

# Blood and Body Fluid Pathogens

## Hepatitis B

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### Notification Timeline:

**From Lab/Practitioner to Public Health:** Within 72 hours.

**From Public Health to Saskatchewan Health:** Within 2 weeks.

**Public Health Follow-up Timeline:** Within 24-48 hours.

### Information

**Table 1 Case Definition** (Public Health Agency of Canada 2009)

<b>Acute Hepatitis B Confirmed Case:</b>	Hepatitis B surface antigen (HBsAg) and immunoglobulin M antibody to hepatitis B core antigen (anti-HBcIgM) positive in the context of a compatible clinical history or probable exposure <b>OR</b> clearance of HBsAg in a person who was documented to be HBsAg positive within the last six months in the context of a compatible clinical history or probable exposure.
<b>Acute Hepatitis B Probable case:</b>	Acute clinical illness in a person who is epidemiologically linked to a confirmed case.
<b>Chronic Hepatitis B Confirmed Case:</b>	HbsAg positive for more than 6 months <b>OR</b> detection of HBsAg in the documented absence of anti-HBc-IgM <b>OR</b> detection of Hepatitis B virus (HBV) DNA for more than 6 months.
<b>Unspecified Hepatitis B Confirmed Case:</b>	Does not fit the criteria for either of the above <b>AND</b> HBsAg positive <b>OR</b> detection of HBV DNA.
Laboratory Note: Occult HBV infection is characterized by a positive HBV DNA and presence of anti-HBc alone, or anti-HBc and anti-HBs in the absence of HBsAg. Further isolate characterization is indicated.	

### Causative Agent

Hepatitis B virus (HBV), a DNA containing hepadnavirus.

### Symptoms

 (American Academy of Pediatrics, 2012)

Symptoms can include: malaise, anorexia, vague abdominal discomfort, nausea, vomiting, dark urine, and stool light in color. Myalgia, rash, and arthralgias can occur early in the course of illness and may precede jaundice. Fever may be absent or mild. Most will have elevated ALT/AST; a small proportion will develop acute icteric viral hepatitis (Public Health Agency of Canada, 2013).

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The range of symptoms varies and includes sub-acute illness with non-specific symptoms, clinical hepatitis with jaundice and fulminant hepatitis.

- Acute clinical illness can be characterized by discrete symptom onset and jaundice, or elevated aminotransferase levels.
- Chronic infections may present with flares of similar symptoms and signs.
- Many cases are asymptomatic; likelihood of showing symptoms is age dependent:
  - Infants and children rarely have symptoms.
  - 30-50% of adults will be symptomatic.
- Chronic hepatitis B infection varies with age of becoming infected. It occurs in 90-95% of infants, 25-50% of children infected at age 1-5 years, and only 3-10% of adults. Persons who are immunocompromised are also at more risk for becoming a chronic carrier. (Canadian Immunization Guide [CIG], 2012).

### Complications

Fulminant case fatality due to hepatic necrosis is about 1% and is higher in those over 40. Fulminant infection also occurs in pregnancy and among newborns of infected women. HBV is the cause of up to 80% of all hepatocellular carcinoma worldwide. An estimated 15% - 25% of persons with chronic infection will die prematurely of liver cirrhosis or hepatocellular carcinoma (Heymann, 2008).

### Incubation Period

45-180 days, with an average of 60-90 days (PHAC, 2013).

### Reservoir/Source

Humans: infected blood and body fluids as outlined in [Table 2](#).

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**Table 2 Fluids and tissues capable of transmitting hepatitis B**

FLUID	HBV
Lab specimens containing concentrated HIV, HBV or HCV	Yes
Blood, serum, plasma or other biological fluids visibly contaminated with blood	Yes
Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids	Yes
Semen, vaginal secretions	Yes
Saliva	Yes
Breast milk	Biologically plausible, particularly if nipples are cracked or bleeding or if mother is hepatitis Be antigen (HBeAg) positive
Organ and tissue transplants	Yes
Screened donated blood & manufactured blood products	Minimal risk in Canada

Source: U.S. Centers for Disease Control and Prevention, 2001; Canadian Blood Services.

### Mode of Transmission

- Routes of transmission through percutaneous and mucosal exposure to infected blood, body fluids and blood products. Includes sexual contact, percutaneous exposure (e.g. needle stick, intravenous injection or glucose monitoring using non sterile or shared equipment or devices), permucosal exposure and perinatal transmission, unfixed tissues and organs.
- Perinatal transmission is highly efficient and usually occurs from blood exposures during labor and delivery.
- Interpersonal contact with chronically infected persons within households over extended periods of time. Can include: sharing of razors/tooth brushes, contact with non-intact skin, open skin lesions and mucous membranes with bloody secretions.
- HBV is stable on environmental surfaces in blood for at least 7 days making indirect transmission from objects contaminated with infected blood possible.

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### Risk Groups/Risk Factors (PHAC, 2013)

- birth in a region with intermediate or high endemicity (See map in Yellow Book<sup>1</sup>);
- infant of HBsAg-positive mother;<sup>2</sup>
- exposure before 7 years of age (e.g., child's immediate and/or extended family immigrated from a region of intermediate/high endemicity and/or child visited such a region);<sup>2</sup>
- people on hemodialysis (CIG Evergreen);
- family history of hepatitis B or hepatoma;<sup>2</sup>
- exposure to HBsAg-positive person (e.g., percutaneous, sexual/household contact);<sup>3</sup>
- high-risk sexual activities (e.g., unprotected sex, multiple sexual partners);<sup>3</sup>
- substance use with sharing of equipment (e.g., injection/inhalation drug use);<sup>3</sup>
- exposure to blood/blood products in endemic regions without routine precautions/screening;<sup>2</sup>
- transfusion recipient/medical procedure in Canada before 1970;<sup>2</sup>
- use of shared/contaminated materials or equipment (e.g., instruments/tools used for personal services procedures such as tattooing/ piercing/body modifications, or any alternative health care that has the potential to break the skin);<sup>3</sup>
- use of shared/contaminated medical devices (e.g., glucometers);<sup>3</sup>
- occupational exposure to blood/body fluids;<sup>3</sup>
- travel to/residence in a region of intermediate/high endemicity;<sup>3</sup>
- incarceration;<sup>3</sup>
- institutionalization (particularly in institutions for the developmentally challenged).<sup>3</sup>

### Period of Communicability

All persons who are HBsAg positive are potentially infectious (Heymann, 2008)

- From several weeks before first onset of symptoms until infection is resolved (HBsAg negative) (Heymann, 2008);

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<sup>1</sup> <http://wwwnc.cdc.gov/travel/yellowbook/2012/chapter-3-infectious-diseases-related-to-travel/hepatitis-b.htm>

<sup>2</sup> Most commonly identified risk factors for chronic HBV infection.

<sup>3</sup> Most commonly identified risk factors for acute HBV infection in susceptible individuals; consider screening for HIV and Sexual Transmitted Infections (STIs) in select cases.

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- Chronic hepatitis B carriers remain infectious, their degree of infectivity varies:
  - a hepatitis B carrier who is HBeAg positive will be more highly infectious compared to a person who is hepatitis Be antibody (anti-HBe) positive who will be moderately infectious. **(Heymann, 2008)**;
  - HBV viral load and the presence or absence of anti-HbeAg (indicates lower infectivity).

### Specimen Collection and Transport

Specimen: Serum

Request testing for hepatitis B surface antigen (HBsAg).

HBsAg positive samples will also be tested for HBeAg, anti-HBe, hepatitis B core total antibodies (anti-HBc) IgG & IgM, hepatitis B core IgM antibody and hepatitis B surface antibody (anti-HBsAg).

- Anti-HBc IgM positive indicates acute infection, usually disappears within 6 months but can persist in some HBV carriers (Heymann, 2008).
- Anti-HBc IgG positive indicates past infection.
- Consider the client's history and consult with the MHO as necessary.

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**Table 3. Interpretation of Hepatitis B Laboratory Testing Panel**

Tests	Results	Interpretations
HBsAg Anti-HBc Anti-HBs	negative negative negative	Susceptible
HBsAg Anti-HBc Anti-HBs	negative positive positive	Immune due to natural infection <sup>4</sup>
HBsAg Anti-HBc Anti-HBs	negative negative positive	Immunity due to hepatitis B vaccine
HBsAg Anti-HBc IgM anti-HBc Anti-HBs	positive positive positive negative	Typical acute infection. It is recommended to repeat the tests in 6 months to rule out a carrier (a chronically infected patient <sup>4</sup> ).
HBsAg Anti-HBc IgM anti-HBc Anti-HBs	negative negative positive negative	An atypical acute case, the antigen had disappeared before the surface antibody appears and there is a short window where only IgM anti-core is present (this is the intended use of IgM anti-HBc test). <sup>5</sup>
HBsAg Anti-HBc IgM anti-HBc Anti-HBs	positive positive negative negative	Chronically infected

(Dr. Greg Horsman, Saskatchewan Disease Control Laboratory, 2013)

### Methods of Control/Role of Investigator

Refer to the [Blood and Body Fluid Pathogens Introduction and General Considerations](#) section of the manual that highlights topics for client education that should be considered.

Health education efforts should include both broad-based campaigns to raise awareness of risk, modes of transmission, and prevention measures, and reduce stigma as well as targeted programs to educate and reduce risk in at-risk populations.

<sup>4</sup> Positive IgM anti-HBc results may be related to the degree of inflammatory activity in patients with chronic liver disease (it can be seen when chronic infections flare or when a person is on antiviral therapy).

<sup>5</sup> A few will be unresolved infections.

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### Immunization

- Immunize infants, children, and adults according to the recommended schedule in the Saskatchewan Immunization Manual Chapters 5 and 7<sup>6,7</sup>.
- In Sept 1995 (birth year 1984) Saskatchewan started the hepatitis B immunization program for all grade 6 students. (SIM)

### Education

Refer to the [Blood and Body Fluid Pathogens Introduction and General Considerations](#) section of the manual that highlights topics for client education that should be considered. Personal service providers should be referred to [Saskatchewan Personal Service Facility Best Management Practices](#) (under development) for infection prevention and control measures.

Education should include:

- Safer sex practices and other healthy lifestyle choices (piercings, tattooing, drug use).
- Standard precautions and routine precautions for handling blood and body fluids and biomedical waste management. Refer to the Saskatchewan Biomedical Waste Management Guidelines, 2008<sup>8</sup>.

### Management

#### I. Case

##### History

Obtain as detailed a history as possible using the [Attachment – Hepatitis B Investigation Form](#).

- Consider past blood work for hepatitis B and identify any [signs and symptoms](#) of hepatitis B and dates of onset and duration to identify exposure period and period of communicability.
- Determine hepatitis B vaccination history.
- Discuss all potential risks that the case has been exposed to:
  - from or ever lived in an endemic region;
  - household contact with a hepatitis B case or carrier;

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<sup>6</sup> <http://www.ehealthsask.ca/services/manuals/Documents/sim-chapter5.pdf>

<sup>7</sup> <http://www.ehealthsask.ca/services/manuals/Documents/sim-chapter7.pdf>

<sup>8</sup> <http://www.environment.gov.sk.ca/adx.aspx/adxGetMedia.aspx?DocID=217,216,104,81,1,Documents&MediaID=1099&Filename=Biomedical+Waste+Management.pdf>

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- close contact with a hepatitis B case or carrier;
  - sexual contact with a hepatitis B case or carrier;
  - sexual contact with a person at high risk (i.e. IDU, sex trade worker, sex with person from HBV endemic country);
  - needle-sharing contact with a hepatitis B case or carrier;
  - injection drug use or sharing of any drug use equipment;
  - tattooing/piercing;<sup>9</sup>
  - dental/medical procedures (endoscope, acupuncture, etc);<sup>9</sup>
  - transfusions of blood/blood products in Canada (prior to 1970);
  - transfusions of blood/blood products outside of Canada.

Inquire about other factors that are associated with HBV:

- co-infection with other blood borne pathogens or STIs;
- history of multiple sexual partners;
- history of incarceration.

Obtain names and phone numbers of contacts as per [Contact Investigation](#).

Inquire about all of the following risks. Identify likely cause of exposure and potential transmission risk to others. Collect dates, identify locations/events:

- perinatal transmission;
- immunosuppression due to medications or disease;
- any other blood borne diseases;
- occupational exposure (i.e. bloodborne exposure as a healthcare worker);
- non-occupational exposure (i.e. stabbing, electrolysis, bloodborne exposure in community);
- donated blood or any other body tissue/organ;
  - Note: Case needs to be reported to Canadian Blood Services if they have a history of donating or receiving blood (See [Appendix K – Notification to Canadian Blood Services](#)).
- healthcare worker – determine if involved in invasive procedures; educate about potential exclusion/notification requirements.

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<sup>9</sup> It is important to obtain details regarding dates of exposures and names/locations of the facilities in which exposures may have occurred. Consideration of the need to further investigate these facilities is warranted. When personal service or medical/dental facilities are identified as a potential source for exposure, further investigation of other clientele may be warranted.



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### Education

Cases should be educated on hepatitis B disease and its signs and symptoms. They should be informed of the complications of hepatitis B and be advised of how to reduce the risk of liver damage:

- limit alcohol intake;
- promote smoking cessation;
- maintain a healthy weight;
- avoid/limit medication use (including over-the-counter medications) that may be hepatotoxic without consulting with a physician or pharmacist.

Cases should be informed of how hepatitis B is spread and to use precautions with their own blood and body fluids to prevent spread and infection to others:

- never donate blood, organs, semen, or tissue;
- never share material used to prepare, inject, or inhale drugs;
- never share sharp instruments/personal hygiene materials with others (e.g., razors, scissors, nail clippers, toothbrush);
- consider the potential health risks of tattooing and body piercing;
- discuss HBV status with sexual and drug sharing partners;
- practice safer sex with new partners;
- dispose of items with blood on them properly (i.e. tampons, band-aids, dental floss);
- properly managing open wounds;
- planning or managing a pregnancy and reducing the risk to the infant;
- breastfeeding by a HBV positive mother is not a risk unless nipples are cracked or bleeding. Breastfeeding should be discontinued until nipples are healed;
- informing health care providers.

Cases should be informed of the importance of identifying, notifying and immunizing contacts that may have been exposed; any future contacts will be eligible for immunization.

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### **Immunization**

- Chronic carriers of hepatitis B are eligible for additional vaccinations as outlined in Chapter 7 of the Saskatchewan Immunization Manual<sup>10</sup>.
- Infants born to women who are hepatitis B positive should be initiated on hepatitis B immunoprophylaxis at birth.

### **Treatment/Supportive Therapy**

- There is no treatment for acute hepatitis B.
- Antiviral treatment is indicated for some chronic hepatitis B carriers but this would be determined in consultation with an Infectious Disease Specialist.

### **Exclusion**

- Not applicable. Standard precautions/routine practices measures apply.
- Physicians are required to report infection to College of Physicians and Surgeons.
- There is a general consensus that HBsAg positive carriers and/or those with high viremia should not perform exposure prone surgery or similar treatments unless they have been reviewed by an expert panel and advised. (Heymann, 2008). These professionals should speak with their governing body for advice.

### **Referrals**

Cases should be referred to:

- infectious diseases (ID) specialist or treating practitioner.
- other social programs as agreed to by client (e.g., community agencies that provide support to HBV positive people) or harm reduction programs for needle exchange services and related health services.
- Canadian Blood Services (CBS) should be notified of cases that have a history of donation or receipt of blood or blood products. See [Appendix K – Notification to Canadian Blood Services](#).
- Saskatchewan Transplant Program should be notified of cases that have a history of donation or receipt of tissues. See [Appendix M – Notification to the Saskatchewan Transplant Program](#).

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<sup>10</sup> <http://www.ehealthsask.ca/services/manuals/Documents/sim-chapter7.pdf>

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### II. Contacts/Contact Investigation

Contacts should be traced back to 6 months prior to onset of acute symptoms or time of diagnosis (Australasian Society for HIV Medicine, 2010).

#### Contact Definition

##### Contacts are defined as:

- Household - individuals living in the same household or share living quarters;
- Sexual contacts;
- Close contacts:
  - Individuals who share personal items (e.g, razors, toothbrushes, etc);
  - Individuals who share drug equipment (injection or non-injection);
  - Children <12 months of age who have close contact with primary caregivers with acute or chronic HBV (Red Book p 389).
- Other individuals who may have had a permucosal or percutaneous exposure to the case's blood or body fluids (See Guidelines for the Management of Exposures to Blood or Body Fluids Appendix 1 definition of Exposure<sup>11</sup>);
- Infants born to women infected with HBV;
- Exposures to blood and body fluids should be managed as per Saskatchewan Guidelines for the Management of Exposures to Blood and Body Fluids<sup>12</sup>.

#### Testing

- All contacts of hepatitis B disease should be tested for hepatitis B as per Table 4. Monitoring for Infection. Refer to [Table 2](#) for interpreting laboratory results.
- Any contacts who are HBV-positive should be followed as a case.
- Contacts who are anti-HBs negative should undergo repeat testing at 3 months following their latest exposure. They should be sure to follow precautions to reduce the risk of spreading the virus to others until infection can be ruled out. See Saskatchewan Guidelines for the Management of Exposures to Blood and Body Fluids.<sup>13</sup>

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<sup>11</sup> <http://www.ehealthsask.ca/services/manuals/Documents/hiv-guidelines-appendix1.pdf>

<sup>12</sup> <http://www.ehealthsask.ca/services/manuals/Pages/hiv-guidelines.aspx>

<sup>13</sup> <http://www.ehealthsask.ca/services/manuals/Pages/hiv-guidelines.aspx>

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**Table 4. Monitoring for Infection**

	Baseline Testing (at time of identification)	Month 3 Testing (following last exposure)
Hep B Surface Antigen (HBsAg)	√	√
Hep B Antibody <sup>14</sup> (anti-HBs)	√	
Hep B Core Antibody (anti-HBc)	√	

### **Immunoprophylaxis**

Immunoprophylaxis is recommended based on results of serology and previous immunization history as outlined in the [Guidelines for the Management of Exposures to Blood and Body Fluids \(Appendix 8\)](#)<sup>15</sup>. Table 5 outlines the agents that contacts are eligible for based on the results of their serology and their immunization history.

**Table 5. Immunoprophylaxis Agents for Susceptible Contacts**

Type of Contact	HBIg <sup>16</sup>	Provide Vaccine
Household	No	Yes
Sexual	Yes - (0.06ml/kg IM) should be provided ideally within 48 hours but can be provided up to 14 days following last sexual contact	Yes
Close Contacts	Yes – ideally given within 48 hours but can be given up to 7 days after last exposure	Yes
Other individuals who may have had a permucosal or percutaneous exposure to the case's blood or body fluids	Yes – as per the Guidelines for the Management of Exposures to Blood and Body Fluids <sup>17</sup>	Yes

<sup>14</sup> Antibody testing is recommended at 1-5 months after completion of a vaccine series.

<sup>15</sup> <http://www.ehealthsask.ca/services/manuals/Documents/hiv-guidelines-appendix8.pdf>

<sup>16</sup> Refer to Appendix D for how to access HBIg.

<sup>17</sup> <http://www.ehealthsask.ca/services/manuals/Pages/hiv-guidelines.aspx>

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<b>Children &lt;12 months of age who have close contact with primary caregivers with acute or chronic HBV (American Academy of Pediatrics, 2012, p 389)</b>		
<b>Number of doses of Vaccine received to date</b>	<b>HBIG</b>	<b>Vaccine</b>
At least 2 doses	HBIG is not required	Not required
One dose previously provided	HBIG should be administered if immunization is not yet due.	The second dose should be administered if the interval is appropriate
Not previously vaccinated	HBIG (0.5 mL)	Hepatitis B vaccine 3 dose schedule.

### **Postnatal Management of Infants Born to Women with HBV**

- Refer to the Saskatchewan Immunization Manual, Chapter 7 for recommendations for infants at high-risk for hepatitis B<sup>18</sup>.

### **Education**

- Signs and symptoms of hepatitis B;
- To seek medical evaluation if they develop signs and symptoms during the follow-up period.

The following precautions should be taken to prevent potential transmission of HBV to others until infection with hepatitis B can be ruled out:

- Routine precautions and safe sex;
- Do not share personal items including razors, toothbrushes, needles or other implements which may be contaminated with blood or body fluids;
- Refrain from donating blood, plasma, organs, tissue or semen until they are certain they have not been infected (negative test at 12 weeks following exposure).

The precautions indicated below should be followed on a regular basis as safe handling and disposal of sharps and items soiled with blood:

- dispose of articles with blood (e.g., tampons, pads, Kleenex) appropriately;
- dispose of sharp items (e.g., razors) in hard-sided containers, taped shut. Refer to Saskatchewan Biomedical Waste Management Guidelines (2008)<sup>19</sup>.

<sup>18</sup> <http://www.ehealthsask.ca/services/manuals/Documents/sim-chapter7.pdf>

<sup>19</sup> <http://www.environment.gov.sk.ca/adx/adxGetMedia.aspx?DocID=217,216,104,81,1,Documents&MediaID=1099&Filename=Biomedical+Waste+Management.pdf>

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### **Immunization**

The recommendations set out in the Saskatchewan Immunization Manual Chapters 7<sup>20</sup> and 10<sup>21</sup>, should be followed for dosages and schedules.

- In addition to the individuals outlined in Chapter 10 of the Saskatchewan Immunization Manual the following individuals should have post-immunization serology completed within 1 to 5 months of completing the vaccine series (no later than 6 months):
  - Sexual partners and household contacts of acute cases and chronic carriers of hepatitis B.
  - Infants born to infected mothers (should be tested for HBsAg and anti-HBs one month after completion of the vaccine series).
  - Persons who have had a blood borne exposure.

### **Exclusion**

Not applicable

## **III.Environment**

### **Child Care Centre Control Measures**

All childcare centre staff should use Standard/Routine Precautions when handling all blood and body fluids. Refer to Infection Control Manual for Childcare Facilities.<sup>22</sup> Children known to have hepatitis B do not need to be excluded from childcare. If the child is known to bite, this should be discussed with the medical health officer (MHO).

### **Institutional Control Measures**

Standard precautions/routine practices to prevent exposures to blood and body fluids. Refer to the Saskatchewan Immunization Manual<sup>21</sup> for types of facilities for which residents are eligible for hepatitis B vaccine. Susceptible people in juvenile and adult correctional facilities should be immunized.

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<sup>20</sup> <http://www.ehealthsask.ca/services/manuals/Documents/sim-chapter7.pdf>

<sup>21</sup> <http://www.ehealthsask.ca/services/manuals/Documents/sim-chapter10.pdf>

<sup>22</sup> <http://www.saskatchewan.ca/live/births-deaths-marriages-and-divorces/starting-a-family/early-learning-and-child-care/child-care>

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### **Other Facilities with Alternate Caregivers and Other Residents (eg. group homes, foster homes, etc)**

Residents of certain facilities may be eligible for additional immunizations. Refer to the Saskatchewan Immunization Manual<sup>23</sup> for eligibility criteria. Standard precautions should be followed by all individuals working in these settings. All settings should have policies and procedures in place for managing employees with occupational risk due to exposure to blood or body fluids. As well, there should be policies and procedures in place to manage occupational exposures to blood and body fluids.

For more information on occupational exposure see the Saskatchewan Guidelines for the Management of Exposures to Blood and Body Fluids.<sup>24</sup>

### **Epidemic Measures**

- When two or more cases occur in association with a common exposure, additional cases should be sought.
- Outbreaks of hepatitis B should be reported to the Ministry using the [Outbreak Notification Report and Summary Form](#).

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<sup>23</sup> <http://www.ehealthsask.ca/services/manuals/Documents/sim-chapter7.pdf>

<sup>24</sup> <http://www.ehealthsask.ca/services/manuals/Pages/hiv-guidelines.aspx>

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Panorama QA complete:  Yes  No  
Initials:

**A) PERSON REPORTING – HEALTH CARE PROVIDER INFORMATION**

Clinic Name: Location: Attending Physician or Nurse: Address: Phone number:	<b>FOR PUBLIC HEALTH OFFICE USE ONLY:</b>  <b>Service Area:</b>  <b>Date Received:</b>  <b>Panorama Client ID:</b>  <b>Panorama Investigation ID:</b>
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**B) CLIENT INFORMATION**

Last Name:	First Name: and Middle Name:	Alternate Name:
DOB: YYYY / MM / DD      Age: _____	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown <input type="checkbox"/> Other	Phone : <input type="checkbox"/> Primary Home: <input type="checkbox"/> Mobile contact: <input type="checkbox"/> Workplace: <input type="checkbox"/> Alt Contact: Name: _____  Relationship: _____
Health Card Province: _____ Health Card Number (PHN):	<u>Gender Identity:</u> <input type="checkbox"/> Transgender Male-to-female <input type="checkbox"/> Transgender Female-to-male <input type="checkbox"/> Undifferentiated <input type="checkbox"/> Other (specify)	Preferred Communication Method: <input type="checkbox"/> Home <input type="checkbox"/> Work <input type="checkbox"/> E-mail <input type="checkbox"/> Text
Place of Employment/School:	Email Address:	
Address Type: <input type="checkbox"/> No fixed <input type="checkbox"/> Postal Address <input type="checkbox"/> Primary Home <input type="checkbox"/> Temporary <input type="checkbox"/> Legal Land Description		
Mailing (Postal address):		
Street Address or FN Community (Primary Home):		

**C) IMMIGRATION INFORMATION**

Country Born In: _____
Country Emigrated from: _____      Arrival Date: YYYY / MM / DD      OR Arrival Year YYYY

**D) DISEASE EVENT HISTORY**

<b>Staging:</b> <input type="checkbox"/> Acute <input type="checkbox"/> Chronic <input type="checkbox"/> Unknown
--

**E) SIGNS & SYMPTOMS**

Description	No	Yes Date of onset	Description	No	Yes Date of onset
Arthralgia			Nausea		
Asymptomatic			Pain - Abdominal		
Fever			Rash		
Jaundice			Stool – light		
Lethargy (fatigue, drowsiness, weakness, etc)			Urine – dark		
Loss of appetite (anorexia)			Vomiting		
Malaise			Weight loss		
Myalgia (muscle pain)			Other – specify		

## Hepatitis B Notification Form

Panorama Client ID: \_\_\_\_\_  
Panorama Investigation ID: \_\_\_\_\_

**F) RISK FACTORS (Please complete *all* Risk Factors –specify dates as needed) – Legend: N – No, NA – Not asked, U – Unknown**

DESCRIPTION	Yes Start Date	N, NA, U	Add'l Info
<b>Contact</b> – Hepatitis B	YYYY / MM/DD		
<b>Exposure</b> – Blood and body fluids (not otherwise listed) (Add'l Info)	YYYY / MM/DD		
<b>Exposure</b> - Invasive body art (e.g. tattoo, body piercing, scarification)	YYYY / MM/DD		
<b>Occupation</b> – Health Care Worker – IOM Risk Factor			
<b>Risk Behavior</b> – Sharing injection drug equipment	TE		
<b>Risk Behavior</b> – Sharing non-injection drug equipment	TE		
<b>Sexual Behaviour</b> – More than 2 sexual partners in past 3 months	TE		
<b>Sexual Behaviour</b> – MSM	TE		
<b>Sexual Behaviour</b> – Sex with a known case (Add'l Info)	YYYY / MM/DD		
<b>Sexual Behaviour</b> – Sex with person from endemic country (Add'l Info)			
<b>Sexual Behaviour</b> – Sex with person who injects drugs	TE		
<b>Special Populations</b> – Correctional Facility resident			
<b>Special Population</b> – From or residence in an endemic country			
<b>Special Population</b> – Infant born to infected mom			
<b>Special Population</b> – Pregnancy			
<b>Special Population</b> – Self-reported indigenous			
<b>Substance Use</b> – Alcohol			
<b>Substance Use</b> – Injection Drug Use (including Steroids)			
<b>Substance Use</b> – Illicit non-injection drug use			
<b>Travel</b> – Outside of Canada (Add'l Info)	YYYY / MM/DD		
<b>Other risk factor</b> (Add'l Info)			
<b>Medical Treatment</b> - Blood, blood product or tissue recipient (Add'l Info)	YYYY / MM/DD INTERVENTION		
<b>Medical Treatment</b> Other (transplant, surgery, dental, oscopy, artificial insemination etc.) (Add'l Info)	YYYY / MM/DD INTERVENTION		
<i>Blood, blood product, tissue or transplant donor</i>	<i>Document referral in interventions and complete Appendix K – Referral to CBS, and upload into Document Management</i>		

**G) UNKNOWN/ANONYMOUS CONTACTS**

Anonymous contacts: \_\_\_\_\_ (number of contacts that the individual cannot name)

**Include known contacts on the following pages**

## Hepatitis B – Contacts

Case Name: \_\_\_\_\_  
Page \_\_\_\_ of \_\_\_\_

Please complete all sections.

Please include information on additional contacts on a separate sheet

### A) CONTACTS

Last Name:	First Name: and Middle Name:	Alternate Name:
DOB: YYYY / MMM / DD    Age: _____ HSN: _____	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown <input type="checkbox"/> Other	
Phone #: <input type="checkbox"/> Primary Home: <input type="checkbox"/> Workplace: <input type="checkbox"/> Mobile contact: <input type="checkbox"/> alternate phone:                      Relationship:	e-mail Address:	
Place of Employment/School:	Is contact pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Is contact Hep B positive? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Address Type: <input type="checkbox"/> No fixed <input type="checkbox"/> Postal Address <input type="checkbox"/> Primary Home <input type="checkbox"/> Temporary <input type="checkbox"/> Legal Land Description Mailing (Postal address):  Street Address or FN Community (Primary Home):		
Exposure Dates: 1st YYYY / MM / DD to YYYY / MM / DD Exposure Type: <input type="checkbox"/> Sexual <input type="checkbox"/> Household <input type="checkbox"/> Sharing Injection/ Non-injection Drug Equipment		
Will the testing Physician/Nurse <b>follow-up</b> this contact? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, date contact notified:    YYYY / MMM / DD Has the contact been vaccinated for Hep B in the past? <input type="checkbox"/> Yes <input type="checkbox"/> No		Comments:

### B) CONTACTS

Last Name:	First Name: and Middle Name:	Alternate Name:
DOB: YYYY / MMM / DD    Age: _____ HSN: _____	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown <input type="checkbox"/> Other	
Phone #: <input type="checkbox"/> Primary Home: <input type="checkbox"/> Workplace: <input type="checkbox"/> Mobile contact: <input type="checkbox"/> alternate phone:                      Relationship:	e-mail Address:	
Place of Employment/School:	Is contact pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Is contact Hep B positive? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Address Type: <input type="checkbox"/> No fixed <input type="checkbox"/> Postal Address <input type="checkbox"/> Primary Home <input type="checkbox"/> Temporary <input type="checkbox"/> Legal Land Description Mailing (Postal address):  Street Address or FN Community (Primary Home):		
Exposure Dates: 1st YYYY / MM / DD to YYYY / MM / DD Exposure Type: <input type="checkbox"/> Sexual <input type="checkbox"/> Household <input type="checkbox"/> Sharing Injection/ Non-injection Drug Equipment		
Will the testing Physician/Nurse <b>follow-up</b> this contact? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, date contact notified:    YYYY / MMM / DD Has the contact been vaccinated for Hep B in the past? <input type="checkbox"/> Yes <input type="checkbox"/> No		Comments:

Panorama QA complete:  Yes  No  
 Initials: \_\_\_\_\_

Panorama Client ID: \_\_\_\_\_  
 Panorama Investigation ID: \_\_\_\_\_

### A) CLIENT INFORMATION

LHN -> SUBJECT -> CLIENT DETAILS -> PERSONAL INFORMATION

Last Name:	First Name: and Middle Name:	Alternate Name:
DOB: YYYY / MM / DD      Age: _____	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown <input type="checkbox"/> Other	PHN:

### B) INVESTIGATION INFORMATION

LHN -> SUBJECT SUMMARY -> STBBI ENCOUNTER GROUP -> CREATE INVESTIGATION

Disease Summary Classification: CASE:	Date	Classification: CONTACT:	Date	LAB TEST INFORMATION:
<input type="checkbox"/> Lab Confirmed	YYYY / MM / DD	<input type="checkbox"/> Contact	YYYY / MM / DD	Date specimen collected: YYYY / MM / DD
<input type="checkbox"/> Suspect	YYYY / MM / DD	<input type="checkbox"/> Not a Contact	YYYY / MM / DD	
<input type="checkbox"/> Person Under Investigation	YYYY / MM / DD	<input type="checkbox"/> Person Under Investigation	YYYY / MM / DD	

  

<b>Disposition: FOLLOW UP:</b>			
<input type="checkbox"/> In progress	YYYY / MM / DD	<input type="checkbox"/> Complete	YYYY / MM / DD
<input type="checkbox"/> Incomplete - Declined	YYYY / MM / DD	<input type="checkbox"/> Not required	YYYY / MM / DD
<input type="checkbox"/> Incomplete – Lost contact	YYYY / MM / DD	<input type="checkbox"/> Referred – Out of province	YYYY / MM / DD
<input type="checkbox"/> Incomplete – Unable to locate	YYYY / MM / DD	(Specify where)	YYYY / MM / DD

### C) IMMUNIZATION HISTORY INTERPRETATION SUMMARY

LHN -> INVESTIGATION -> IMMUNIZATION HISTORY INTERPRETATION SUMMARY

<b>Interpretation Date:</b> YYYY / MM / DD
<b>Interpretation of Disease Immunity:</b> <input type="checkbox"/> IOM - Fully immunized (for age) <input type="checkbox"/> IOM - Partially immunized
<input type="checkbox"/> IOM – Unimmunized <input type="checkbox"/> IOM - Unclear immunization history <b>Valid doses received:</b> _____ <b>Doses needed:</b> _____
<b>Reason:</b> <input type="checkbox"/> IOM - Interpretation of history by investigator <input type="checkbox"/> Previous responder/Previous history of immunity <input type="checkbox"/> Date Of Birth

### D) INTERVENTION

LHN -> INVESTIGATION -> TREATMENT & INTERVENTIONS -> INTERVENTION SUMMARY

<b>Intervention Type and Sub Type:</b>				
<b>Assessment:</b>		<b>Immunization: Investigator name</b>		
<input type="checkbox"/> Assessed for contacts	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Eligible Immunization recommended	YYYY/ MM /DD	
<input type="checkbox"/> Client aware of diagnosis	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Disease-specific immunization recommended	YYYY/ MM /DD	
		<input type="checkbox"/> Disease-specific immunization given	YYYY/ MM /DD	
		<input type="checkbox"/> Immunization nurse notified	YYYY/ MM /DD	
<b>Communication:</b>		<b>Environmental health:</b>		
<input type="checkbox"/> Phone call (morning)	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Personal Service Facility inspection	YYYY/ MM /DD	
<input type="checkbox"/> Phone call (afternoon)	Investigator name    YYYY/ MM /DD	Investigator name		
<input type="checkbox"/> Phone call (evening)	Investigator name    YYYY/ MM /DD	<b>Referral:</b>		
<input type="checkbox"/> Text Message sent	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Canadian Blood Services	YYYY/ MM /DD	
<input type="checkbox"/> E-mail	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Child Protective Services	YYYY/ MM /DD	
<input type="checkbox"/> Home visit	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Harm Reduction Services	YYYY/ MM /DD	
<input type="checkbox"/> Letter Sent	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Infectious Disease Specialist	YYYY/ MM /DD	
<input type="checkbox"/> Ordering practitioner contacted	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Primary Care Provider	YYYY/ MM /DD	
<input type="checkbox"/> Letter (See Document Management)	YYYY/ MM /DD	<input type="checkbox"/> Saskatchewan Transplant Program	YYYY/ MM /DD	
<input type="checkbox"/> Other communication (See Investigator Notes)	YYYY/ MM /DD	<input type="checkbox"/> Consultation with MHO	YYYY/ MM /DD	
		Investigator name		
<b>General: Investigator name</b>		<b>Testing: Investigator name</b>		
<input type="checkbox"/> Disease-Info/Prev-Control	YYYY/ MM / DD	<input type="checkbox"/> Post-immunization testing recommended	YYYY/ MM /DD	
<input type="checkbox"/> Disease-Info/Prev-Cont/Assess'd for Contacts	YYYY/ MM / DD	<input type="checkbox"/> Pre-immunization testing recommended	YYYY/ MM /DD	
		<input type="checkbox"/> Laboratory testing recommended	YYYY/ MM /DD	
		<input type="checkbox"/> STBBI Testing recommended (specify)	YYYY/ MM /DD	
<b>Education/counselling:</b>		<b>Other Investigation Findings</b>		
<input type="checkbox"/> Prevention/Control measures	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> Investigator Notes	YYYY/ MM /DD	
<input type="checkbox"/> Disease information provided	Investigator name    YYYY/ MM /DD	<input type="checkbox"/> See Document Management	YYYY/ MM /DD	
<input type="checkbox"/> Other (See Investigator Notes)	Investigator name    YYYY/ MM /DD			

  

Date	Intervention subtype	Comments	Next follow-up Date	Initials
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	

## Hepatitis B – Public Health Follow-Up

Panorama Client ID: \_\_\_\_\_  
Panorama Investigation ID: \_\_\_\_\_

YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	

**E) OUTCOMES (optional , except for severe influenza)** LHN -> INVESTIGATION-> OUTCOMES

<input type="checkbox"/> Not yet recovered/recovering    YYYY / MM / DD	<input type="checkbox"/> ICU/intensive medical care    YYYY / MM / DD	<input type="checkbox"/> Hospitalization    YYYY / MM / DD
<input type="checkbox"/> Recovered    YYYY / MM / DD	<input type="checkbox"/> Intubation /ventilation    YYYY / MM / DD	<input type="checkbox"/> Unknown    YYYY / MM / DD
<input type="checkbox"/> Fatal    YYYY / MM / DD	<input type="checkbox"/> Other _____    YYYY / MM / DD	

Cause of Death: (if Fatal was selected)

**F) Transmission Event** LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> QUICK ENTRY

Transmission Event ID <small>(system-generated can be documented below)</small>	Exposure Name	Setting type <small>Important: (Select the most appropriate setting for the TE; if &gt;1 select multiple settings)</small>	Date/Time(include the earliest transmission date to the latest date)	# of contacts
	Hep B Contacts-Inv ID #__	<input type="checkbox"/> Sexual Exposure <input type="checkbox"/> Public facilities <input type="checkbox"/> Multiple settings <input type="checkbox"/> Household <input type="checkbox"/> Type of community contact (includes IDU)		

**G) Total number of contacts** LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> TE HYPERLINK -> UNKNOWN/ANONYMOUS CONTACTS

\_\_\_\_\_ (total number of *unknown* and *known* contacts)

<b>Initial Report completed by:</b>		<b>Date initial report completed:</b> YYYY / MMM / DD
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**H) CONTACTS**

Last Name:	First Name: and Middle Name:	Alternate Name:
DOB:    YYYY / MMM / DD    Age: _____	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown <input type="checkbox"/> Other	
HSN: _____		
Phone #: <input type="checkbox"/> Primary Home: <input type="checkbox"/> Workplace: <input type="checkbox"/> Mobile contact: <input type="checkbox"/> alternate phone:                      Relationship:	e-mail Address:	
Place of Employment/School:	<b>Is contact pregnant?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <b>Is contact Hep B positive?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Address Type: <input type="checkbox"/> No fixed <input type="checkbox"/> Postal Address <input type="checkbox"/> Primary Home <input type="checkbox"/> Temporary <input type="checkbox"/> Legal Land Description		
Mailing (Postal address):		
Street Address or FN Community (Primary Home):		
Exposure Dates: 1st YYYY / MM / DD to YYYY / MM / DD		
Exposure Type: <input type="checkbox"/> Sexual <input type="checkbox"/> Household <input type="checkbox"/> Sharing Injection/ Non-injection Drug Equipment		
Will the testing Physician/Nurse <b>follow-up</b> this contact? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, date contact notified:    YYYY / MMM / DD Has the contact been vaccinated for Hep B in the past? <input type="checkbox"/> Yes <input type="checkbox"/> No		Comments:

**Complete more contact sheets if needed**