Jackson HEALTH SYSTEM Miracles made daily.

Section: Employee Health Services

Subject: Blood Body Fluids Exposures - Needlesticks/Sharps

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I. Purpose

The purpose of this policy is to minimize the risk of infection following a needlestick/body fluid exposure.

II. Definitions

Bloodborne and Other Pathogens Involved in Body Fluid Exposures: Modes of Transmission and Infectivity:

1. **Hepatitis B (HBV)**: Transmitted through blood and serous fluids. Incubation period 45 to 160 days, (average 120). Risk of transmission is 1 in 5. Can live up to eight-(8) days in dried blood.
2. **Hepatitis C**: Transmitted by blood and serous fluid. Often found in patients also infected with Hepatitis B.
3. **HIV**: Usually transmitted through blood and semen, not found in sweat, tears or urine

(unless is bloody) . Usually dies within minutes in dried blood. However, recent studies have found that it can live in moist conditions for up to six-(6) days. Incubation period two-(2) weeks to six-(6) months. Studies show, largest group converted in six-(6) weeks, next at three-(3) months and smallest at six-(6) months.

4. **Other Bacterial and Viral Pathogens**: There are less common pathogens that can be transmitted via blood such as malaria and syphilis, but the risk is extremely small.

Body Fluid Exposure: Any exposure to non-intact skin or mucus membranes by body fluids that are infected or potentially infected by bloodborne pathogens. Most common exposures ranked from highest to lowest risk of transmitting disease:

1. Sexual contact
2. Needlesticks, cuts
3. Prolonged exposure to non-intact skin including open wounds, abrasions, chapped hands, dermatitis. The longer the time of exposure, the greater the risk of transmission.
4. Splashes to eyes or mouth.
5. Bites: More at risk for bacterial pathogens from the skin surface than HIV or HBV.

Body Fluids at Risk for Transmission of Bloodborne Pathogens: (Ranked from greatest to least risk of infection)

1. Blood, blood products, semen, vaginal secretions or any body fluid visibly contaminated by blood.
2. Cavity fluids, cerebrospinal, synovial, peritoneal, pericardial; serous, and wound fluids.
3. Breast milk can transmit diseases such as HIV and Hepatitis.
4. Saliva and urine can transmit bloodborne pathogens if visibly or potentially containing blood, such as during dental procedures, trauma or surgery.

Hep C- Antibody Screen: Test for Hepatitis C may not be accurate with the indication of the presence or absence of infection. Must be correlated with clinical symptoms and a positive Polymerase Chain Reaction (PCR).

Hepatitis B Antigen: (HBsAg): Indicates the presence of the infectious agent for Hepatitis B.

Hepatitis B Surface Antibody (HBsAb): Indicates immunity to Hepatitis B. Thought to be present a lifetime if immune as a result of disease.

Hepatitis C PCR: Test to determine the viral load for Hep C

Human Immunodeficiency Virus (HIV): The virus that causes Acquired Immunodeficiency Syndrome (AIDS). Not positive unless confirmed by Western Blot or Immunofluorescent Assay (IFA).

Human Immunodeficiency Virus (HIV) Viral Load: Indicates amount of virus in the blood. The higher the viral load, the greater the risk of transmitting infection.

Minor: A Minor is an unemancipated child under the age of 18, such as an infant or young child, who is generally considered to be unable to make informed decisions and therefore consent of their parent or legal guardian is required for testing.

Note: For older children (such as teenagers), the provider must make an individual judgement whether the child demonstrates sufficient knowledge and maturity to make an informed judgement, meaning whether the child has the cognitive and emotional capacity to understand the risks and benefits of the test to which the child is being asked to consent.

Post Exposure Prophylaxis (PEP):

1. **Hepatitis B**:
   a. Immune globulin (IG): No longer thought to be effective against Hepatitis.
   b. Hepatitis B Immune Globulin (HBIG): Immune Globulin prepared from plasma containing high titers of Hepatitis B antibodies. HBIG may be effective up to seven days from the onset of exposure. Should be given as soon as possible. Dosage: IM by body weight x 1 dose.
2. **Hepatitis C**: No prophylactic treatment is available, requires blood surveillance x 1 year
3. **HIV**:
   a. PEP: Truvada 1 oral daily for 28 days **AND**
   b. Dolutegravir 50 mg oral daily for 28 days
   c. Zofran 4 mg 1 PO Q 8hours PRN

For Pregnant Employees:

a. Truvada 1 oral daily for 28 days **AND**
b. Isentress 400 mg BID for 28 days
c. Zofran 4 mg 1 PO Q 8hours PRN
d. May be given during pregnancy with Obstetrics (OB) clearance

Source: The source is the person or object acting as the host of the body fluid. When the source is an object, the risk of infection in the human source must be determined whenever possible.

Unknown Source: A source is determined to be unknown, only after reasonable attempts have been made to locate and investigate the source. A source can be declared "unknown" for treatment reasons if there is insufficient time to investigate the source before the at-risk period's ends. (HIV – 24 hours (up to 72 hours post exposure to administer PEP) (HBV and HBIG – 7 days).

III. Procedure

A. General Policy Provisions
   1. All Jackson Health System (JHS) employees and students are eligible for emergency treatment, Hepatitis B immunization and medical surveillance as outlined in this protocol.
   2. All other Health Care personnel (HCP), University of Miami (UM) Attendings and students under contract within the Jackson Health System, agency personnel and visiting Doctors are eligible for emergency treatment, baseline testing, and source investigation if the source is a JHS patient.
      a. Follow-up treatment and medical surveillance is the responsibility of the contracted agency.
   3. All UM employees and UM Medical Students that have an exposure within the JHS will call (305) 689-2667 for subsequent follow up care with UM.

B. Equipment/Forms Needed
   1. Reference: Bloodborne Pathogens Exposure Control Plan
   2. Form: Supervisor's Referral Form/Injury on Duty Report.
   3. Laboratories:
      a. Red and Tiger Top tubes for (Aspartate Aminotransferase (AST), (Alanine Aminotransferase (ALT), Hep B, Hep C.
      b. Lavender top for Rapid HIV.
      c. Lavender top for Complete Blood Count(CBC)

d. Tiger top for (Blood Urea Nitrogen (BUN)); Creatinine, Amylase and Lipase.
e. Separate Tiger top for HIV testing (non-rapid).
f. Pearl top for HIV Viral Load.
g. Red top for Hep C (Polymerase Chain Reaction) (PCR).

C. Reporting the Needlestick or Exposure
1. When a Health Care Worker (HCW) sustains a Needlestick incident/ blood or body fluids (BBF) Exposure, the HCW will report to their respective JHS Emergency Department (ED) for initial treatment, and counseling.
2. The HCW will be referred to Employee Health Services (EHS) clinic the next working business day for follow up. Must bring copy of completed Supervisor Referral Form.
3. All needlestick/body fluid exposures are reported on the Supervisor's **Injury on Duty Report**, which are kept on the units/departments. Employee must bring a copy to ED and one to EHS.

D. Obtaining Source Blood (See Bloodborne Pathogen Exposure Control Plan)
1. HbsAG and Hepatitis C Antibody Screen –
   a. The head nurse or charge nurse of the unit/facility where the patient is located will draw the blood.
   b. A written consent is not necessary to obtain or test the blood for HbsAG and Hepatitis C Antibody Screen. However, the source should be asked to verbally consent whenever possible.
2. HIV –
   a. The physician, the head nurse or charge nurse should obtain a blood sample from the exposure source.
   b. They should obtain the source's consent, if possible, but consent is not required to test source blood for an occupational exposure (see JHS Policy No. 400.033 - HIV Testing, Consent, and Reporting Guidelines).
   c. If the source willingly gives consent, the **HIV Source Consent Form** should be completed.
      i. The form is available on the JetPortal
3. Infection Control and Prevention will investigate the source if there appears to be a risk of any other infection.
4. Minors:
   a. When the source patient is a Minor, Informed Consent must be obtained by a legal guardian or other person authorized by law.
   b. The provider caring for the child, or designee, must be notified of the exposure event, need for patient testing, and labs to be ordered.
      i. The provider is responsible for: notifying and obtaining consent from the parent or legal guardian, order entry of necessary labs, disclosure of results to parents if necessary.
   c. If the parent or legal guardian refuse testing, there is to be an interdisciplinary discussion to determine degree of exposure, and if need be, the need for court ordered testing.

E. Triage (Clerk)
Determines when the injury occurred.

F. First Aid
1. Clean wound with soap and water. Do not squeeze or cut open a wound.
2. Close wounds with a Band-Aid or butterfly bandage. If severe, needs suturing.

3. Flush eyes gently with copious amounts of water or irrigating saline eye solution.

G. Exposure Determination (Nurse, Advance Practice Registered Nurse (APRN))
   1. Assess and document the route of exposure, type of body fluid, severity of the injury, condition of the skin, type of sharp and needle size, the type of barrier protection in place at the time of the injury, date and time of exposure and how the injury occurred.
   2. Determine if a significant exposure occurred.
   3. Determine the type of the body fluid and type of if the body fluid is at risk for transmitting HIV, HBV and Hep C. or other infection.
   4. If the incident does not meet guidelines for an exposure:
      a. No further treatment or surveillance is needed.
   5. If the incident meets criteria for exposure:
      a. Assess the source for risk of being infected, as much as possible in an initial interview and time frame.
      b. Assess the injured HCW risk for immunity to Hepatitis B, medical conditions that may cause immunosuppression, prior risk of exposure to blood borne pathogens and contraindications to treatment.

H. Provide Emergency Treatment (RN or APRN)
   1. HBIG if not immunized against HBV and if the Source is Positive for HBSAG
   2. Basic Regimen for HIV (PEP) - **APRN**
   3. Antibiotics for bites.

I. Provide Baseline Serology Testing for Employees
   1. AST, ALT
   2. HIV, HbsAg, Hbsab if not HbsAb positive, and Hep C Antibody Screen
   3. If Source is Unknown or HIV Positive (+), and the employee will be receiving PEP medications, ***add the following laboratory work:***
      a. Amylase
      b. BUN
      c. Creatinine
      d. CBC with Differential
      e. Lipase
   4. Any employee exposed to a potential HIV Positive source shall be tested for HIV under the general consent signed at time of registration.

J. Provide Counseling
   1. Risks regarding treatment
   2. Meaning of serology results
   3. Recommendations for follow-up serology
   4. Confidentiality of Source information and test results
   5. Advise Non-JHS HCW's to make arrangements with their employer/school for continued treatment and serology surveillance.
      a. Provide copies of exposure reports and treatment recommendations to take to their employer for follow-up.
      b. Their employer's Provider will contact JHS EHS to request Source results.

K. Documentation
   1. Document in employee Electronic Health Records
   2. Complete the Supervisor Referral Form with Discharge instructions
   3. Complete the treatment plan.

L. Initiate Source Investigation
   1. The unit charge nurse or nurse where patient is located will research the Source, obtain orders and draw the blood.
   2. JHS Satellites collects Source blood, employee brings specimen to the nearest JHS ED, then ED Provider places orders.
   3. Corrections Health System (CHS) orders and collects blood.
   4. Whenever possible, the Source patient from Ambulatory Care Center (ACC) reports to JMH ED accompanied by employee.
   5. Source Laboratory work required:
      a. Rapid HIV
      b. HIV Viral Load if Source is HIV Positive (+)
      c. Hep B Surface Antigen
      d. Hep C Antibody Screen
      e. Hep C PCR if Source is Known Hep C Positive (+)

M. Follow Up Visit #1 with EHS next business day after ED Visit
   1. Discuss source and HCW lab results.
   2. Initiate or discontinue treatment as appropriate and schedule follow-up.
   3. Have the HCW sign appropriate forms.
   4. Document in Employee Health Records STOP surveillance and close case if applicable.
   5. Non-JHS employees or students:
      a. Provides copies of lab results for their records and to follow up with their employers.

N. Follow-up Appointments
   1. If the HCW is on HIV regimen or waiting to be given HBV regimen pending outcome of source investigation, have the HCW return to EHS next business day.
   2. If the HCW is on HIV regimen for four weeks, schedule at two weeks and four weeks follow up.

O. Follow Up Appointments at EHS
   1. Six (6) Week, Twelve (12) Week, Six (6) Month and One (1) year
      a. Assess for signs of viral illness.
      b. Provide results of previous tests.

P. Draw appropriate serology and arrange for the person to come back to EHS for results
   1. Schedule next visit.
   2. Document in Employee Health Record.

Q. Discontinuing Surveillance
   1. If the Source is HIV, Hep C or HbsAG negative, stop follow-up.
   2. Write STOP SURVEILLANCE in Employee Health Records.

R. Management of Complications/Conversions
   1. HIV, HBsAg or Hep C Antibody Screen on baseline.
      a. Evaluate for prior recent work related or personal exposures.
      b. If work related exposures in the appropriate time frame are identified, consult with Medical Director for evaluation and appropriate referral.
      c. If Non-work related incidents are documented, refer employee to their private doctor for evaluation and treatment.
   2. HIV, HBsAg or Hep C Antibody Screen during surveillance:
      a. Repeat the test to rule out lab error.

b. Complete confirmatory testing (Western Blot or IFA, Hep C, PCR, etc.).
c. If the repeat tests are positive during surveillance, refer the HCW to workers' compensation for evaluation and treatment by an appropriate specialist.
d. All information regarding the incident and follow-up will be handled confidentially and will not be revealed unless released by the HCW or as required by law.

S. Management of Needlestick in Operating Room
1. For needlesticks occurring during an active case when employee cannot leave sterile field/operation, the site will be cleansed (per policy).
2. If puncture wound present or broken skin, after cleansing site, pharmacy will be contacted at #305-585-5389.
   a. Pharmacist will deliver initial dose of Post-exposure prophylaxis (PEP) to OR.
   b. If after-hours, employee will present to Emergency Department (ED) for initial assessment, labs and additional doses of PEP, immediately after completion of case.
   c. Employee will report to EHS the next working business day for follow up.

IV. References

JHS HRCM Employee Health Services Policy No. 235 – Illness / Injury on Duty Policy

JHS Policy No. 400.033 - HIV Testing, Consent, and Reporting Guidelines

JHS Policy No. 400.050 - Disclosure of HIV Status to Minors

JHS Infection Control 2020 Bloodborne Pathogens Exposure Control Plan

Florida Omnibus Aids Act § 381.004, F.S.

Responsible Party: Executive Vice President & Chief Human Resource Officer
Jackson Health System

Reviewing Committee(s): Infection Prevention Committee
JHS Policy and Procedure Committee

Authorization: Department Head