Section: Clinical

Subject: Needlesticks Body Fluid

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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 Non A-Non B**: Other Hepatitis not clearly defined. The incidence of transmission is low.

3. **Hepatitis C**: Recently isolated from the Hepatitis Non A-Non B category. Thought to be transmitted by blood and serous fluid. Often found in patients also infected with Hepatitis B.
4. **HIV**: Usually transmitted through blood and semen, not found in sweat and tears. 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.
5. **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. Saliva and urine can transmit bloodborne pathogens if visibly or potentially containing blood, such as during dental procedures, trauma or surgery.

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. Laboratory Definitions

Anti-Hep C: 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 PCR.

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

Hepatitis B Immunity: Evidence of a positive HBsAB.

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 presence of active disease.

HIV: Human Immunodeficiency Virus, the virus that causes AIDS. Not positive unless confirmed by Western Blot or IFA.

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

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 if the source has signs of acute Hepatitis. Dosage: IM by body weight, one month apart.
2. **Hepatitis C**: No prophylactic treatment is available
3. **HIV**:
   a. PEP: Truvada 1 oral daily for 28 days **AND**
   b. Dolutegravir 50 mg oral daily for 28 days
   c. May be given during pregnancy with OB clearance

IV. Policy Provisions

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), 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 client. 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.

EQUIPMENT/FORMS NEEDED

Reference:
Bloodborne Pathogens Exposure Control Plan

Form:
Supervisor's Referral Form/Injury on Duty Report.

Laboratories:

- Red and Tiger Top tubes for AST, ALT, Hep B, Hep C
- Lavender top for Rapid HIV
- Lavender top for CBC
- Tiger top for BUN; Creatinine and Amylase
- Separate Tiger top for HIV testing (non-rapid)
- Pearl top for HIV Viral Load

- Red top for Hep C PCR

V. Procedure

A. Reporting the Needlestick or Exposure
1. When a Health Care Worker (HCW) sustains a Needlestick incident/BBF Exposure, the HCW will report to their respective Emergency Department (ED) for initial treatment, and counseling. The Health Care Worker will be referred to EHS (Employee Health Services) clinic the next working business day for follow up. Must bring copy of completed Supervisor Referral Form.

2. All needlestick/body fluid exposures are reported on the Supervisor's **Injury on Duty Report,** which are kept on the nursing units. Employee must bring a copy to ED and one to EHS.

B. Obtaining Source Blood (See Bloodborne Pathogen Exposure Control Plan)
1. HbsAG and Hepatitis C Antibody – The head nurse or charge nurse of the unit where the patient is located will draw the blood. A written consent is not necessary to obtain or test the blood for HbsAG and Hepatitis C Antibody. However, the source should be asked to verbally consent whenever possible.

2. HIV – The doctor, the head nurse or charge nurse should obtain a blood sample from the exposure source. 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). If the source willingly gives consent, the **HIV Source Consent Form** should be completed. The form is available on the JetPortal under Bulletin Board Blood Body Fluid Exposure

3. The Infection Control Department will investigate the source if there appears to be a risk of any other infection.

C. Triage (Clerk)
1. Determine when the injury occurred.

D. 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 irritating saline eye solution.

E. Exposure Determination (Nurse, ARNP)
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 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

F. Provide Emergency Treatment (RN or ARNP)
1. HBIG if not immunized against HBV
2. Basic Regimen for HIV (PEP)
3. Antibiotics for bites.

G. 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
4. Any employee exposed to a potential HIV Positive source shall be tested for HIV under the general consent signed at time of registration.

H. Provide Counseling
1. Risks regarding treatment
2. Meaning of lab results
3. Recommendations for follow-up serology
4. Confidentiality of Source information and test results
5. Advise Non-PHT HCW's to make arrangements with their employer/school for continued treatment and serology surveillance. (Give copies of exposure reports and treatment recommendations to take to their employer for follow-up. Make arrangements to provide source investigation information and baseline lab results)

I. Follow-up Appointments (within 14 days of exposure)
1. If the HCW is on HIV regimen or waiting to be given HBV regimen pending outcome of source investigation, have the client return to Employee Health Services in three days.
2. If the HCW is on HIV regimen for four weeks, schedule at two weeks and four weeks.
3. All others may be given the option of scheduling an appointment

J. Documentation
1. Document in EHS employee Electronic Health Records
2. Complete the Supervisor Referral Form
3. Complete the treatment plan.

K. Initiate Source Investigation
1. The unit charge nurse or nurse where patient is located will research the Source, obtain orders and draw the blood. ,
   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 (+)

L. Follow Up Visit #1 with EHS After ED Visit
   1. Provide 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 Stix (Agility) to STOP surveillance and close case if applicable.
   5. Non- JHS employees or students: (Give copies of lab results for their records and discharge to their employers)

M. Six (6) Week, Twelve (12) Week, and Six (6) Month Follow Up Appointments at EHS
   1. Assess for signs of viral illness
   2. Provide results of previous tests

N. Draw appropriate serology and arrange for the person to come back to EHS for results.
   1. Schedule next visit.
   2. Document in Stix.

O. Discontinuing Surveillance
   1. If the Source is HIV, Hep C or HbsAG negative, stop follow-up
   2. Have the HCW sign the discontinuation statement on the flow sheet.
   3. Write STOP SURVEILLANCE in Stix

P. Management of Complications/Conversions
   1. HIV, HBsAg or Anti-Hep C on baseline
      a. Evaluate for prior recent work related or personal exposures
      b. If work related exposures in the appropriate time frame are identified, refer to the Medical Director for evaluation
      c. If no work related incidents are documented, refer the client to their private doctor for evaluation
   2. HIV, HBsAg or Anti-Hep C 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 specialists.
      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.

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

VI. References

Bloodborne Pathogen Exposure Plan

Injury on Duty Policy

Florida Omnibus Aids Act

Responsible Party: Associate Director, Employee Health Services
Jackson Health System

Director, Emergency Department
Jackson Memorial Hospital

Medical Director, Employee Health Services
Jackson Health System

Reviewing Committee(s): Not Applicable

Authorization: Department Head