employment

52

52



## Rule 2. Definitions - Incident

Exposure Incident: specific eye, mouth, other mucous membrane, nonintact skin (splash) or parenteral (needle stick or other sharps incident) contact with blood or other potentially infectious materials that results from the performance of an employee's duties.



53

53

## Rule 2. Definitions - Source

Source individual: Any living or dead individual whose blood or OPIM may be a source of occupational exposure to an employee.



54

54



## Other Definitions - Others

The definitions below will be covered as they appear within the context of other BID rules:

- Engineering Controls
- Needleless Systems
- Regulated Waste
- Sharps with Engineered Sharps Protections
- Universal Precautions
- Decontamination
- Standard Operating Procedures



55

55

## Rule 3. Exposure Determination

**Category “A”** involves exposure or reasonably anticipated exposure during routine and non-routine required tasks. Includes designated emergency first aid responders.

**Category “B”** employees are not required to perform tasks that involve exposure to blood or other potentially infectious material.



56

56

## Rule 3. Exposure Determination

An employer shall:

- Evaluate routine and reasonably anticipated tasks and procedures to determine:
  - Actual or reasonably anticipated employee exposure to blood or OPIM
  - Category A or B
- Make determination without regard to PPE
- Maintain a list of all Category A job classes

57

57

## “Reasonably Anticipated”

Employee who has work-related exposure to blood or other potentially infectious materials is included within the scope of this standard.

- Depends on required job duties
- Excludes accidental exposures unless repeated and frequent

Refer to OSHA FAQ #Q6-Q7

58

58

## What is Reasonably Anticipated...

- Any employee who is required to render first aid as part of their job?
- Fire Fighters and EMS?
- Police (maybe)?
- Medical Personnel, nurses, doctors, housekeeping\*, laundry, nurses and physician aids, dentists and hygienists?
- Janitors responsible to clean up blood or OPIM from a surface?

\*Refer to OSHA FAQ #Q7

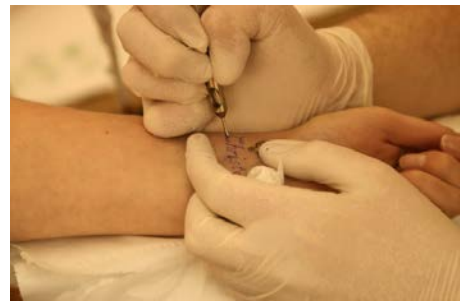


59

59

## Who Else?

- Phlebotomy
- Mortuary staff
- Tattoo artists
- Day care providers (maybe)



60

60

## Some notable exceptions...

- Most maintenance staff
- Good Samaritans
- Students

Note:

A “Good Samaritan” is someone who provides medical assistance but has neither been trained nor designated by the employer to provide it.

61

61

## “Reasonably Anticipated” Activity



62

62

## Module 2

Evaluate written exposure control plan.

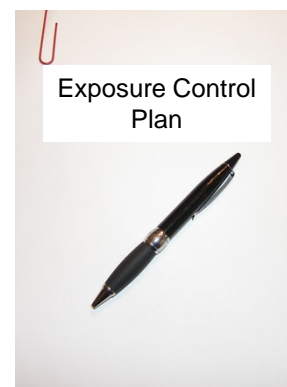
63

63

## Rule 4. Exposure Control Plan

If an employer is determined to have Category A employees, they are required to establish a written exposure control program.

Refer to OSHA FAQ# Q8-Q14



64

64



## Elements of an Exposure Control Plan

- Exposure determination (Category A or B)
- Contents and summary of the training program (refer to Rule 16)
- Procedure used to evaluate circumstances surrounding an exposure incident (refer to Rule 13)

65

65



## Elements of an Exposure Control Plan (continued)

- Task-specific standard operating procedures (SOP) that address all the following areas:
  - employee recognition of reasonably anticipated exposure
  - appropriate selection, use, maintenance and disposal of PPE
  - contingency plans for foreseeable circumstances that prevent following the recommended SOPs

66

66

## SOP Example

### Sample BID Exposure Control Plans for:

- Limited Exposure (e.g., First Aid providers)
- Healthcare

These are available on the MIOSHA website.

#### APPENDIX A - EXAMPLE STANDARD OPERATING PROCEDURE (SOP) FOR BLOODBORNE INFECTIOUS DISEASE CONTROL MEASURES

**Task/Procedure:** Decontamination of work surfaces/spill cleanup. Application of ointments/medications. Routine cleaning of any non-intact skin (e.g. cuts).

**Exposure Potential:** Non-intact skin exposure to blood or general exposure

**Personal Protective Equipment:** Disposable exam gloves.

**Use:** Don personal protective equipment (PPE) before performing task or procedure

**Maintenance/Disinfection:** Do not disinfect and reuse disposable gloves.

**Disposal:**

- Discard PPE in standard trash can unless saturated/dripping with blood or OPIM which requires biohazard waste disposal (red bag waste).

**Engineering Controls:** Safety-tipped scissors and sinks for hand-washing.

**Work Practice Controls:**

- Wear PPE as noted above.
- Post-procedures where blood or OPIM exposure is likely/occurred: Decontaminate surfaces using approved EPA registered disinfectant or bleach wipes. Also, disinfection of surfaces may be conducted at the end of a workday.
- Dispose of bleach wipes used on surfaces in the regular trash unless saturated with blood or OPIM
- Hands must be washed/sanitized after removal of gloves or other PPE

**General work practice controls:**

- Eating drinking, smoking, applying cosmetics are prohibited in work areas where there is reasonable likelihood of occupational exposure
- Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench tops where blood or OPIM are present.

**Management of Exposure Incidents:** Provide immediate first aid and follow post exposure follow up procedure in exposure control plan.

**Contingency Plan:** If employees determine that this SOP cannot be followed, they should stop the procedure/work activity and consult with XXXXXX on how to proceed (e.g. use bottled water to cleanse hands during a utility outage). XXXXXX will ensure that needed equipment/supplies, etc. are provided to employees and a revised SOP is developed to address the hazards identified.

67

67

## Exposure Control Plan

- General employer policies or task specific SOPs shall address the management of inadvertent exposures.
- The exposure control program shall be reviewed at **least annually** and updated as necessary.

68

68



## Exposure Control Plan

### Annual Review

Must document:

- changes in technology that eliminate or reduce exposure
- consideration and implementation of safer medical devices (engineered sharps) to reduce exposure

69

69

## Exposure Control Plan (continued)

- Must solicit input from non-managerial, direct patient care staff for:
  - Identification;
  - Evaluation; and
  - Selection of engineering and work practice controls.
- Only a person who has knowledge of applicable control practice is authorized to write and review an exposure control plan.
- Plan must be accessible to all Category A employees.



70

70

## Exercise

Create an Exposure Control Plan for your facility include site-specific information and at least one site-specific standard operating procedure.

Complete as much information as you can and address any “unknown” information with your facility’s management after the class.

71

71

## Rule 5. Universal Precautions

Definition from Rule 2:

Universal precautions

- Method of infection control
- Treats all blood and OPIM as capable of transmitting HIV, HBV or other bloodborne pathogens

Refer to OSHA FAQ #Q16

72

72

## Rule 5. Universal Precautions

- Universal precautions shall be used to prevent contact with blood or OPIM.
- For mixture of fluids and cannot determine if blood or OPIM is present, all is considered potentially infectious.



73

73

## Rule 5. Universal Precautions

Universal precautions involve the use of protective barriers such as gloves, gowns, aprons, masks, or protective eyewear, which can reduce the risk of exposure.



74

74

## Quiz Time

### True or False:

1. Annual review of the exposure control plan is required.
2. Non-managerial employees are to be involved in the selection of effective engineering controls.
3. The exposure control plan must include task specific standard operating procedures.

75

75

## Module 3

Identify proper engineering, work practices and personal protective equipment controls to reduce or eliminate exposure.



76

76

## Rule 6. Engineering Controls

- **SHALL** be used in combination with work practice controls to minimize or eliminate employee exposure to blood or OPIM.
- Personal Protective Equipment shall be used if exposure not eliminated by engineering and work practice controls.

Refer to OSHA FAQ #Q17-Q21

77

77

## Rule 6. Engineering Controls

- Shall be examined and maintained or replaced to ensure their effectiveness.
- Includes provision of handwashing facilities:
  - Readily accessible
  - When not feasible, provision of appropriate:
    - Antiseptic hand cleanser with clean cloth or paper towels or
    - Antiseptic towelettes

For current information related to hand hygiene:

[www.cdc.gov/handhygiene/](http://www.cdc.gov/handhygiene/)

78

78

## Rule 6. Engineering Controls

Why are engineering controls needed?

Are they effective?



79

79

## Risk of Infection

Exposure	Percutaneous	Mucocutaneous	Non-intact Skin
HBV*	1 in 30	1 in 70	<1 in 70
HIV	1 in 300	1 in 1000	<1 in 1000
HCV	1 in 200	Rare	Rare

\*Unvaccinated workers

80

80



## Rule 6. Engineering Controls

Definition from Rule 2:

- Engineering Controls are controls that isolate or remove the bloodborne pathogen hazard from the workplace.
  - sharps disposal containers
  - self-sheathing needles
  - safer medical devices
    - sharps with engineered sharps injury protections
    - needleless systems



81

81

## Rule 6. Engineering Controls

Definition from Rule 2:

Needleless systems means a device that does not use needles for:

- Collection or withdrawal of bodily fluids
- Administration of medication or fluids
- Other procedure involving potential for occupational exposure



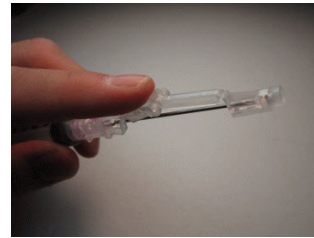
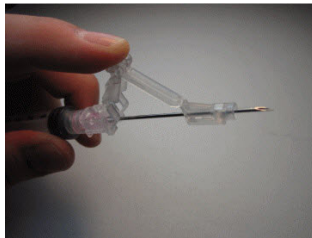
82

82

## Rule 6. Engineering Controls

### Definition from Rule 2:

Sharps with engineered sharps injury protections are [devices that have] built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.



83

83

## Sharps with Safety Features (Examples)



Source: CDC Poster

84

84

## Engineered Sharps Work

The Centers for Disease Control and Prevention (CDC) estimates that about 385,000 sharps-related injuries occur annually among health care workers in hospitals.



85

85

## Quiz Time

- A. Engineering controls are optional.
- B. Employees working in remote areas are exempt from the hand hygiene requirements of the standard.



86

86

## Rule 7. Work Practices

Work practices are required in conjunction with engineering controls to decrease risk of exposure to blood and OPIM.



Refer to OSHA FAQ #Q22-Q26

87

87

## Rule 7. Work Practices

Must include at a minimum

- PPE shall be removed before leaving the work area.
- Place PPE in designated container/area for:
  - Storage
  - Washing
  - Decontamination
  - Disposal

88

88

## Rule 7. Work Practices

### Definitions from Rule 2

- “Decontamination” means the use of physical or chemical means to:
  - remove,
  - inactivate, or
  - destroy bloodborne pathogens on a surface or item
- Decontaminate so the item or surface:
  - No longer capable of transmitting infectious particles
  - Rendered safe for handling, use, or disposal

89

89

## Rule 7. Work Practices

- Garments penetrated with blood or OPIM shall be removed immediately or as soon as feasible.
- Contaminated clothing includes scrubs that are purchased by the employee.
  - Must be removed immediately or as soon as practicable, where they became contaminated and before leaving the work area.



90

90

## Rule 7. Work Practices

- Provide handwashing facilities
- Handwashing:
  - immediately after removing gloves or other protective clothing
  - after contact with blood or OPIM



91

91

## How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

Duration of the entire procedure: 40-60 seconds



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

92

92



## Rule 7. Work Practices

- When hand washing facilities are not available waterless antiseptic hand cleansers shall be used.
- When waterless products are used, employees shall wash their hands with soap and water as soon as feasible.

For current information related to hand hygiene:

[www.cdc.gov/handhygiene/](http://www.cdc.gov/handhygiene/)

93

93

## How to Handrub?

**RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED**

**⌚ Duration of the entire procedure: 20-30 seconds**



94

94

## Rule 7. Work Practices

- Needles shall not be sheared, bent or broken, recapped, re-sheathed or removed.
  - In **very rare** instances there may be a reason for these procedures. This should be evaluated case by case.



95

95

## Rule 7. Work Practices

- Eating, drinking, smoking, applying cosmetics or lip balm, or handling contact lenses is prohibited where there is reasonable anticipation for exposure.
- Food and drink shall not be stored in refrigerators, freezers, shelves.... or in areas of possible contamination.



96

96



## Rule 7. Work Practices

- All procedures shall be performed in a manner that minimizes splashing, spraying and aerosolization of blood or OPIM.
- Mouth pipetting or suctioning is prohibited.

97

97



## Rule 8. Protective Work Clothing and Equipment (PPE)

- Employer shall provide and ensure that an employee uses PPE
- Assure appropriate PPE readily accessible at no cost in appropriate sizes and quantity
- Impervious to blood and OPIM (does not permit blood or OPIM to pass through)

Refer to OSHA FAQ #Q27-Q30

98

98

## Rule 8. Protective Work Clothing and Equipment

Examples of PPE:

- Gloves
- Gowns
- Fluid-proof aprons
- Laboratory coats
- Head and foot coverings
- Face shields or mask and eye protection



99

99

## Rule 8. Protective Work Clothing and Equipment

- Where splashes can be reasonably anticipated:
  - Masks and protective eyewear or chin length face shields shall be worn.
  - Impervious gowns, lab coats or boots and shoe covers shall be worn.

100

100

## Rule 8. Protective Work Clothing and Equipment

- Provide for cleaning, laundering, or disposal of contaminated PPE and clothing (includes scrubs).
- PPE may not be removed and laundered at home.



101

101

## Rule 8. Protective Work Clothing and Equipment

Let's talk about gloves

- Shall be worn if there is a reasonable anticipation of direct skin contact with blood or OPIM.
- Must be replaced when they become damaged.
- Shall be changed between patient contact.
- Allergies are associated with latex and powder in gloves. Must protect employees from chemical allergies.

Refer to OSHA FAQ #Q31-Q34

102

102

## Removing Contaminated Gloves



1. Grasp glove at the wrist and pull inside out
2. Hold soiled glove in gloved hand
3. Slide fingers under second glove and pull inside out over soiled glove
4. Dispose

103

103

## Rule 8. Protective Work Clothing and Equipment

Rule 8 has an exception for gloves for employees at a volunteer blood donation center (Red Cross).

..... but it is complicated



104

104



## Activity 2

What type of PPE should you wear?

- Giving a bed bath?
- Suctioning oral secretions?
- Transporting a patient in a wheel chair?
- Responding to an emergency where blood is spurting?
- Drawing blood from a vein?
- Cleaning an incontinent patient with diarrhea?
- Irrigating a wound?
- Taking vital signs?



105

105

## Quiz Time

- A. PPE cannot be a primary exposure control strategy.
- B. Gloves must be worn if there is an exposure potential.
- C. Eye and face protection is required by Rule 8.

106

106



## Module 4

Implement a program for proper management, decontamination and disposal of contaminated material.

107

107

## Rule 9. Housekeeping

An employer must determine and implement a written schedule for cleaning and method of decontamination based on:

- The location within a facility
- The type of surface to be cleaned
- The type of soil present
- The tasks or procedures being performed



Refer to OSHA FAQ #35

108

108

## Rule 9. Housekeeping

All equipment and environmental and working surfaces shall be maintained in a sanitary condition

- Work surfaces
- Coverings
- Equipment
- Bins, pails, etc.
- Glassware
- Specimens
- Reusable items

109

109

## Rule 9. Housekeeping

- Work surfaces shall be cleaned and appropriately decontaminated with an appropriate disinfectant:
  - After completion of procedures.
  - When surfaces are overtly contaminated.
  - Immediately when blood or other potentially infectious material is spilled.
  - At the end of the work shift if the surface may have become contaminated since the last cleaning.

110

110

## Rule 9. Housekeeping

Equipment, containers or reusable items \* that have been contaminated with blood or OPIM shall be decontaminated.

\*2014 revision removed the requirement to disinfect reusable items after use. Licensing rules apply for infection prevention and control.

111

111

## Rule 9. Housekeeping.

### **Appropriate disinfectants:**

- One to ten through one to one hundred concentration of household bleach to water.
- Environmental Protection Agency (EPA) registered disinfectants effective against *Mycobacterium* spp. (Tuberculocidals).
- EPA List G and L for Ebola virus.

Note: certain disinfectants (i.e. quaternary ammonium) are asthma sensitizers.

112

112

## Rule 9 Housekeeping

- Broken glassware that may be contaminated SHALL NOT be picked up with hands
- Use of mechanical means:  
Examples:
  - Brush/dustpan
  - Tongs
  - Cotton swab
  - Forceps

113

113

## Quiz Time

- A. Who regulates antimicrobial chemicals?
- B. Employers must document a schedule and method for decontamination.
- C. In the absence of visible contamination, a surface shall be considered clean.

114

114

## Rule 10. Regulated Waste Disposal

Definition from Rule 2:

Regulated waste means

- Liquid or semi-liquid blood or OPIM contaminated items that would release blood or OPIM if compressed.
- Items which are caked with dried blood or OPIM.



115

115

## Rule 10. Regulated Waste Disposal

Definition from Rule 2 (continued):

- Contaminated sharps
- Pathological and microbiological waste that contains blood or OPIM

If material is dripping or caked (with dried blood), it must be disposed as regulated waste.

In other words...

If you can fling it, sling it or wring it, place in red bag.

116

116

## Regulated Waste?



117

117

## Rule 10. Regulated Waste Disposal

- Regulated waste shall be placed into containers or bags that are:
  - Closable
  - Leak proof
  - Color-coded or labeled
- For contaminated sharps all the above plus puncture-resistant.
  - Must be easily accessible
  - Located close to where sharps will be used



Refer to OSHA FAQ #36-42

118

118

## Rule 10. Regulated Waste Disposal

If outer waste container is contaminated, must place in second container to prevent leakage during:

- Handling
- Storage
- Transport



119

119

## Michigan Department of Environment, Great Lakes, and Energy (EGLE) Medical Waste Regulatory Program

Requires:

- Registration of Facilities
- Medical Waste Management Plan

Contact EGLE for additional information

Phone: 517-230-9800

Email: [MedicalWaste@michigan.gov](mailto:MedicalWaste@michigan.gov)

<https://www.michigan.gov/egle/about/organization/materials-management/medical-waste-regulatory-program>

120

120



## Quiz Time

- A. MIOSHA regulates medical waste.
- B. Sharps containers should be located as closely as feasible to the area where sharps are used.
- C. A red bag is acceptable for medical waste and does not necessarily need to be labeled medical waste.

121

121

## Rule 11. Laundry

- Laundry that **IS** or **MAY BE** soiled with blood or OPIM, or contain sharps must be handled:
  - As little as possible
  - Minimal agitation
- Bagged at the location where it is generated.
- Transported in leak proof containers if it could soak through a laundry bag.

Refer to OSHA FAQ #Q43-Q47

122

122

## Rule 11. Laundry

- Laundry workers in health care settings are usually category A and must be supplied and use PPE when handling contaminated laundry.
- Follow universal precautions.



123

123

## Rule 12. HIV and HBV research facilities

- Few facilities in Michigan and they are generally B3 or B4 facilities. SOPs for this work would generally be above and beyond Part 554.
- If you need help or guidance on this, please refer to Rule 12.



Refer to OSHA FAQ #Q48-Q50

124

124

## Module 5

Evaluate availability and accessibility of exposed and injured employees to first aid and medical services.

125

125

## Rule 13. Vaccinations and post exposure follow-up

- All medical evaluations and procedures are performed by or under the supervision of a licensed physician or other licensed health care professional.
- All lab tests are conducted by an accredited laboratory.



Refer to OSHA FAQ #Q50-Q64

126

126

## Rule 13. Vaccinations and post exposure follow-up

- Within ten days of initial assignment each category A employee must be offered:
  - HBV vaccination
  - If an employee declines vaccination, the employer must have a signed declination form



127

127

## Rule 13. Vaccinations and post exposure follow-up

HBV Vaccination Waiver (declination form) must state:

- Understanding of risk
- Acknowledgment of opportunity of vaccination at no cost
- Declining vaccination
- Future availability of vaccination at no cost if desired and still at occupational risk

See appendix B for a sample waiver statement

128

128

## Rule 13. Vaccines and post exposure follow-up: Hepatitis B Titre – Healthcare workers

- If an employee who previously received the complete HBV vaccination series (from a previous employer), is found to be immune to HBV by virtue of adequate antibody titer, employer is not required to offer HBV vaccine series.
- According to Current CDC recommendations (for newly vaccinated healthcare employees):
  1. Must offer antibody titre within 60 days of the last vaccine in series.
  2. If inadequate antibodies, offer series of three again and titre as described above.
  3. If still inadequate antibodies, follow CDC guidelines as appropriate.

99

129

## Rule 13. Vaccinations and post exposure follow-up

Employers must provide health care professionals who provide vaccinations and postexposure follow-up a copy of Part 554.



130

130

## Rule 13. Vaccinations and post exposure follow-up

Employers must provide each exposed individual an opportunity to have a confidential medical evaluation and follow-up subsequent to a reported occupational exposure incident to blood or OPIM.

131

131

## Rule 13. Vaccinations and post exposure follow-up

Postexposure evaluation:

- Performed by a licensed health care professional
- Provided at no cost
- Provided according to U.S. public health service (Centers for Disease Control and Prevention)
- Confidential



132

132



## Rule 13. Vaccinations and post exposure follow-up

### Postexposure evaluation (continued):

- Document route of exposure
- Source individual identification and testing
- Exposed individual blood testing
- Postexposure prophylaxis as recommended by U.S. public health service (CDC)
- Counseling
- Evaluation of illnesses

133

133

## Rule 13. Vaccines and post exposure follow-up

For questions about medical treatment for occupational exposures:

Clinicians' Post Exposure Prophylaxis (PEP) Line at

1-888-448-4911 or

[www.nccc.ucsf.edu](http://www.nccc.ucsf.edu)

Hours, on website - 7 days/week



### PEP: Post-Exposure Prophylaxis

Expert advice on managing occupational and non-occupational exposures to HIV and hepatitis B & C.

[Online PEP Quick Guide »](#)

 [Get Post-Exposure Prophylaxis Advice](#)

134

134





## Rule 13. Vaccinations and post exposure follow-up

The employee must receive the written opinion from the evaluating professional within 15 working days of the completion of the evaluation.

135

135



## Rule 13. Vaccinations and post exposure follow-up

Employer information limited to:

- HBV vaccine information
- Statement that employee has been informed of test results and medical conditions that may have resulted from exposure

Note: The employer does not have the right to know employee's HIV, HBV or HCV status

136

136

## Part I I Recordkeeping and BID

Many healthcare facilities are partially exempt\* from Part I I recordkeeping requirements including:

- Offices of Physicians
- Offices of Dentists
- Offices of Other Health Practitioners
- Outpatient Care Centers
- Medical and Diagnostic Laboratories

\*Partially exempt: only required to keep if requested to do so by letter (OSHA, MIOSHA, Bureau of Labor Statistics).

137

137

## Part I I – Recordkeeping 300 log

Do I record exposure incidents on the 300 log?

- Yes - if medical treatment beyond First Aid
- Yes - if administering HBV vaccine post exposure
- Yes - if contaminated needlestick
- Yes - if cuts, lacerations, punctures, and scratches contaminated with another person's blood or OPIM
- No - if needlestick from a clean needle
- No - if splash of blood or OPIM and no HBV vaccine administered or disease results
- No - since not included as medical treatment:
  - Observation and counseling
  - Diagnostic procedures (i.e., blood tests)

138

138

## Part II Recordkeeping 300 Log

Record case as injury or illness?

- Injury:
  - Contaminated needlestick or sharp
  - Treatment beyond First Aid (vaccine)
- Illness:
  - Work related change in HIV, HBV, HCV status
  - Medication to treat illness (prophylactics)
- Change case from injury to illness if illness occurs

139

139

## Part II Recordkeeping 300 Log - Privacy Case

The following are included as “privacy” case:

- HIV infection, hepatitis, or tuberculosis.
- Needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material.
- Other illnesses, if the employee independently and voluntarily requests that his or her name not be entered on the log.

140

140

## Quiz Time

- A. Category B employees must be offered the Hep B vaccination.
- B. Employees may refuse to be vaccinated.
- C. Employees can have a co-pay for vaccination and post exposure prophylaxis.
- D. Contaminated needle sticks are “recordable” on the 300 Log.

141

141

## Rule 14. Communication of Hazards to the Employee

- Signs posted in work areas
- Labels affixed to containers of blood or OPIM
- Refrigerators and freezers containing blood or OPIM



Refer to OSHA FAQ #Q65-Q75

142

142

## Rule 15. Recordkeeping

- Employers must establish and maintain medical records for each category A employee
- Name and social security #
- Vaccination status
- Medical history and all examination and test results
- CONFIDENTIAL, but not subject to HIPAA

Refer to OSHA FAQ #Q76-Q80

143

143

## Rule 15. Recordkeeping - Sharps

Sharps Injury Log\* for contaminated sharps injuries:

- List type and brand of device involved in the incident;
- The work unit or work area where the exposure incident occurred; and,
- An explanation of how the incident occurred.

Must protect confidentiality of exposed employee.

\*Required for all who are required to keep the 300 Log of Injuries and Illnesses (most clinics are exempt).

144

144



## Rule 16. Information and Training

- All category A employees shall be trained at the time of initial assignment and annually thereafter.
- When changes occur that affect an employee's occupational exposure.
- The training must be at no cost to the employee and offered at a convenient time and place (during work hours).
- Appropriate for the educational level, literacy, and language of employees.

145

145



## Rule 16. Information and Training

### Contents of the training program:

- Accessibility and explanation of the BID Rules
- Epidemiology and symptoms of bloodborne diseases
- Modes of BID transmission
- Exposure Control Plan with site-specific SOPs
- Methods for recognizing tasks and procedures that involve exposure to blood or OPIM

146

146



## Rule 16. Information and Training

### Contents of the training program (continued):

- Use and limitations of:
  - Engineering controls
  - Work Practices
  - PPE
- PPE selection criteria
- Hepatitis B vaccine including:
  - Availability, efficacy, safety, benefits
  - Method of administration and free of charge



147

147

## Rule 16. Information and Training

### Contents of the training program (continued):

- What actions to take in case of an emergency involving blood or OPIM
- Post incident procedures (reporting and medical follow-up)
- Signs and labels or color coding

148

148

## 2014 Ebola Epidemic

- Ebola is a BID and can be transmitted via blood, OPIM and non-OPIM body fluids
- Ebola not airborne, unless invasive procedure creates mist of body fluids
- Other MIOSHA Standards that may apply:
  - Part 33/433 Personal Protective Equipment
  - Part 45I Respiratory Protection (bioaerosol generating procedures)
  - Part 42/92/430 Hazard Communication

149

149

## 2014 Ebola Epidemic (continued)

### Resources:

- OSHA – [www.osha.gov/ebola](http://www.osha.gov/ebola)
- CDC - [www.cdc.gov/vhf/ebola/](http://www.cdc.gov/vhf/ebola/)
- CDC - Guidance on Personal Protective Equipment for Healthcare: [www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html](http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html)

150

150

## Online Resources

MIOSHA A-Z Topic List:

[www.michigan.gov/leo/0,5863,7-336-94422\\_11407\\_52824---,00.html#b](http://www.michigan.gov/leo/0,5863,7-336-94422_11407_52824---,00.html#b)

OSHA: Bloodborne Pathogens and Needlestick Prevention:

[www.osha.gov/SLTC/bloodbornepathogens/index.html](http://www.osha.gov/SLTC/bloodbornepathogens/index.html)

CDC Healthcare-associated Infections:

[www.cdc.gov/HAI/prevent/ppe.html](http://www.cdc.gov/HAI/prevent/ppe.html)

NIOSH Bloodborne Infectious Diseases: HIV/AIDS, Hepatitis B, Hepatitis C:

[www.cdc.gov/niosh/topics/bbp/](http://www.cdc.gov/niosh/topics/bbp/)

151

151

## Review Objectives for Part 554

- Determine the applicability of Part 554 Bloodborne Infectious Diseases standards to specific personnel and facilities.
- Evaluate written exposure control plan.
- Identify proper engineering, work practices and personal protective equipment controls to reduce or eliminate exposure.
- Implement a program for proper management, decontamination and disposal of contaminated material.
- Evaluate availability and accessibility of exposed and injured employees to first aid and medical services.

152

152

## Assessment

- The purpose of this assessment is to validate the knowledge learned in class.
- Passing score of 70% correct is required.
- Class reference materials/books are not allowed to be used during the assessment.
- Collaboration/discussion with others is not allowed during the assessment.

153

153

Thank you.



154

Thank you.

Don't Forget to Take the Survey





# Parts 472 and 554 Medical Services, First Aid, and BID

---

## Student Resources

### **MIOSHA Standards:**

[Part 554. Bloodborne Infectious Diseases](#)

[Part 472. Medical Services and First Aid](#)

### **MIOSHA Compliance Instructions:**

[Eyewash/Shower Equipment](#)

[Medical Services and First Aid for General Industry and Construction](#)

[Tuberculosis](#)

### **MIOSHA Fact Sheet:**

[Eyewashes and Safety Showers](#) (pdf)

### **MIOSHA Guidelines and Sample Plans:**

[Bloodborne Infectious Diseases](#)

[Doctors/Dentist Office Compliance Starter Kit](#) (doc)

[Doctors/Dentist Office Checklist](#) (doc)

### **Other Resources:**

Centers for Disease Control and Prevention and the National Institute for Occupational Safety and Health (CDC/NIOSH): [Bloodborne Pathogens Topic Page](#)

Federal OSHA: [Bloodborne Pathogens Topic Page](#)

Michigan Department of Environmental Quality (DEQ) and EPA:

[Michigan DEQ Medical Waste Regulatory Program](#)

[EPA List of Disinfectants](#) (List D and/or E best disinfectants for bloodborne pathogens)

Centers for Disease Control and Prevention, [Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005](#)

### **MIOSHA Training Institute (MTI) Resources:**



[www.michigan.gov/mti](http://www.michigan.gov/mti)

**MIOSHA Training Calendar:**

[www.michigan.gov/mioshatraining](http://www.michigan.gov/mioshatraining)

**MIOSHA Homepage:**

[www.michigan.gov/miosha](http://www.michigan.gov/miosha)





Michigan Department of Labor and Economic Opportunity  
Michigan Occupational Safety and Health Administration  
Consultation Education and Training Division  
525 W. Allegan St., P.O. Box 30643  
Lansing, Michigan 48909-8143

For further information or to request consultation, education and training services  
call 517-284-7720

or

visit our website at [www.michigan.gov/miosha](http://www.michigan.gov/miosha)

[www.michigan.gov/leo](http://www.michigan.gov/leo)

LEO is an equal opportunity employer/program.