MONTANA DEPARTMENT OF CORRECTIONS

MONTANA STATE PRISON
HELTH SERVICES OPERATIONAL PROCEDURE

Procedure No.: MSP HS B-02.2	Subject: **BLOODBORN PATHOGENS**
Reference: NCCHC Standard P-B-02, 2018; Occupational Safety and Health Administration (OSHA) standards	Page 1 of 5 and 2 Attachments
Effective Date: November 1, 2010	Revised: October 1, 2020
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I. PURPOSE

To assist in protecting employees from infection from bloodborne pathogens, utilizing Occupational Safety and Health Administration (OSHA) standards as a guide for managing occupational exposure to blood, blood products, and other potentially infectious materials (OPIM). To provide guidelines for implementation of written and enforceable bloodborne pathogen procedures and establishing responsibilities for the systemic review and monitoring of compliance.

II. DEFINITIONS

Blood – human blood, human blood components, and products made from human blood.

Bloodborne pathogens – pathogenic micro-organisms that are present in human blood, and can cause disease in humans. These pathogens include, but are not limited to – Hepatitis B (HBV), Hepatitis C (HCV), and Human Immunodeficiency Virus (HIV).

Contaminated – the presence of the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Exposure Incident/Occupational Exposure – a specific eye, mouth, mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of the employee's duties.

Montana State Prison Safety Committee – a committee comprised of representatives from administration, health services, maintenance, food service, security, and Montana Correctional Enterprises, which meets monthly to review safety practices and review accident reports.

Other Potentially Infectious Materials (OPIM) – human body fluids which could be infectious. These include: semen, vaginal secretions, cerebrospinal fluid, joint fluids, lung or chest fluids, abdominal fluids, amniotic fluids and saliva in dental procedures. It also includes any body fluid that is visibly contaminated with blood and all body fluids in situations where it is difficult to impossible to differentiate between body fluids.

Parenteral – piercing the mucous membrane or the skin barrier through such events as needle-sticks, human bites, cuts and abrasions.

Personal Protective Equipment (PPE) – specialized clothing or equipment worn by an employee for protection against a hazard. PPE will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's clothing, undergarments, skin, eyes, mouth, or mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used. General work clothes not intended to function as protection against a hazard are not considered to be personal protective equipment.

Standard Precaution – work practices which require everyone to assume that all blood and body substances are potential sources of infection, independent of perceived risk.

III. PROCEDURE

A. General Requirements

1. Post exposure evaluation and follow-up immediately through Deer Lodge Medical Center's Emergency Room (primary), Community Hospital of Anaconda's Emergency Room (back up), or their primary physician. Any employee involved in an exposure incident should immediately report the incident to their supervisor.

2. Post exposure treatment, counseling and follow-up will be made available to all employees (as listed in *attachment A, Management of Occupational Blood Exposures*) at no expense to the employee through the Worker's Compensation system.

3. The exposed employee's blood should be tested as soon as possible, i.e., within hours, as referenced in the *Post-Exposure Follow-Up and Treatment form (attachment B)*. A copy of this form should also be given to the employee at the time of exposure.

4. Information regarding exposure incidents will be reported to and retained confidentially by MSP's Worker's Compensation coordinator.

5. The list of reporting contacts for confidential documentation is as follows:
   a. immediate supervisor;
   b. designated worker's compensation physician;
   c. MSP worker's compensation coordinator; and
   d. health services administrator.

6. The office of Human Resources will be responsible for maintaining a separate confidential medical file on all employees who have occupational exposure. These records to include:
   a. name of employee;
   b. social security number of employee;
   c. copy of employees Hep B vaccination status including:
      1) dates of vaccinations; and
      2) medical records relative to the employee's ability to receive vaccinations.
   d. copies of the results of examinations, medical testing, and follow-up procedures which took place as a result of an employee's exposure to bloodborne pathogens;
   e. a copy of the information provided to the consulting physician as a result of any exposure to bloodborne pathogens;
   f. these records will be maintained for a period of employment plus 30 years: these records are confidential; and
   g. training records for employees will be maintained for at least 3 years and are not confidential.

7. The Montana State Prison Safety Committee will review all accident reports related to exposures of inmates and staff at its monthly meeting. Recommendations for changes in unsafe work practices, or suggestions for safety equipment, will be discussed by the committee.

B. Education/Training

1. Any staff involved with employee training will develop and approve all training curricula in standard precautions, the use of PPE, and other necessary procedures for assuring prevention of contamination as part of every new employee's pre-service training program.

2. All staff will be trained on or have access to:
   a. The regulatory text of bloodborne pathogen standards and an explanation of its content.
   b. A general explanation of the epidemiology and symptoms of bloodborne diseases.
   c. An explanation of the modes of transmission of bloodborne pathogens.
   d. An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan.
   e. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood or OPIM.
   f. An explanation of the use and limitations of methods that will prevent or reduce exposure, including appropriate controls, work practices, and PPE.
   g. Information about the types, proper use, location, removal, handling, decontamination, and disposal of PPE.
   h. An explanation of the basis for selection of PPE
   i. Information about the HBV vaccine, including information about its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
   j. Information about the appropriate actions to take and persons to contact in an emergency involving blood or OPIM.
   k. An explanation of the procedures to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be available.
   l. Information about the post exposure evaluation and follow-up that the employer is required to provide for the employee after the exposure incident.
   m. An explanation of the signs and labels and/or color coding by OSHA regulation 1910.1030 (g)(vii)(1).
   n. An opportunity for interactive questions and answers with the person conducting the training sessions.

C. Standard Precautions

1. Standard precautions will be followed throughout MSP, according to the Centers for Disease Control.

2. A standardized list of personal protective equipment (PPE) will be provided to all areas within MSP.

3. Protective equipment will be used by all staff when it can be reasonably anticipated that skin, eye, mucous membrane, or parenteral contact with blood, or other potentially infectious materials, may result from the performance of their duties.

4. Hands and other skin surfaces that have been contaminated should be washed immediately and thoroughly. Hand washing should be used in conjunction with PPE. Hands should be washed before putting on gloves and after taking them off, and after hand to skin contact with any person.

5. Mucous membranes that have been contaminated should be immediately flushed with water.

D. Personal Protective Equipment (PPE)

1. MSP will ensure that protective equipment, in appropriate sizes, will be readily accessible to the employee whether issued to the employee or at work sites. This equipment will include gloves, gowns, face masks, eye wear, and mouth pieces, and for Clinical services, laboratory coats. Staff will not be discouraged from using any PPE.

2. MSP will provide any cleaning, laundering, or disposal of contaminated PPE; there will be no cost to the employee for this service.

3. MSP will replace or repair any PPE that becomes damaged (torn, broken, leaks, and so on) and loses its original effectiveness.

4. Staff will remove all PPE before leaving the facility and place it in an appropriate area or storage container for laundering, storage, decontamination, or disposal. This includes:
   a. gloves will be worn when it can be reasonably anticipated that staff may have hand contact with body products, contaminated items, or surfaces which would result in an occupational exposure. This includes the following:
      1) disposable (single use) gloves shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured or when their ability to function as a barrier is compromised; and
      2) disposable (single use) gloves shall NOT be washed or decontaminated for re-use.
   b. gowns, appropriate protective clothing, will be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.
   c. masks, in combination with eye protection devices, such as goggles, or glasses with solid side shields, will be worn whenever splashes, spray, splatter, or droplets of blood or OPIM may be generated and nose or mouth contamination can be reasonably anticipated; and
   d. all employees will have easily accessible respiratory equipment, resuscitation bags, or one-way valve pocket masks to be used any time mouth to mouth resuscitation is required.

E. Regulated Waste Management

1. Clean up of medical infectious waste will be done with appropriate PPE and approved solutions.

2. MSP will have containers which meet the standards for medical waste disposal. This includes the following:
   a. containers will be closable, constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping. Additionally, containers will be color-coded and labeled with the official biohazard seal; and
   b. all containers will be labeled, locked and stored in a designated area for pick-up and disposal.

3. MSP will maintain the services of a licensed medical waste disposal company for appropriate infectious waste disposal.

4. All used disposable PPE will be removed and placed in a color-coded and labeled biohazard container for proper disposal prior to leaving the work area.

5. Inmate clothing and linen which are contaminated will be placed in a color-coded and labeled biohazard bag. The closed bag will be placed for collection by the laundry service. This includes the following:
   a. the laundry bag will be opened, and the contents deposited in a washing machine without handling; and
   b. if the contents must be handled, protective equipment will be worn by laundry staff.

F. Housekeeping

1. Equipment and work surfaces that have become contaminated with blood or OPIM shall be cleaned and disinfected as soon as feasible as well as at the end of the work shift if the surfaces have become contaminated since the last cleaning.

2. Protective coverings used to cover equipment and/or surfaces shall be removed and replaced when overtly contaminated or after treatment of a patient.

3. All pails, cans, bins, or similar receptacles intended for reuse shall be inspected, cleaned, and decontaminated immediately or as soon as feasible when visibly contaminated.

4. Broken glass shall not be picked up by hand but shall be swept up or picked up with tongs.

5. Bags to be used for regulated waste are red and/or have the biohazard symbol on them, or a placard, slip, or tag shall be affixed to the bag pursuant to OSHA regulation 1910.1030 (g)(1)(i)(e).

IV. CLOSING

Questions concerning this operational procedure will be directed to the Clinical Services Manager.

V. ATTACHMENTS

Management of Occupational Blood Exposure	attachment A
Post Exposure Follow-Up and Treatment	attachment B

MANAGEMENT OF OCCUPATIONAL BLOOD EXPOSURES

MSP Infirmary Staff will provide immediate care to the exposure site.

- Wash wounds and skin with soap and water.
- Flush mucous membranes with water.

The Following procedures will be done by Deer Lodge Memorial Hospital Emergency Room (primary), Community Hospital of Anaconda's Emergency Room (back up), or their primary care physician.

Determine risk associated with exposure by

- Type of fluid (e.g., blood, visibly bloody fluid, other potentially infectious fluid or tissue, and concentrated virus) and
- Type of exposure (i.e., percutaneous injury, mucous membrane or nonintact skin exposure, and bites resulting in blood exposure).

Evaluate exposure source

- Assess the risk of infection using available information.
- Test known sources for HBsAg, anti-HCV, and HIV antibody.
- For unknown sources, assess risk of exposure to HBV, HCV, or HIV infection.
- Do not test discarded needled or syringes for virus contamination.

Evaluate the exposed person

- Assess immune status for HBV infection (i.e., history of hepatitis B vaccination and vaccine response).

Give PPE for exposure posing risk of infection transmission.

- HBV: see table 1.
- HCV: PEP not recommended.
- HIV: see table 2 .
- Initiate PEP as soon as possible, preferably within hours of exposure.
- Offer pregnancy testing to all women of childbearing age not known to be pregnant.
- Seek expert consultation if viral resistance is suspected.
- Administer PEP for 4 weeks if tolerated.

Perform follow-up testing and provide counseling.

- Advise exposed persons to seek medical evaluation for any acute illness occurring during follow-up.

HBV exposures

- Perform follow-up anti-HBs testing in persons who receive hepatitis B vaccine.
- Test for anti-HBs one to two months after last dose of vaccine.
- Anti-HBs response to vaccine cannot be ascertained in HBIG was received in previous 3 to 4 months.

HCV exposures

- Perform baseline and follow-up testing for anti-HCV and alanine amino-transferase (ALT) 4 to 6 months after exposure.
- Perform HCV RNA at 4 to 6 weeks if earlier diagnosis of HCV infection desired.
- Confirm repeatedly reactive anti-HCV enzyme immunoassays (IEAs) with supplemental tests.

HIV exposures

- Perform HIV antibody testing for at least 6 months post exposure (e.g., at baseline, 6 weeks, 3 months, and 6 months).
- Perform HIV antibody testing if illness compatible with an acute retroviral syndrome occurs.
- Advise exposed persons to use precautions to prevent secondary transmission during the follow-up period.
- Evaluate exposed persons taking PEP within 72 hours after exposure and monitor for drug toxicity for at least 2 weeks.

Table 1. Recommended PEP for exposure to Hepatitis B

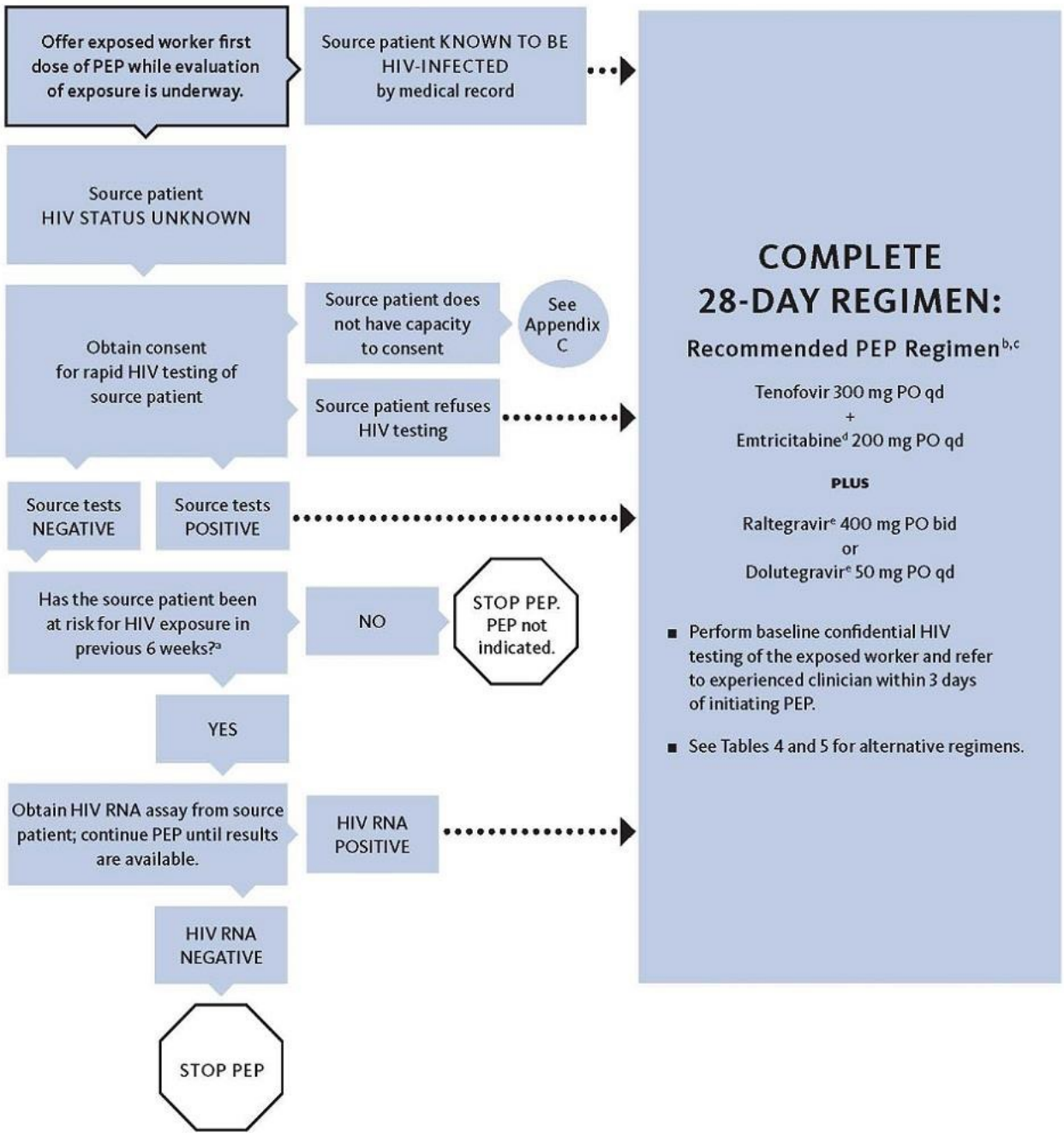
Vaccination and antibody response status of exposed workers	Treatment		
	Source is HBsAG positive	**Source is HBsAG negative**	**Source is unknown or not available for testing**
Unvaccinated	HBIG x 1 and initiate vaccine series	Initiate HB vaccine series	Initiate HB vaccine series
Previously Vaccinated			
Known Responder	No treatment	No treatment	No treatment
Known Unresponder	HBIG given immediately, ideally within 12 hrs or exposure. A second dose of HBIG should be given at 4 weeks. Initiate revax series, same time as HBIG, different site. Continue HBV vax at normal intervals.	No treatment. Consider revax of HBV.	If known high risk source, treat as if source were HBsAG positive.
Antibody response unknown	Test exposed person for HBsAB: 1. if adequate, no treatment is necessary 2. if inadequate, administer HBIG x 1 and vaccine booster 3. Consider testing exposed person for HBsAG	No treatment	Test exposed person for HBsAB 1. if adequate, no treatment is necessary 2.if inadequate administer vaccine booster and recheck titer in 1-2 months

Table 2. Recommended HIV PEP					
Exposure Type	**Infection status of source**				
	HIV Positive	**HIV/HCV Positive**	**Unknown HIV Status**	**Unknown Source**	**HIV Negative**
If info on the source is unknown, and the decision to start PEP is made (based on risk factors, exposure type, etc.) PEP should not be delayed. Changes can be made as needed after PEP is started and addt'l info about the source is obtained.	Preferred regimen for PEP: raltegravir PLUS tenofovir and emtricitabine (Truveda). This regimen can be admin'd in the case of a pregnant woman although safety date in pregnancy are limited. When initiating an expanded regimen for HIV with known resistance varients, expert consult is recommended.	Consider PEP for positive HIV exposure.	Consider PEP on an individual basis, accounting for severity of exposure.	Consider PEP on an individual case basis, accounting for severity of exposure.	No PEP warranted.

Exposed sites should be cleansed of contaminated fluid as soon as possible after exposure. Wounds and skin sites are best cleansed with soap and water, avoiding irritation of the skin. Exposed mucous membranes should be flushed with water. Alcohol, hydrogen peroxide, Betadine or other chemical cleansers are best avoided. HCWs should be trained to avoid "milking" or squeezing out needlestick injuries or wounds. Squeezing the wound may promote hyperemia and inflammation at the wound site, potentially increasing systemic exposure to HIV if present in the contaminating fluid.

Exposures for Which PEP Is Indicated

- Break in the skin by a sharp object (including hollow-bore, solid-bore, and cutting needles or broken glassware) that is contaminated with blood, visibly bloody fluid, or other potentially infectious material, or that has been in the source patient's blood vessel.
- Bite from a patient with visible bleeding in the mouth that causes bleeding in the exposed worker.
- Splash of blood, visibly bloody fluid, or other potentially infectious material to a mucosal surface (mouth, nose, or eyes).
- A non-intact skin (e.g., dermatitis, chapped skin, abrasion, or open wound) exposure to blood, visibly bloody fluid, or other potentially infectious material.



[a] Depending on the test used, the window period may be shorter than 6 weeks. Clinicians should contact appropriate laboratory authorities to determine the window period for the test that is being used.
[b] If the source is known to be HIV-infected, information about his/her viral load, ART medication history, and history of antiretroviral drug resistance should be obtained when possible to assist in selection of a PEP regimen.[13] **Initiation of the first dose of PEP should not be delayed while awaiting this information and/or results of resistance testing.** When this information becomes available, the PEP regimen may be changed if needed in consultation with an experienced provider.
[c] See Appendix A for dosing recommendations in patients with renal impairment.
[d] Lamivudine 300 mg PO qd may be substituted for emtricitabine. A fixed-dose combination is available when tenofovir is used with emtricitabine (Truvada 1 PO qd).
[e] See Appendix A for drug-drug interactions, dosing adjustments, and contraindications associated with raltegravir and dolutegravir.

Source: http://www.hivguidelines.org/resource-materials October 2014

Source: HIV Provider Reference Series/March 2014 www.mpaetc.org

POST EXPOSURE FOLLOW-UP AND TREATMENT
(please give to exposed employee)

Recommendations from the Worker's Compensation System

1. HIV Exposure (source known or unknown)

A. A baseline blood test for HIV antibody should be obtained by the designated workers compensation physician as soon as possible.

B. If the baseline result is *negative*, treatment with post exposure prophylaxis will be offered. (This must be done as soon as possible after the exposure).

B. Further testing will be conducted per current Worker's Compensation policy.

C. If further testing is negative for one year after exposure, the employee has not contracted the disease.

D. If the baseline result is *positive*, no liability for MSP exists, because the employee would have contracted the disease prior to the time of this exposure.

E. If the employee refuses baseline blood work their worker's compensation benefits could be compromised.

F. ALL INFORMATION IS TO REMAIN CONFIDENTIAL.

2. Hepatitis B Exposure

A. A baseline blood test for Hepatitis B and C should be obtained by the designated worker's compensation physician.

B. If the employee has had the Hepatitis B vaccine and the baseline shows that the employee has antibody, no treatment is indicated.

C. If the employee has not been vaccinated for Hepatitis B, treatment should be started immediately with Hepatitis B Immune Globulin (HBIG) and Hepatitis B vaccine.