Original Date of Issue: June 1991

Reviewed	2/96	5/97	11/98	11/99	5/01	5/02	12/05
Revised	9/95	5/97	5/00	7/02	3/06	6/08	6/10

INITIAL EVALUATION AND MANAGEMENT FOLLOWING EXPOSURE TO BLOOD OR BODY FLUIDS

The following are the procedures to be followed when a person sustains an exposure to blood or other potentially infectious body fluids. All potentially infectious body fluids/substances are to be considered potentially infectious with blood-borne pathogens [e.g., human immunodeficiency virus (HIV), hepatitis B virus, and hepatitis C virus]. Any exposure to a potentially infectious body fluid/substance requires immediate evaluation for necessary management.

1. Definitions:

Exposure: Percutaneous injury (e.g., a needle stick, cut with a sharp object, bite), contact of mucous membranes, tissue, non-intact skin (e.g., chapped, abraded, or afflicted with dermatitis), or prolonged or extensive skin contact with blood or tissue or body fluids as defined below.

Potentially infectious body fluids: Blood, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, peritoneal or hemodialysis waste, or other body fluid contaminated with visible blood; breast milk, (including an infant's inadvertent ingestion of milk from a woman other than natural mother); laboratory specimens that contain virus (e.g., suspensions of concentrated virus); any unfixed tissue.

Source: Person whose blood, tissue, or body fluid accounted for exposure.*

Exposed Person: Person who sustains an exposure.*

***NOTE:** **The source and exposed person may be: an employee, patient, contract worker, visitor, voluntary worker, physician, student, volunteer, etc.**

2. Procedures:

After an exposure (as defined above) the following procedures are to be initiated as soon as possible:

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2.1. The exposed area must be washed with soap and water (or, in the case of mucous membrane exposures, flushed with water) immediately or as soon as feasible following the exposure.

2.2. Procedures for Evaluation of Exposure and Source; and for Referral of Exposed Person for Medical Evaluation

2.2.1. Reporting the exposure:

a) Non-physician staff members: incident is to be reported to their supervisor.
b) Physician staff members, medical students, patients, visitors, volunteers or any other individuals: incident is to be reported to the supervisor of the area where incident occurred.
c) All exposed persons are to be informed of the exposure if they are unaware. If the exposed person is a patient, the responsible physician (attending and/or housestaff) is to inform her/him that an exposure has occurred.

2.2.2. Once informed, the supervisor will:

a) Assure that the exposed area is cleansed appropriately (See 2.1).
b) Contact the Needlestick Coordinator at pager 4118 (Monday-Friday, 9AM–5PM) or the Nursing Administrator (at all other times).
c) Gather information for Blood/Body Fluid Exposure worksheet.
d) Complete Accident Injury Report (for exposed employees) and Non-Employee Occurrence Report (for patients and all others).
e) Refer the exposed person to the appropriate area for medical evaluation (see 2.2.4).

2.2.3. The Needlestick Coordinator or Nursing Administrator will:

a) Gather information for Blood/Body Fluid Exposure worksheet in conjunction with supervisor.
b) Obtain bloodborne pathogen risk factor information from source (see Appendix I) and inform and confirm information by contacting the responsible physician (attending and/or housestaff) for the source.
c) If not already done, refer exposed person for medical evaluation (see 2.2.4).

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d) If exposed person is a patient:
- Notify the responsible physician (attending and/or house-staff) immediately.
- Instruct responsible physician to contact ID Attending/Fellow on call through page operator (24 hours per day) for recommended management of exposure.
- Assure that recommendations have been followed through by the responsible physician.

e) Obtain from the source HBsAg and Hepatitis C antibody (anti-HCV). Samples may be drawn without physician order, by Medical Board decision, but shall be documented in the medical record. An attempt should be made to notify the physician of record prior to drawing a sample. If prior notification is not possible, the physician of record should be informed after the fact.

f) Request and perform (if consent provided) HIV counseling/expedited testing of source if not already known to be HIV-positive (can be performed by Needlestick Coordinator, physician, NP, PA, counselors/social workers).

2.2.4 Referral of exposed persons for medical evaluation:
- Hospital staff and volunteers: Employee Health Service (Monday-Friday 8AM-4PM) or Emergency Department (all other times).
- Medical students: Jack Martin Fund Clinic (Monday-Friday 8:30AM-4:30PM) or Emergency Department (all other times)
- All other students: Emergency Department at all times
- Agency, contract, or traveling staff: Emergency Department at all times

2.3. Procedures for the Employee Health Service, Jack Martin Fund Clinic and Emergency Department

2.3.1 Determine that an exposure has occurred (see above definition). Determine extent of exposure (exposure risk – (see 2.3.6).

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2.3.2 Review history of and risk factors for HIV, hepatitis B, and hepatitis C of source provided by Needlestick Coordinator or Nursing Administrator. (See Appendix I).

2.3.3 Obtain HBV vaccination and immunity status of exposed person. Collect baseline serologies of exposed person for hepatitis B and C. Also, a baseline ALT will be obtained from the person exposed to blood/body fluid from a HCV positive source or source of unknown HCV status. (Refer to section 19.0 EHS Hepatitis Guidelines.)

2.3.4 Obtain a baseline CBC with platelets and differential, Chem 7, and patient monitoring panel on exposed person if anti-retroviral post-exposure prophylaxis (PEP) is initiated.

2.3.5 Hepatitis/Management/Prophylaxis:

a) Hepatitis B: Initiate hepatitis B prophylaxis, when indicated, as per Infection Control Guidelines, "Hepatitis Guidelines – Pre-exposure and Post-exposure Management and Prophylaxis in the Health Care Setting." This guideline is available in Employee Health Services, Emergency Department and the Jack Martin Fund Clinic. For any question, contact Infection Control (ext. 89450) or the Infectious Diseases Attending or Fellow on call through the page operator.

b) Hepatitis C: Refer to "Hepatitis Guidelines - Pre exposure and Post exposure Management and Prophylaxis in the Health Care Setting" as above.

2.3.6. Antiretroviral Prophylaxis:

a) **Recommendations for anti-retroviral post-exposure prophylaxis (PEP) are to be made in consultation with the Infectious Diseases Physician (Attending/ Fellow) on call. ID Attending/Fellow should be called for all exposures when anti-retroviral PEP is being considered. The ID physician on call can be paged through the Page Operator.**

The following are to be considered in the evaluation regarding recommendations.

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2.3.6.1 Type/Extent of Exposure (Exposure Risk)

a) Percutaneous

Blood exposure

- Highest risk for HIV transmission (if HIV infected source) associated with deep injury, larger diameter hollow bore needle previously in source patient's vein or artery, especially involving injection of source patient's blood, and blood containing a high titer of HIV (e.g., source with acute retroviral illness or end-stage AIDS). Viral load measurement may be considered, but its use in relation to PEP has not been evaluated.

- Increased risk - exposure to large volume of blood.

- No increased risk - neither exposure to a larger volume of blood nor blood with a high titer of HIV (e.g., solid suture needle injury from source patient with asymptomatic HIV infection).

b) Mucous Membrane

Determine volume and time exposed.

c) Skin

Increased risk - Risk is increased for blood exposures involving a high titer of HIV, prolonged contact, an extensive area, or an area in which skin integrity is visibly compromised.

2.3.6.2 HIV status of source.

a) In known HIV positive patients recommendations regarding anti-retroviral prophylaxis are made according to the exposure risk (as above).

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b) If the source patient or the patient's HIV status is unknown, recommendations regarding anti-retroviral PEP are to be made on a case by case basis, based on the exposure risk and likelihood of HIV infection in known or possible source patient (see Appendix I). If additional information becomes available, recommendations regarding anti-retroviral PEP may be modified (see EHS - Infection Control Policy Post-exposure Management following Exposure to Blood Body Fluids of HIV -positive or potential HIV positive source).

2.3.6.3 In all cases of a determined exposure to blood or other potentially infectious body fluid antiretroviral PEP will be offered, unless source patient is known to be HIV-negative.

2.3.6.4 Antiretroviral PEP consists of combination therapy, generally 2-3 antiretroviral agents. [The standard empiric post-occupational exposure prophylaxis regimen is currently tenofovir plus emtricitabine (together as Truvada) and atazanavir (Reyataz) and ritonavir (Norvir).

2.3.6.5 The source patients current and previous antiretroviral therapy should be considered when making post-exposure prophylaxis regimen recommendations. Infectious Diseases should be consulted for all such cases.

2.3.6.6 For women of child bearing age, a stat pregnancy test will be done prior to initiating PEP. For pregnant patients, obstetrics physician on call or patient's obstetrician should be consulted.

2.3.6.7 The final decision to take antiretroviral PEP rests with the exposed person.

2.3.6.8 HIV pre-test counseling and a baseline specimen for HIV antibodies in the exposed person should be obtained at the time of exposure (or within 48-72 hours after exposure) after New York State Consent form is signed. This may be done at initial or follow-up contact at EHS, Jack Martin Fund Clinic or personal physician.

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2.3.6.9 The "Blood and Body Fluid Exposure Form" will be completed by the initial evaluating physician or practitioner in EHS or the Emergency Department and copies sent to EHS (for employee), Jack Martin Fund Clinic (medical students and others). Documentation of post-exposure management, counseling, and discussion regarding risks/benefits of Post-Exposure Prophylaxis (PEP) will be included on the form and signed by the evaluating physician/practitioner.

2.3.6.10 The "Healthcare Provider's Written Opinion" will be signed by the evaluating physician/practitioner and the exposed person.

2.4. FOR FOLLOW-UP OF POST-EXPOSURE MANAGEMENT:

2.4.1 Hospital employees and volunteers will be referred to Employee Health Service.

2.4.2 Medical students will be referred to Jack Martin Fund Clinic.

2.4.3 Other students and contract, agency, or traveling staff will be referred to Jack Martin Fund Clinic, FPA Infectious Diseases Clinic, private Infectious Disease group, or personal physician (depending upon exposed person's preference).

2.4.4 Refer to the following Guidelines for follow-up Procedures and Management:

a) Employee Health Service - Infection Control - Hepatitis "Pre-exposure and Post-exposure Management and Prophylaxis in the Healthcare setting".

b) Infection Control Policy for Post Exposure Management Following Exposure to Blood -Body Fluids of HIV positive or potential HIV potential source.

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APPENDIX I

Risk Factors

a) Risk Factors for HIV:

Known Risk: AIDS/HIV infected patient.

High Risk: Men who have or have had sex with men, users or past users of illicit parenteral drugs, hemophiliacs or persons with coagulation disorders who have received blood products, recipients of blood transfusions (1978-1985), prisoners, commercial sex workers, persons with a medical condition suggestive of AIDS or HIV infection; sexual partners or children of person with AIDS or HIV infection or in any of above high risk groups; persons from sub-Saharan Africa.

Potential Risk: Person who has had a sexual partner whose history is unknown, recipients of blood after 1985.

Low Risk: All other persons.

b) Risk Factors for Hepatitis B:

Known Risk: Hepatitis B (HBV) carrier (i.e., HBsAg positive).

High Risk: Persons with multiple sex partners or history of sexually transmitted disease, residents of institutions for the mentally retarded or developmentally disabled, hemophiliacs or persons with coagulation disorders or others who have received blood products, history of hemodialysis, men who have or have had sex with men, immigrants or refugees from areas of high HBV frequency (e.g. Asia, Africa), Alaskan natives or Pacific Islanders, sexually active individuals, household contacts or children of HBV carriers.

Low Risk: All other persons.

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c) Risk factors for Hepatitis C:

Known Risk: Hepatitis C (HCV) carrier

High Risk: Hemophiliacs or persons with coagulation disorders or others who have received blood products (particularly prior to 1990), injection drug users

Intermediate Risk: Hemodialysis patients, recipients of blood or solid organs prior to 1992, persons with undiagnosed liver disease, infants born to infected mothers

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APPENDIX II

Post-exposure Counseling Following known/unknown HIV positive Exposures

A. Provide information regarding:

1. The risk of occupationally-acquired HIV infection due to exposure to known HIV-positive blood is estimated at approximately 0.3% following a percutaneous exposure and 0.09% following a mucous membrane exposure. Factors associated with a higher risk of HIV transmission include: a deep injury, a device visibly contaminated with the source patient's blood, procedures involving a needle placed directly in a vein or artery, or advanced HIV disease (i.e., high viral load) in the source patient.

2. The theoretical rationale for post-exposure prophylaxis (PEP).

3. Current knowledge of the toxicity of anti-retroviral therapy and the limitations of this knowledge in predicting toxicity in uninfected individuals who take the drug after occupational exposures.

4. A case-control study of HIV seroconversion in health care workers after percutaneous exposure to HIV-positive blood showed that health care workers that seroconverted to HIV positive were significantly less likely to have received AZT post-exposure prophylaxis than those who did not seroconvert (79% reduction in HIV seroconversion with the use of AZT post-exposure prophylaxis).

5. Precautions to prevent transmission of HIV infection including refraining from blood, semen, or organ donation; refraining from breast feeding and either abstaining from sexual intercourse or using latex condoms during sexual intercourse during the follow-up period (at least six months).

6. Pregnancy/Nursing: It is not known whether PEP can cause harm to the human fetus. If a pregnant woman is considering the use of PEP, in addition to the Infectious Diseases Attending/Fellow, also call Obstetrics for further consultation. Mothers will be asked to discontinue breast feeding while receiving anti-retroviral prophylaxis.

7. The need for post-exposure follow-up (including HIV serologic testing) (see EHS Guidelines, Infection Control Policy for Post Exposure Management following Exposure to Blood-Body Fluids of HIV positive/or potential HIV-potential source).

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