Exposure Response Plan for Laboratory Handling of Bloodborne Pathogens
Revised: February 28, 2012

Background Information:

Bloodborne pathogens are disease-causing microbes present in human blood and can cause disease in humans. Although the microbes of primary concern include the human immunodeficiency virus (HIV), the Hepatitis B virus and the Hepatitis C virus, there are twenty-five additional microbes that can be transmitted by contact with human blood, blood products and other potentially infectious material (OPIM).

OPIM includes:

1. Human body fluids e.g. semen, vaginal fluids, saliva containing visible blood generated dental procedures, and any body fluid visibly contaminated with blood;
2. Any human unfixed tissue or organ from a human, living or dead. This includes human cell lines including both fresh explants as well as existing human cell lines; and
3. Any cell, tissue or organ culture known to contain Hepatitis B virus (HBV), Hepatitis C virus (HCV) or HIV.

Exposure incident: Any eye, mouth or mucous membrane contact with human blood or OPIM. Any non-intact skin contact or injection via needle, broken glass or other sharp object with human blood or OPIM.

Reporting Exposure Incidents: All exposure incidents must be reported immediately to the supervisor. Any exposure incident resulting from a needle stick or laceration caused by a sharp contaminated with human blood or OPIM must be reported as an injury.

Pre-Exposure Health Screening: All employees who might potentially be exposed to bloodborne pathogens during routine work must be offered Hepatitis B vaccinations within 10 days of initial assignment to tasks involving human blood or OPIM. The staffs of the Employee Health Clinic (TMC Boston) or Occupational Medical Clinics (Grafton/Medford) will review risks and benefits of vaccine with each employee. All employees must submit a Hepatitis B acceptance or declination form.

Before an Exposure Incident Occurs:

Immunizations for HIV and Hepatitis C are not currently available.

Immunization for Hepatitis B is available and is offered to all employees within 10 days of beginning work with bloodborne pathogens. Employees are required to sign an accept or decline form. If vaccination is declined upon employment or upon beginning work with bloodborne pathogens, the employee may change their decision at any time and request immunization at no cost during normal work hours at a reasonable location.

After an Exposure Incident Occurs: Immediate Action by Route of Exposure:
• **Needlestick or laceration:** Wash the area with soap and running water. Do not apply bleach, alcohol or other disinfectant to the skin.

• **Mucous membranes (eye, mouth):** If contaminated material is ingested, rinse mouth out with clean water. If contaminated material is splashed or sprayed into the eyes, flush the eyes for 10-15 minutes.

• **Inhalation:** If contaminated materials are aerosolized outside of a biological safety cabinet and the cloud inhaled, rinse mouth.

• **Contact with intact skin and clothing:** Remove contaminated clothing using gloves and place objects in plastic bags. Wash skin with soap and water.

**After an Exposure Incident Occurs: Medical Evaluation and Follow-up:**

Following immediate actions, contact the TMC Employee Health Clinic (Boston), TCSVM Occupational Medical Clinic (Grafton) or the Mt. Auburn Occupational Health Services (Medford) and arrange for medical diagnosis and treatment.

During this medical evaluation, the employee may be asked to provide a blood sample, instructed on the signs or symptoms of specific diseases (e.g. HIV, Hepatitis B and C) and instructed to watch for the development of these signs and symptoms. If the source (person) of exposure is available for testing and agrees to such testing (i.e. a blood sample or patient, testing for HIV, HBV or HCV) will be attempted. Depending on the circumstances of the exposure, the exposed employee may be asked to submit to periodic blood testing at 4-6 weeks, 3 months and possibly 6 months from date of exposure.

**Post-Exposure Prophylaxis:**

The decision to implement post exposure prophylaxis will depend on a risk assessment made by the physician based on the risk of infection as compared with the risk of antimicrobial drugs.

Employees with written documentation of Hepatitis B immunization require no additional treatment.

Employees who have not completed the vaccination series or have declined immunization will be offered the first of three HepB immunizations within 24 hours of the exposure incident. If the exposure incident is known to involve Hepatitis B virus, treatment using Hepatitis B Immune Globulin may be indicated. If the exposure is known to involve HIV, post exposure prophylaxis will be considered and is based on multiple factors including the characteristics of the source virus. There is no recommended post exposure prophylaxis treatment for Hepatitis C. Post exposure monitoring is done and if hepatitis C infection is detected, employee may be offered treatment intended to lessen severity of the illness.

If any employee develops signs or symptoms of possible bloodborne infection, s/he must be evaluated in Employee Health or referred to an Infectious Disease specialist by the TCSVM Occupational Medicine physician or a physician at Mt. Auburn Hospital Occupational Health Group.
If any employee develops a bloodborne infection following a known exposure incident it will be assumed to be a laboratory-acquired infection. In accordance with Massachusetts regulation, any clinical laboratory identifying an infection with a bloodborne pathogen may be reported to the Massachusetts Department of Public Health.

If an employee develops a bloodborne pathogen infection **WITHOUT** known laboratory exposure or non-laboratory exposure that would be considered "risky behaviors" will be considered a laboratory-acquired infection until proved otherwise. The clinical laboratory identifying the infectious agent will report the incident to the MA Department of Public Health.

**Medical treatment following expression of signs and symptoms of one or more bloodborne pathogen caused diseases:** Most current recommended diagnostic and treatments for specific diseases should be consulted.