



APPENDIX B: HEPATITIS B (HBV) OCCUPATIONAL EXPOSURE: FACT SHEET FOR HEALTH CARE AND EMERGENCY SERVICE PROVIDERS

Introduction

Each year there are a number of occupational exposures to hepatitis B virus (HBV) in BC. Due to the success of HBV immunization programs in this province, there were less than 40 acute cases reported of HBV in 2007. Occupational exposures are believed to account for less than 1% of these infections. Regardless of these small numbers, occupational exposures to HBV and other blood borne pathogens can cause the exposed person a great deal of stress and anxiety.

This fact sheet provides answers to common questions that health care and emergency service providers often have about HBV after an occupational exposure. It supplements the BC Centre for Disease Control (BCCDC) guideline for the management of exposure to blood and body fluids (BBF).

What is hepatitis B and how can it affect me?

Hepatitis B virus infects the liver and is primarily spread by direct contact with infectious blood or body fluids, especially sexual fluids. About 90% of adults who become infected with HBV completely recover from the infection after approximately 6 months. During this time of acute infection people can either be symptom free or get sick with signs and symptoms such as jaundice (i.e., skin and eyes turn yellow), pale stools, dark urine, fatigue, and loss of appetite. About 8% to 10 % of adults who acquire HBV remain chronically infected (i.e., they do not clear the virus on their own). Many individuals who are chronically infected remain symptom free for years or decades. However, the ongoing liver inflammation associated with chronic HBV can put one at increased risk for complications such as cirrhosis (i.e., severe liver scarring that can impede normal liver function) and/or liver cancer.

Fortunately, there is a vaccine that provides protection (i.e., immunity) against HBV. The vaccine is highly recommended as it is 95% effective in preventing HBV infection and its chronic consequences and is available at no cost to all health care and emergency personnel. The majority of younger British Columbians are now immune to HBV due to the universal Grade 6 immunization program that has been in effect since 1992 and the universal infant vaccine program since 2001. If you have not received the vaccine and are susceptible to infection, talk to your health care provider about getting vaccinated.

What should I do if I think I have been exposed?

Go immediately have a risk assessment performed and receive appropriate counseling by a qualified health professional. This can be done at your local occupational health unit or emergency department. Prompt assessment is particularly important to ensure that, if required, the Human Immunodeficiency Virus (HIV) and/or the Hepatitis B Virus prophylaxis (treatment to prevent infection) are initiated as soon as possible



I think I have been exposed to HBV what are the chances that I have been infected?

The risk of getting HBV infection after contact with infected blood or body fluids depends on if you have been previously vaccinated, type of exposure and amount of HBV in the blood or body fluid involved in the risk event. For example, a hollow bore needle with infected blood piercing the skin poses a far greater risk than infected blood splashing on skin.

Receiving the HBV vaccine and/or immune globulin (HBIG) as soon as possible after the exposure, ideally within 48hrs, (i.e., post exposure prophylaxis) can prevent HBV infection in most cases. If post-exposure prophylaxis is given, at the opportune time or if you have been successfully vaccinated in the past, the risk of HBV infection after percutaneous exposure (i.e., needle stick) from an HBV-positive source is virtually 0%. If post exposure prophylaxis is not received and/or there is no history of successful vaccination, the risk of getting HBV increases to between 5-30%.

Where do I get tested for HBV and why?

It is important to promptly have a risk assessment by a qualified health professional usually located at your occupational health or local emergency department. This initial assessment is important to determine:

1. Your susceptibility to infection
2. The risk of infection due to your exposure and
3. The appropriate post exposure prophylaxis, if required

What are the tests for HBV that I will have right away and what do they mean?

There are several tests used in the detection and management of HBV. The three blood tests that will be performed after an exposure are:

- ◆ Hepatitis B surface antigen (HBsAg)
 - Determines if you are infected (acute or chronic infection)
- ◆ Antibody to HBsAg (Anti-HBs)
 - Determines if you have immunity to HBV either through a past cleared infection or hepatitis B vaccination
- ◆ Antibody to core antigen (Anti-HBc)
 - Determines if you have been previously infected with HBV (not present after HBV immunization)

Follow up testing is recommended which includes all three HBV serologic markers at 6 and 9 months after the exposure. It is important to note that these are not the only tests for HBV. There are other tests that may be performed that are used for patient monitoring and treatment.



How do I know if I am protected against HBV through vaccination

Hepatitis B vaccines induce the production of antibodies to hepatitis B surface antigen (anti-HBs), which confers protection to HBV. A result that is greater than or equal to 10 international units per litre (IU/L) indicates protective levels. Anti-HBs remains detectable for approximately 10-15 years. After this time it can decline and fall below 10 IU/L but after a natural exposure or a booster dose the levels will dramatically rise and you will be protected.

If you are in a occupation where you have high risk ongoing exposure to HBV, you can discuss with your occupational health department or health care provider having post-vaccination anti-HBs testing to determine if a result greater than 10 IU/L has occurred.

Can I have post exposure prophylactic treatment for HBV?

Yes, there is prophylactic treatment (i.e., immunization either through vaccination and/or hepatitis B immunoglobulin to prevent infection) for HBV. Whether one receives HBV vaccine or immunoglobulin depends on a number of factors that includes the HBV status of the source, your vaccine history and your previous response to the vaccine. Section 9.3 Table 5: Hepatitis B Post-Exposure Prophylaxis summarises immunization and testing schedules.

If I have become newly infected what do I do?

If post exposure prophylaxis is not successful in preventing transmission or post exposure prophylaxis was not received and acute HBV infection occurs, there is a 95% probability that you will clear the virus from your blood within about 6 months. During this time you are infectious to others who may come in direct contact with your blood or body fluid so it is important to follow the recommended precautions outlined in the BBF guideline to reduce the risk of exposing others. It is also important to see a health care provider during this time to be monitored for either HBV clearance or chronic HBV infection.

How will I know if I am chronically infected with HBV?

If the HBsAg test remains positive for 6 months after infection you are considered chronically infected and it is unlikely that your immune system will clear the virus.

Can I receive treatment for HBV if I am chronically infected?

Yes, treatment for chronic HBV is an option. The treatments for HBV can suppress the infection but not cure it. There are drugs that interfere with viral replication or improve the immune system's response to the infection. The goal of these treatments is to reduce the risk of serious complications such as cirrhosis and liver cancer. There are several new therapies in development, which are expected to improve the management of HBV in the future. A discussion with a health care provider specializing in viral hepatitis is necessary to inform you of the various therapeutic options.