The Queen's Medical Center
Center for Biomedical Research
INFORMATION SHEET FOR AN EXPOSED PERSON
ABOUT HEPATITIS-B AND HIV

Instructions: Provide this information sheet to QCBR employees with occupational exposure to blood or bloodborne pathogens.

Table 1. Bloodborne Pathogens

BLOODBORNE PATHOGENS	
Viruses:	Hepatitis B (Serum Hepatitis)
	Hepatitis C
	Human Immunodeficiency Virus (HIV)
	Viral Hemorrhagic Fever Viruses
	Lassa, Junin, Guanario Marburg, Machupo Ebola, Sabia Crimean-Congo, Flexal
	Colorado Tick Fever Virus
	Cytomegalovirus
	Parvovirus B-19
Bacteria:	*Treponema pallidum* (Syphillis)
	Borrelia
	Mycobacterium leprae (Hansens Disease)
	Brucella
Parasites:	*Babesia microti*
	Plasmodium sp. (Malaria)
	Trypanosoma gambiense (African Sleeping Sickness)
	Trypanosoma cruzi (Chagas Disease)
	Leishmania sp.
Rickettsia:	*Rickettsa rickettsii* (Rocky Mountain Spotted Fever)

This sheet contains information for individuals who work with or may have been exposed to infectious blood or body fluids. Contact with infectious blood or body fluids could reflect in infection. A number of diseases may be transmitted by exposure to infectious blood or body fluids. The greatest concerns relate to Hepatitis-B, which is caused by the Hepatitis-B virus and Acquired Immune Deficiency Syndrome (AIDS), which is caused by the Human Immunodeficiency Virus (HIV).

Hepatitis B affects the liver. The severity of the disease is highly variable. Many people have relatively mild flu-like symptoms of fatigue, low-grade fever, nausea, and low appetite. More serious symptoms include abdominal pain, jaundice, liver failure, and death. About 85% of persons with hepatitis B recover fully from the infection. However, the remainder may develop persistent inflammation of the liver, cirrhosis, and liver cancer. Some patients also become asymptomatic carriers who can transmit the virus to others through their blood and body fluids. A blood test can detect the presence of the disease within 2-6 weeks of exposure.

The HIV virus infects the immune system cells, thus reducing the body's capacity to fight other infections. Symptoms, initially, may be hardly noticeable, or resume a mild flu-like illness (low grade fever, fatigue, swelling of the lymph glands, body aches). Subsequently, the infected person may feel completely well for as long as ten years. When the immune system begins to fail, multiple symptoms develop and eventually lead to AIDS. Currently, AIDS is inevitably fatal. While a person can remain unaware of HIV infection, the virus may be transmitted to others who come into contact with the infected person's blood or body fluids. HIV antibody tests may be positive from as early as 2 weeks to as long as 1 year after exposure. Therefore, more than 1 test may be necessary to determine whether a person has been infected.

It is possible to contract these diseases from a single exposure to body fluids which contain these viruses. Multiple exposures to the same virus-containing body fluids increase the likelihood of contracting the disease. The body fluids that contain the highest concentrations of these viruses, posing the greatest risk of disease transmission, are blood and blood products, semen, and vaginal fluid. Other body fluids such as cerebral-spinal, amniotic, peritoneal and pericardial fluids, breast milk, saliva, sputum, urine, feces, inflammation exudates, tears, and perspiration, all may contain small amounts of virus. Exposure to any of these contaminated fluids may put an individual at risk for contracting Hepatitis-B or HIV infection.

There are effective vaccines available for Hepatitis-B. The Hepatitis-B vaccine is given in a series of 3 injections, the first 2 doses are given a month apart, and the third dose is 5 months after the second dose. The vaccination must be given as a preventative measure and <u>is not</u> effective if given after exposure. A passive immune globulin, HBIG, may be given after exposure to potentially inflected blood or body fluids.

There currently are no vaccines against HIV.

Although zidovudine (AZT) is indicated for treatment of established HIV infection, it is not approved by the U.S. Food and Drug Administration for preventing HIV infection after exposure. PRESENTLY, THERE IS <u>INSUFFICIENT</u> EVIDENCE TO STRONGLY SUPPORT OR DISCOURAGE THE USE OF AZT FOR PREVENTING INFECTION IN OCCUPATIONALLY EXPOSED PERSONS. There is, however, some evidence that pregnant women who are exposed to HIV will lessen their chances of passing the infection on to their unborn child by taking AZT for the remainder of their pregnancy. It is common clinical practice, at this time, to discuss the possibility of AZT treatment with exposed individuals. This allows those individuals to decide whether or not they want to take AZT. The side effects of AZT may include gastrointestinal distress, nausea and vomiting, and anemia. Long-term effects of AZT are not known at this time.

IMMEDIATE TREATMENT OF THE EXPOSED PERSON

1. **Immediately following exposure:**
   A. Flush the injured area with water or saline.
   B. Thoroughly clean the area with soap and water if possible.
   C. If exposure to the eyes has occurred, use an eye wash station. Or, use the nearest sink to flush the eyes with water for at least five minutes, better 15 min.
   D. Injuries requiring medical intervention should be promptly evaluated in the nearest Emergency Room, Employee Health Services where available, or private physician.

LEVELS OF EXPOSURE

A. Hepatitis B (HBV) Exposure Criteria

Due to the high infectivity of HBV, all parenteral and mucous membrane contacts with blood and body fluid are considered "exposures". Examples of potentially infective body fluids and tissues are: blood, blood products, bloody fluids, semen, CSF, amniotic fluid, menstrual discharge, pleural, peritoneal, pericardial fluid, blood tinged urine and stool, saliva, and inflammatory exudates.

B. Definition of Levels of Exposure to HIV

Potentially infective body fluids are essentially the same as for HBV. HIV is less infective and the extent of exposed person's exposure guides the recommended treatment. (The following definitions are taken from San Francisco General hospital's exposure protocols.)

1. **Massive Parenteral Exposure**
   a. Transfusion of blood or an injection of a large volume of blood/body fluids ($\geq$1 ml).
   b. Parenteral exposure to laboratory specimens containing a high titer of the HIV virus.

2. **Definite Parenteral Exposure**
   a. Intramuscular (IM/"deep") injury with a blood/body fluid-contaminated needle.
   b. Injection of blood/body fluid not included in B1a above.
   c. Laceration or similar wound which causes bleeding in exposed person produced by a visibly blood/body fluid- contaminated instrument.
   d. Laceration or similar fresh wound inoculated with blood/body fluid.
   e. Any inoculation with HIV (usually research settings) not included in B1b above.

3. **Probable Parenteral Exposure**
   a. Subcutaneous (SQ/"superficial") injury with blood/body fluid-contaminated needle.
   b. A wound produced by blood/body fluid-contaminated instrument which does not cause visible bleeding.
   c. Prior wound or skin lesion contaminated with blood/body fluid.
   d. Mucous membrane inoculation with blood/body fluid.

4. **Doubtful Parenteral Exposure**
   a. Subcutaneous (SQ/"superficial") injury with non-bloody body fluid-contaminated needle.

b. A superficial wound produced by non-bloody body fluid- contaminated instrument which does not cause visible bleeding.
c. Prior wound or skin lesion contaminated with non-bloody body fluid.
d. Mucous membrane inoculation with non-bloody body fluid.

5. **Non-Parenteral Exposure**
   a. Intact skin visibly contaminated with blood/body fluid.

PROTOCOL FOR POST-EXPOSURE TO BODY FLUIDS – <u>Faculty/Staff</u>

1. **IMMEDIATELY FOLLOWING EXPOSURE:**

A. Flush the injured area with water or saline.
B. Thoroughly clean the area with soap and water if at all possible.
C. If exposure to the eyes has occurred, use an eye wash station. Or, use the nearest sink to flush the eyes with water for at least five minutes, better 15 min.
D. Injuries requiring medical intervention, should be promptly evaluated by private physician, Student Health Service where available, or the nearest Emergency Room.

E. Follow the applicable protocol for exposure to body fluids at place of exposure. Notify person in charge of supervising the employee and initiate point 2 (below).

2. POST EXPOSURE EVALUATION AND FOLLOW-UP PROCEDURES

2.1 In the event of an exposure incident, the following procedures are followed at QMC:

2.1.1 **Prompt reporting** of the exposure via the Exposure Hotline at extension 4004.

2.1.2 **Employee Health or the Post Exposure Prophylaxis (PEP) Team** evaluates the exposure.

2.1.2.1 Employee Health reviews the Hepatitis immune status of the employee.

2.1.2.2 Employee Health or PEP Team member enter post-exposure follow-up orders via CLiQ.

2.1.3 **Infection Control** may be called by Employee Health to assist in investigation of the source patient. Source patient testing is charged to the exposed employee's number.

2.1.4 **Hbs Ag, HCV Ab and HIV Ab (with informed consent)** blood testing of the source patient is routinely performed unless the source is known to be infected with HBV, HCV or HIV.

2.1.5 **Exposed employee is informed** of the source patient's blood test results and of the confidentiality laws protecting those results.

2.1.6 The exposed employee is offered post-exposure screening for HBV, HCV, & HIV as indicated.

2.1.6.1 The employee has the right to refuse.

2.1.6.2 However, if the exposed employee gives consent for blood collection but not for HIV testing, the blood is kept for 90 days, during which time the employee can choose to have toe sample tested.

2.1.7 Appropriate post-exposure prophylaxis is offered to the exposed employee.

2.1.7.1 This may include Hepatitis B Immune Globulin, Hepatitis B vaccine, Combivir and Nelfinavir according to CDC Guidelines and the Occupational Exposure Protocol.

2.1.8 The employee completes QMC Report of Industrial Accident or Incident form within 24 hours of the exposure.

2.1.8.1 Refer to Appendix B.

2.1.8.2 The supervisor counsels the employee about preventative measures and/or notes whether facility/equipment changes could prevent similar exposures in the future.

3. **RECORD KEEPING**

3.1 Confidential medical records are kept for all employees with occupational exposure for at least 30 years after the person leaves employment. They include:

3.1.1 Employee's name and social security number

3.1.2 Hepatitis B vaccination status, including

3.1.2.1 dates of vaccinations

3.1.2.2 records relating to employee's ability to receive the vaccine

3.1.2.3 signed consent of declination form

3.1.3 All information given to evaluating health care professional in the even of an exposure incident

3.1.4 A copy of the evaluator's written opinion. Written permission from the employee is required for access to these medical records.

3.2 As of January 1, 2002 contaminated sharps injuries are required to be recorded on the OSHA 300 log of work-related injuries and illnesses and the OSHA 301 Injury and Illness report.

3.2.1 The sharps injury log will include:

3.2.1.1 type and brand of device used in the incident

3.2.1.2 the department or work area where the exposure occurred

3.2.1.3 an explanation of how the exposure occurred.