

Hepatitis B

Summary

Hepatitis B is an infection caused by a virus that can be transmitted by sexual exposure to blood or bodily fluids, injection drug use, and household contact with someone who has hepatitis B. The virus causes inflammation of the liver (hepatitis) and can ultimately cause chronic liver disease.

In Canada, the most common routes of transmission of hepatitis B are sexual contact and injection drug use. All people who are sexually active may be at risk for hepatitis B. In countries where hepatitis B is common, unsafe medical practices and transmission from parent to child during birth are the main routes of transmission.

Infection with hepatitis B can range in severity from an acute illness with few or no symptoms that lasts a few weeks and clears up on its own, to a more serious chronic life-long illness resulting in liver disease, liver failure or liver cancer.

A simple blood test can determine if an individual currently has hepatitis B, has had previous exposure to hepatitis B, or has been vaccinated. There is no cure for hepatitis B, but it is preventable with immunization. Treatment is available that can decrease the risk of liver damage and reduce the risk of passing the virus to other people.

Infection with both hepatitis B and HIV may complicate HIV treatment because of the effects of HIV treatments on the liver.

Correct and consistent use of barrier methods (condoms and/or oral dams) as well as not sharing injection drug use equipment can reduce the risk of hepatitis B transmission. Not sharing personal hygiene products and safely disposing of any objects with blood on them can reduce the risk of household transmission.

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CONTACT US

by telephone
1-800-263-1638
416-203-7122

by fax
416-203-8284

by e-mail
info@catie.ca

by mail
555 Richmond Street West
Suite 505, Box 1104
Toronto ON M5V 3B1

Key messages on hepatitis B for clients are available at the end of this fact sheet.

The words we use here – CATIE is committed to using language that is relevant to everyone. People use different terms to describe their genitals. This text uses medical terms, such as vagina and penis, to describe genitals. Cisgenderⁱ people can often identify with these terms. Some transgenderⁱⁱ people may use other terms, such as front hole and strapless. CATIE acknowledges and respects that people use words that they are most comfortable with.

What is hepatitis B?

Hepatitis B is an infection caused by the hepatitis B virus (HBV), which is a virus of the *Hepadnaviridae* family. The virus enters the bloodstream. Hepatitis B mainly infects the liver but has been found in other tissues and organs, such as the kidneys or pancreas.

How is hepatitis B transmitted?

Hepatitis B is transmitted through contact with infected blood, semen and vaginal fluids. Transmission occurs when infected blood or other bodily fluids of an infected person comes into contact with the body's "wet" linings (mucous membranes) or the torn or cut skin of another person.

In Canada, hepatitis B is most commonly transmitted via sexual contact. Hepatitis B can be transmitted during oral, anal or vaginal sexual activity if a person's mucous membranes or torn or cut skin comes into contact with infected blood or bodily fluids.

Hepatitis B can also be transmitted via objects that carry the virus because hepatitis B can survive outside the body for up to seven days. Sharing sex toys can also transmit hepatitis B. It is possible to transmit hepatitis B through touch or fingering if a person's mucous membranes or torn or cut skin is exposed to infected blood or bodily fluids on a partner's hands.

Other than sexual activity, the most common form of hepatitis B transmission in Canada is

from sharing both injection and non-injection (for example, straws or pipes) drug use equipment that carries the virus.

Hepatitis B can be transmitted between household members if objects such as toothbrushes, razors or nail files are shared. Occupational exposure among health professionals (doctors, dentists, nurses) via contaminated medical or dental equipment is another form of transmission. Although rare in Canada, the virus can also be transmitted by equipment that has not been sterilized properly (for example, medical or dental equipment, acupuncture tools, and tattoo, piercing or electrolysis equipment). This is one of the most common routes of transmission among people in countries where hepatitis B is common.

Hepatitis B can be passed from an infected pregnant person to a fetus in the uterus, but vertical transmission most commonly occurs during vaginal or cesarean delivery because the newborn is exposed to the parent's infected blood.^{1,2,3,4}

Who is at risk?

All people who are sexually active may be at risk for hepatitis B. Specific populations in Canada that are disproportionately affected with hepatitis B include Aboriginal peoples, people who inject drugs, men who have sex with men (MSM), people who are street involved or homeless, those who have been incarcerated or institutionalized, and those with close household or sexual contact with any of the people listed above.

Certain factors may put individuals at an increased risk of hepatitis B infection. Sexual factors (such as sexual contact with an infected person or having a new sexual partner or more than two sexual partners in the past year), a family history of hepatitis B, or being the recipient of a blood transfusion or medical procedure before 1970 are also related to an increased risk of hepatitis B infection.

Regional factors may also be related to an increased risk of hepatitis B infection. For example, birth in a region with a high prevalence rate of hepatitis B (such as sub-Saharan Africa, East Asia, parts of Central and South America), household exposure

for more than seven years to family members from a high prevalence region, travel to or residing in a high prevalence region, exposure to blood or blood products in a high prevalence region.^{4,5}

Symptoms

Many people with hepatitis B have no symptoms. Symptoms can appear two to three months after infection (the incubation period).

If symptoms do appear when a person is first infected during the acute hepatitis B phase, they are often deceptive. Although the symptoms may appear to be harmless, they can actually be very harmful to a person's health.

The main organ affected by hepatitis B is the liver. Symptoms may include: fatigue, loss of appetite, jaundice, nausea and/or vomiting, rash, dark urine, and joint and/or abdominal discomfort or pain.

Approximately 30% to 50% of adults and less than 10% of children develop symptoms during an acute hepatitis B infection.^{1,3}

Complications

The majority of adults who contract hepatitis B will recover from their acute hepatitis infection and not require treatment. If the virus is present in the blood for more than six months, it is considered a chronic hepatitis B infection.

A small minority of adults will develop chronic hepatitis B. For children, an opposite pattern exists: the majority of infants and children who contract hepatitis B will develop chronic hepatitis B.

Without an intervention, approximately 15% to 40% of individuals with chronic hepatitis B will develop cirrhosis (scarring) of the liver or liver cancer. In rare cases, hepatitis B can result in end-stage liver disease that causes liver failure and death.

The Public Health Agency of Canada (PHAC) recommends that people with chronic hepatitis B see their primary care provider regularly to have their bloodwork assessed, monitor progression of liver cirrhosis and liver cancer, and identify if they

would benefit from a liver biopsy to assess disease severity and potential treatment.

An abdominal ultrasound is recommended at six-month intervals to screen for liver cancer for the following groups of people with chronic hepatitis B: those with cirrhosis, HIV or hepatitis C co-infection; individuals of African descent 20 years or older; men 40 years or older; women 50 years or older; and patients with a family history of liver cancer.^{1,2,3}

Testing and diagnosis (screening)

A simple blood test can reveal if an individual currently has hepatitis B, has had hepatitis B in the past (resolved), or has previously received the vaccine.

Individuals who think they may have been exposed to hepatitis B should contact a local health professional for screening. Tests are typically accurate within four weeks of hepatitis B exposure. Screening for hepatitis B chronic infection or immunity is indicated for those at risk of exposure and PHAC recommends that those at risk be vaccinated.

Screening immigrants from regions with a high prevalence of hepatitis B will identify chronically infected individuals who can benefit from monitoring and medical management (secondary prevention). Doing so will also permit vaccination of susceptible contacts, particularly infants and young children who are at risk of developing chronic infection (primary prevention).^{2,3}

Notification of partners

Hepatitis B is a reportable infection in Canada. This means that when an infection is confirmed by a clinic, doctor or laboratory, it must be reported to public health authorities. When someone has a confirmed hepatitis B diagnosis, the healthcare provider or public health nurse will ask them to contact or provide contact information for all people who may have been exposed during the period of infection, including sexual partners. In an attempt to retain their anonymity, the name of the original client is not given to their sexual partner(s) when they are contacted.

In addition to sexual partners, the following individuals are also contacted: those living in the same household; children not vaccinated at birth when born to mothers infected with hepatitis B; individuals who have had percutaneous exposure (like a needlestick poke with a needle used by someone who has hepatitis B); individuals who have had contact with the infected person's mucous membranes or non-intact skin (exposed skin that is chapped or abraded) where they have been exposed to the blood, saliva, tissue or other bodily fluids of the infected individual.

The client, healthcare provider or public health nurse will attempt to contact these individuals and encourage them to be screened for infection with the hepatitis B virus. PHAC recommends that all contacts be screened to assess their immune status and/or to provide vaccine protection to those who are not immune.⁷

Treatment

There is no specific treatment for acute hepatitis B but there are things an individual can do to reduce symptoms and reduce the risk of complications. It is recommended that individuals with an acute hepatitis B infection rest and reduce their activity levels and control itching associated with a rash (if present). They are also advised to generally lead a healthy lifestyle, such as drinking plenty of water to avoid dehydration, eating healthy foods, and avoiding alcohol and drugs.

Chronic hepatitis B can be treated with interferon injections or antiviral medications to stop the replication of the hepatitis B virus and prevent the development of cirrhosis of the liver (scarring of the liver that can cause further health complications like jaundice or fatigue), liver failure or liver cancer. The course of treatment is tailored to the age of the patient and the severity of the disease progression.^{1,2,3,7}

What about HIV?

Because both HIV and hepatitis B can be transmitted by sexual contact and injection drug use, many adults at risk for HIV infection are also at risk for hepatitis B infection, and those with

HIV are at increased risk for developing chronic hepatitis B. A person who is infected with both the hepatitis B virus and HIV has what is known as HBV/HIV co-infection. Hepatitis B progresses faster and causes more liver-related health problems, such as cirrhosis, liver cancer and liver failure, among people with HIV compared to people without HIV. Additionally, individuals with HBV/HIV co-infection have a higher risk of developing hepatotoxicity (liver damage due to chemicals) when starting HIV antiretroviral therapy compared to people with HIV who don't have hepatitis B. However, infection with hepatitis B does not speed up the progression of HIV or affect the response of HIV to antiretroviral therapy. Hepatitis B vaccination is recommended for HIV-infected individuals to decrease potential for co-infection complications.

Some of the drugs used to treat HIV also have activity against hepatitis B. HBV/HIV co-infected people who take Truvada (tenofovir + FTC) or 3TC (lamivudine) and then later stop may experience a temporary worsening (or "flare-up") of their HBV infection.^{8,9,10}

Prevention

There is an effective vaccine to prevent hepatitis B. Currently, the *Canadian Immunization Guide* suggests that hepatitis B be included as part of routine infant vaccinations, commonly provided at two, four and six months of age. Adults who received the vaccine as an infant or through school programs do not require boosters. Teenagers and adults may receive the vaccination depending on their medical conditions, occupation and/or lifestyle.

The sexual transmission of hepatitis B can be reduced with correct and consistent use of condoms. There are two types of condoms available. The external condom (sometimes called the "male" condom) is a sheath made from polyurethane, latex or polyisoprene that covers the penis during sex. The internal condom (sometimes called the insertive or "female" condom) is a pouch made of polyurethane or a synthetic latex material called nitrile that can be inserted into the vagina or rectum. Some trans men may cut a condom or oral dam to fit their genitals.

Using condoms on sex toys and during oral sex so that bodily fluids are not exchanged can reduce the risk of hepatitis B transmission if a partner is not immune to hepatitis B.

Non-sexual transmission of hepatitis B can be reduced by limiting contact with objects (needles, toothbrushes, razors, glucometers, nail clippers) that have come into contact with infected bodily fluids. These objects as well as other objects contaminated with blood (feminine hygiene products, dental floss, needles, broken glass, bandages) should be disposed of safely.

An individual with hepatitis B should inform healthcare professionals (doctor, dentist, nurse) of their status and also inform others who provide personal services (for example, acupuncturist, tattoo artist, aesthetician) if piercing of the skin or mucous membranes is involved.

Cuts, sores and rashes should be covered with bandages to avoid exposing others to hepatitis B. Blood spills or surfaces contaminated with blood should be cleaned with a bleach solution and the person doing the cleaning should wear latex or protective gloves.

Equipment used to prepare, inject or inhale drugs (syringes, needles, spoons, drug solutions, filters, cookers, pipes, straws or other devices for snorting drugs) should not be shared.

Sexual partners, drug use partners and household members should be tested and, if not immune, immunized if they are exposed to hepatitis B.^{2,3,11}

Footnotes

i Cisgender – someone whose gender identity aligns with the sex they were assigned at birth

ii Transgender – an umbrella term that describes people with diverse gender identities and gender expressions that do not conform to stereotypical ideas about what it means to be a girl/woman or boy/man in society

(Definitions taken from *Creating Authentic Spaces: A gender identity and gender expression toolkit to support the implementation of institutional and social change*, published by The 519, Toronto, Ontario.)

References

1. Public Health Agency of Canada (PHAC). *Hepatitis B in Canada: 2005-2011 Surveillance Report*. Available at: http://publications.gc.ca/collections/collection_2015/aspc-phac/HP40-129-2014-eng.pdf [Accessed December 23, 2015.]
2. B.C. Centre for Disease Control. Smart Sex Resource. *Hepatitis B – Fact Sheet*. Available at: <http://smartsexresource.com/topics/hepatitis-b> [Accessed December 23, 2015.]
3. Public Health Agency of Canada (PHAC). *Primary Care Management of Hepatitis B in Canada*. Available at: <http://www.phac-aspc.gc.ca/publicat/hep/hbv-vhb/index-eng.php> [Accessed December 23 2015.]
4. Xu DZ, Yan YP, Choi BC, et al. Risk factors and mechanism of transplacental transmission of hepatitis B virus: a case-control study. *Journal of Medical Virology*. 2002; 67(1), 20–26.
5. Centers for Disease Control and Prevention (CDC). *Hepatitis B – General Information*. Available at: <http://www.cdc.gov/hepatitis/HBV/PDFs/HepBGeneralFactSheet.pdf> [Accessed December 23, 2015.]
6. Public Health Agency of Canada (PHAC). *Canadian Guidelines on Sexually Transmitted Infections. Section 5: Management and Treatment of Specific Infections. Hepatitis B*. Available at: <http://www.phac-aspc.gc.ca/std-mts/sti-its/cgsti-lcits/section-5-7-eng.php> [Accessed December 23, 2015.]
7. American Sexual Health Association. *Hepatitis B*. Available at: <http://www.ashsexualhealth.org/stdsstis/hepatitis/hepatitis-b/> [Accessed December 23, 2015.]
8. Centers for Disease Control and Prevention (CDC). *HIV/AIDS and Viral Hepatitis*. Available at: <http://www.cdc.gov/hepatitis/Populations/hiv.htm> [Accessed December 23, 2015.]
9. Hepatitis B Foundation. *HBV/HIV Co-infection*. Available at: http://www.hepb.org/hepb/hbv_hiv_co-infection.htm [Accessed December 23, 2015.]
10. AIDS.gov. *Hepatitis*. Available at: <https://www.aids.gov/hiv-aids-basics/staying-healthy-with-hiv-aids/potential-related-health-problems/hepatitis/> [Accessed December 23, 2015.]
11. Public Health Agency of Canada (PHAC). *Canadian Immunization Guide*. Available at: <http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-hepb-eng.php#a5> [Accessed December 23, 2015.]

Acknowledgement

We thank Hepatitis Education Canada for expert review.

This fact sheet was developed in partnership with the Sex Information and Education Council of Canada (SIECCAN).

Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

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416-203-7122

by fax

416-203-8284

by e-mail

info@catie.ca

by mail

555 Richmond Street West
Suite 505, Box 1104
Toronto ON M5V 3B1



Canada's source for
HIV and hepatitis C
information

What you need to know about hepatitis B

Hepatitis B is an infection caused by a virus that can be transmitted during sex, by sharing equipment to use drugs and through household contact with someone who has hepatitis B. The virus infects the liver. Most people recover from the infection on their own, while some develop a permanent (chronic) infection. Treatment can help with symptoms and keep a chronic infection under control. There are many ways to lower the chance of getting or passing on hepatitis B, including getting vaccinated.

The words we use here – CATIE is committed to using language that is relevant to everyone. People use different terms to describe their bodies. This text uses medical terms, such as vagina and penis, to describe genitals. Other people may use other terms, such as private parts or dick or front hole. CATIE acknowledges and respects that people use words that they are most comfortable with.

What is hepatitis B?

Hepatitis B is an infection of the liver caused by the hepatitis B virus. A person with hepatitis B can pass it on to another person during sex, when sharing equipment to use drugs and through household contact with someone living with hepatitis B.

Many people with hepatitis B have no symptoms, so they don't know they have an infection. When symptoms do occur, they can take 2 to 3 months to appear. Common symptoms include:

- fatigue
- loss of appetite, nausea and/or vomiting
- joint and/or abdominal discomfort or pain
- yellowing of the skin and eyes (jaundice)
- rash
- dark urine (pee)

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Most adults will recover from an acute hepatitis B infection without treatment. If the virus has been in the blood for more than 6 months, it is considered a permanent (or chronic) hepatitis B infection. About 15 to 40% of individuals develop chronic hepatitis B. Chronic hepatitis B, if left untreated, can cause serious liver injury and increase the chance of liver cancer.

Could I get hepatitis B?

In Canada, hepatitis B is most commonly passed on during sex without a condom; this includes vaginal intercourse and anal intercourse. Anyone who is sexually active, including people who experience sexual violence, can get hepatitis B this way.

Hepatitis B can also be passed on through:

- sharing equipment to use drugs
- sharing sex toys or during a hand job or fingering

Because the virus can survive outside the body for several days, hepatitis B can also be passed:

- between household members who share toothbrushes, razors or nail files
- via improperly sterilized tools for tattooing, body piercing, acupuncture or electrolysis
- among health professionals through improper handling of medical and dental equipment

Hepatitis B and HIV

For people with HIV, untreated chronic hepatitis B infection may result in serious liver-related problems. Talk to your doctor to be sure that you are getting treatment for both HIV and hepatitis B.

Because HIV and hepatitis B share the same transmission routes, someone with hepatitis B is at greater risk of getting HIV. Co-infection with HIV and hepatitis B does not affect the progression of HIV or HIV treatment.

What can I do?

Prevent infection

The most effective way to prevent hepatitis B is to get the vaccine, especially for individuals with HIV.

To lower the chance of getting or passing on hepatitis B during sex:

- use a condom during vaginal intercourse and anal intercourse
- use condoms on sex toys and condoms or oral dams for oral sex

The chance of passing hepatitis B in other ways can be lowered by:

- not sharing drug equipment, including syringes, needles, cookers, filters, water, swabs, pipes and straws
- not sharing personal items that have come into contact with bodily fluids or blood, such as toothbrushes, dental floss, razors, nail clippers, glucometers, needles, bandages and feminine hygiene products

Get tested

The only way to know for sure whether or not you have hepatitis B is to get tested. A doctor or nurse can do the test. A simple blood test will reveal if you currently have hepatitis B, if you have had hepatitis B in the past or if you have already received the vaccine.

It is a good idea to get tested for other sexually transmitted infections (STIs), including HIV, when you get tested for hepatitis B. Talk to your healthcare provider about how often you should test for STIs.

If you are diagnosed with hepatitis B, a public health nurse will talk to you about informing your sex partners, as well as others who may have been in contact with your blood or bodily fluids (people you live with or health care professionals who have cared for you), that they might have been exposed to hepatitis B and encouraging them to get tested. Your identity will not be revealed.

Get treated

Acute hepatitis B infections are not usually treated with medication. Once the acute infection clears, you have immunity from getting hepatitis B again.

Chronic hepatitis B infection is treated with antiviral medications. These medications help to put the disease into remission and greatly lower the chance of liver cancer.

Getting the hepatitis B vaccine gives you immunity, which will prevent you from getting hepatitis B in the future.

If you have chronic hepatitis B, there are many things you can do to take care of your liver. Visit www.catie.ca for info on taking care of your liver.

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