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# Hepatitis C Basics

Foundational knowledge of hepatitis C for service providers who work with people living with or at risk of hepatitis C.



Updated March 2024

/ course content

# 1 Introduction to Hepatitis C

**At the end of this unit, the learner will be able to:**

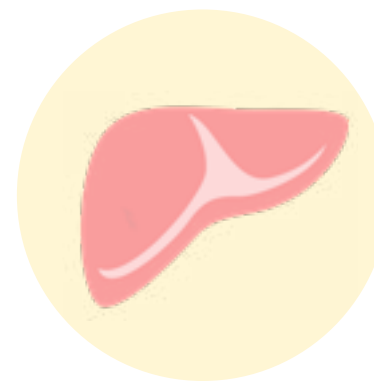
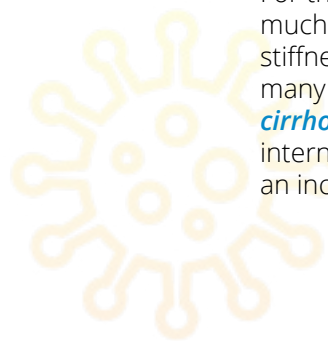
- 1 Explain what hepatitis C is
- 2 Identify the communities most impacted by hepatitis C in Canada
- 3 Recognize the influence of structural and social factors on hepatitis C health inequity
- 4 Explain how service providers can help to address hepatitis C health inequities

## What is hepatitis C?

Hepatitis C is a liver infection caused by the **hepatitis C virus**. The hepatitis C virus attacks the liver, a very important organ that helps the body fight infections, digest food, break down substances like alcohol and drugs, and more. The hepatitis C virus uses the cells of the liver to make copies of itself, killing liver cells in the process and causing inflammation and scarring.

The first six months of a hepatitis C infection is called an **acute infection**. For about 1 in 4 people, the virus goes away on its own during this time. This is called **spontaneous clearance**. However, for about 3 in 4 people, the virus remains in the body after six months. At this point, a hepatitis C infection will not go away on its own. This is called **chronic infection**. A person with chronic hepatitis C will need treatment to be cured.

For those with a chronic infection, hepatitis C causes injury to the liver over time. How much a liver has been injured by hepatitis C is measured by the amount of scarring or stiffness in the organ. The early stage of liver injury and scarring is called **fibrosis**. After many years of living with hepatitis C, scarring can affect most of the liver. This is called **cirrhosis**. Cirrhosis can lead to serious health problems, such as abdominal infections, internal bleeding, liver failure and potentially early death. People with cirrhosis also have an increased risk of liver cancer.





Hepatitis C can also affect other organs in the body aside from the liver. For example, people with chronic hepatitis C have a higher risk of kidney disease, heart disease and diabetes. However, with treatment and care hepatitis C can be cured.

## How is hepatitis C transmitted? Can it be prevented?

Hepatitis C is passed from person to person through blood. In Canada, sharing equipment for injecting drugs is the most common way that hepatitis C is transmitted. Some other ways that hepatitis C can be passed include sharing equipment for smoking or snorting drugs, as well as tattooing or piercing the skin with equipment that has not been sterilized properly. There is no vaccine to prevent hepatitis C infection but there are ways to prevent hepatitis C transmission. Later units will explore in more detail how hepatitis C is transmitted, as well as strategies for prevention.

## How do people know if they have hepatitis C?

Hepatitis C is sometimes referred to as a “silent” disease because often there are no symptoms until the liver is severely injured and a person experiences significant health problems. People can have chronic hepatitis C for 20 to 30 years or more without feeling sick or showing any symptoms.

The only way to know if someone has hepatitis C is to get tested. Diagnosing hepatitis C early and getting cured is important for decreasing the amount of time the virus has to injure the liver.

## Is there a cure for hepatitis C?

Hepatitis C can be cured. While some people spontaneously clear the virus during an acute infection, most people will need treatment to cure a chronic hepatitis C infection. Today's treatments are highly effective and cure over 95% of people with hepatitis C in one course of treatment. The medications used to treat hepatitis C are called direct-acting antivirals, or DAAs. These medications work in different ways to stop the virus from making copies of itself inside the liver. Hepatitis C treatment consists of taking pills orally for 8 or 12 weeks, with mild to no side effects.



After being cured of hepatitis C, some people report feeling much better, including having more energy and less body pain. People with cirrhosis have a higher risk of developing liver cancer and require ongoing care and monitoring even after they have been cured. A later unit will explore considerations for liver health after being cured of hepatitis C.

## Can a person get hepatitis C again after they have been cured?

A person can get hepatitis C again if they are exposed to the virus, even after they are cured or have cleared the virus on their own. People who are at ongoing risk for hepatitis C should always be offered testing and treatment to cure a new infection.

## What are the main differences between hepatitis C and hepatitis A and B?



- + **Hepatitis C** is an infection in the liver caused by the hepatitis C virus. Hepatitis A and hepatitis B also affect the liver and are sometimes confused with hepatitis C. However, the three viruses and the infections they cause are not the same:
- + **Hepatitis A** is typically passed through contaminated food or water. There is no treatment for hepatitis A and the infection usually clears on its own.
- + **Hepatitis B** is typically passed through blood, semen or vaginal fluids. Most adults will clear the virus on their own and develop immunity. Some will have the virus for the rest of their lives and will need to be monitored.
- + **Hepatitis C** is typically passed through blood-to-blood contact, even if the amount of blood is so small that you can't see it. About 1 in 4 people will clear hepatitis C on their own, and the other 3 in 4 people will need treatment to cure the infection.

Another key difference is that there are vaccines to protect against hepatitis A and B, but there is no vaccine to protect against hepatitis C.

## Communities most impacted by hepatitis C in Canada

Hepatitis C can affect anyone—no matter their age, sex, gender, sexual orientation, race or ethnic origin. However, certain communities experience a disproportionate burden of hepatitis C in Canada.

The communities that are disproportionately affected by hepatitis C in Canada include:

- + people who use drugs
- + people with experience in the prison system
- + Indigenous peoples, including First Nations, Inuit and Métis
- + immigrants and newcomers to Canada from countries where hepatitis C is common
- + gay, bisexual and other men who have sex with men (gbMSM)



People may identify as being a member of one or more of these communities. Belonging to these communities does not make a person more likely to have hepatitis C. In Canada, some of these communities may be disproportionately affected by poverty, criminalization, racism and limited access to healthcare, which in turn increases the chance of being exposed to hepatitis C and having limited access to timely testing and treatment.

## Why are certain communities disproportionately affected by hepatitis C?

There are many factors that influence the health of people and communities. This includes individual factors, such as genetics and behaviours, as well as broader structural and social factors that impact class structure and access to fundamental resources such as housing, income and appropriate medical care. All of these factors can lead to optimal health, but unfair differences in these factors can also result in unfair differences in health status. This is known as **health inequity**. Health inequity can increase a person or community's vulnerability to hepatitis C and lead to poorer health outcomes.

In Canada, the communities disproportionately affected by hepatitis C are also disproportionately affected by many of the **structural and social factors** that can cause poor health outcomes.

**Structural factors** affecting health include broad political, economic, social and environmental conditions that result in social divisions or class structure in our society. Structural factors influence the distribution of power and resources differently across lines such as race, gender, sexual orientation and class. Structural factors are complex and are linked to a lack of resources and opportunity. We can see these structural factors and access to resources at play when we look at the social, economic and environmental conditions in which people are born, grow up, live, work and age. These conditions are referred to as social factors or "social determinants of health."

The **social determinants of health** include experiences of poverty; lack of employment or job security; lower educational attainment; incarceration; being underhoused or homeless; experiencing social exclusion, stigma, racism, historic and ongoing colonialism, homophobia, sexism and/or other discrimination; and a lack of social support networks. These social factors can lead to hepatitis C health inequities because they impact the resources and opportunities available to people. Addressing these social factors is one way to tackle the unfair burden of hepatitis C experienced by these communities.

Let's work through an example to demonstrate how this works. This example is simple but in the real world it is much more complicated than this example shows.

- + A factor that has impacted people who use drugs is the ongoing criminalization of drug use in Canada. This has affected people who use drugs in many ways, such as by increasing their risk for incarceration, homelessness and poverty. These structural and social factors can create hepatitis C health inequities by excluding people who use drugs from mainstream society and impacting their ability to access resources that can support them to prevent or manage hepatitis C. For example, stable housing has been found to be a key factor in preventing hepatitis C among people who use drugs, but people who use drugs can be systemically excluded from housing due to the criminalization of drug use. People who use drugs also experience stigma and discrimination within the healthcare system, which impacts their willingness and ability to access a range of health services.



## Providing services that help to address hepatitis C health inequities

There are ways that services can help to address hepatitis C health inequities, including:

1 **Working at the community level to better understand needs and strengths in order to build better programs and services:**

To address hepatitis C health inequities, many communities require tailored services beyond what is offered in the mainstream healthcare system.

This involves working with communities to better understand their needs. It is also important to understand the strengths and protective factors that exist within each of these communities. Understanding both the needs and strengths of different communities will help build programs and services that best support and enhance health and wellness for these communities.



2 **Training staff to provide client-centred and culturally competent care:** Hepatitis C programs are more effective when they are client centred and provide culturally competent care. Service providers can better do this by meaningfully engaging communities and clients in the development and delivery of services to ensure that they are appropriate and responsive to the community's needs. People in communities that are affected by hepatitis C can be engaged through meaningful consultation and employment. This includes understanding community and cultural norms related to hepatitis C prevention, testing, care and treatment and the factors that influence individuals' perceptions of and ability to engage in these services.

3 **Connecting individual clients to services and supports that address factors that may increase their vulnerability to hepatitis C or impact their ability to access hepatitis C services:** Many people living with hepatitis C are dealing with a multitude of factors and circumstances that affect their health beyond hepatitis C. Addressing fundamental health and social needs, such as housing and income, can help address some of these health inequities and contribute to individual well-being. For example, we may assist clients with housing and income support programs or we may help people navigate the health system by accompanying them to appointments.

4 **Working to engage individuals throughout the hepatitis C continuum of care:** Hepatitis C services should work to engage individuals across all phases of the hepatitis C continuum of care, which include prevention, testing, treatment and ongoing care. The goal is to provide services that reach people in the right place, at the right time, in order to reduce hepatitis C transmission and improve hepatitis C health outcomes.

5 **Advocating for change:** We also have a role to play in advocating for change at the structural level to help improve the political, economic, social and environmental conditions that negatively affect the communities we serve. For example, working to end the criminalization of drug use in Canada.

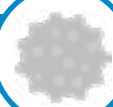


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## 2 Hepatitis C Transmission and Prevention

**At the end of this unit, the learner will be able to:**

- 1 Describe the biology of hepatitis C transmission
- 2 Identify the activities that can transmit hepatitis C
- 3 Identify the highly effective ways to prevent hepatitis C
- 4 Communicate the importance of continuous prevention of hepatitis C



### How is hepatitis C transmitted?

Hepatitis C is passed blood to blood through breaks in the skin or in the lining of the nose or mouth. There are several ways that blood containing the hepatitis C virus may come in contact with the blood of another person and cause an infection. This unit outlines the ways that hepatitis C can be passed through blood-to-blood contact as well as highly effective strategies to prevent hepatitis C infection.

#### *Injection drug use*

The sharing of equipment for injecting drugs is the **most common** way that hepatitis C is passed in Canada. This includes needles and syringes, cookers, filters, water and alcohol swabs. Hepatitis C can be present in blood that remains in used needles or other injection drug use equipment, even if the amount of blood is so small it can't be seen. When needles or other injection equipment are shared, blood that contains hepatitis C can get into another person's bloodstream. This can lead to an infection with hepatitis C.

#### *Smoking and snorting drugs*

Sharing equipment for smoking or snorting drugs can pass hepatitis C. Smoking drugs can lead to sores, burns or cuts on the lips and mouth, and snorting drugs can cause breaks to the lining of the nose. These injuries can cause tiny amounts of blood to be transferred onto equipment being used to smoke or snort drugs. When this equipment is shared, the hepatitis C virus can enter another person's body through injuries on their lips or in the lining of their nose or mouth. This can lead to infection with hepatitis C.





## ***Tattooing or piercing***

Sharing tattooing or piercing equipment, including needles and ink, can pass hepatitis C. However, professional establishments must follow regulations that require proper infection control procedures, which ensures that all equipment is new or properly sterilised between each use. There is no chance of hepatitis C transmission from tattooing or piercing when proper infection control procedures are used. However, it is possible to get hepatitis C from tattooing or piercing if proper infection control procedures are not used. When a needle or other equipment is re-used or not properly sterilized, or when ink is shared, blood that may contain hepatitis C can make its way directly into a person's body through the tattooing or piercing process. Tattooing and piercing in non-professional environments, such as in prison, carries a risk for hepatitis C transmission, because it is often not possible to sterilize used tattooing and piercing equipment or access new equipment in these types of settings.

## ***Getting a blood transfusion or organ transplant***

Hepatitis C can be transmitted via blood transfusion or organ transplant. However, in Canada, all donated blood and organs have been effectively screened for hepatitis C since 1992. This means that hepatitis C is no longer transmitted through blood transfusions or organ transplants in Canada, but someone could currently have hepatitis C who acquired it through one of these routes prior to 1992. It is more common for hepatitis C to be transmitted that way in countries where blood transfusions and/or organ transplants are not screened.



## ***Re-using medical equipment that has not been sterilized properly***

Hepatitis C can be transmitted through the re-use of medical equipment that is meant to be used only once (such as needles) or through the re-use of medical equipment that has not been sterilized properly. However, this rarely happens in Canada due to strong infection control practices in medical environments. In countries where re-using medical equipment is more common or where strong infection control practices have not been consistently implemented, it is a more common way to transmit hepatitis C.

## ***Pregnancy and childbirth***

Hepatitis C can be passed from parent to child during pregnancy or childbirth. The chance of the hepatitis C virus being passed to a baby during pregnancy or childbirth is about 5%. There is no evidence that suggests that hepatitis C is passed from parent to child through human milk.



## ***During sex***

While hepatitis C transmission during sex is not common, it is possible in some circumstances. Certain factors increase the risk of passing hepatitis C, including drug use before or during sex, condomless anal sex, group sex, having sex where blood is present, and with the presence of HIV or another sexually transmitted infection.

## ***Needlestick injuries***

A needlestick injury occurs when a used needle punctures someone else's skin. Hepatitis C can be transmitted through blood that remains in the needle after use if the blood contains hepatitis C.

## ***Blood or cutting rituals***

Hepatitis C can be passed through rituals that involve cutting with shared tools or the exchange of blood that may contain hepatitis C. For example, wet cupping is a traditional healing ritual that involves making a small skin incision with a scalpel and drawing out a small amount of blood. In this example, hepatitis C can be passed if unsterilized scalpels are shared.

## ***Sharing personal care items***

Hepatitis C can be passed between people through sharing personal care items such as toothbrushes, razors and nail clippers that may have traces of blood on them.

## Hepatitis C cannot be transmitted through:

- + casual contact, including sharing drinking glasses, eating utensils or toilets
- + hugging, kissing or touching a person living with hepatitis C



## Highly effective ways to prevent hepatitis C

There are highly effective tools and strategies to prevent hepatitis C infection. These strategies help to prevent blood-to-blood contact and reduce the risk of hepatitis C transmission.

### *New drug use equipment*

Hepatitis C transmission can be prevented through safer drug use strategies for injecting, smoking and snorting drugs.

- + When drugs are injected, people should use new needles and syringes, cookers, filters, sterile water and alcohol swabs each and every time.
- + When drugs are smoked, people should use their own pipes or stems and mouthpieces. This equipment should not be shared.
- + When drugs are snorted, people should use their own straws or stems. This equipment should not be shared.

### *New needles and ink for tattooing and piercing*

Using new or sterile equipment for tattooing and piercing is a highly effective strategy for preventing hepatitis C. The highest risk for hepatitis C transmission through tattooing and piercing is in unregulated settings (such as in prison). In these settings, hepatitis C can be prevented by using new needles, ink and ink pots every time.

### *During pregnancy, childbirth and breastfeeding (also known as chest feeding)*

In order to prevent transmitting hepatitis C from parent to child during pregnancy, some people with hepatitis C will choose to be treated and cured before trying to get pregnant to eliminate the risk of transmission. During pregnancy, treatment is generally not recommended, as there is little information on how the medication affects the fetus.

There is no evidence that giving birth a certain way, such as vaginal birth or C-section, will increase or decrease the chance of hepatitis C transmission.

While there is no evidence that suggests that hepatitis C is passed from parent to child through human milk, a nursing parent who has cracked or bleeding nipples is recommended to stop breastfeeding or chest feeding temporarily.

## Strategies to reduce hepatitis C transmission during sex

Safer sex practices are an effective way to prevent the sexual transmission of hepatitis C, as well as other sexually transmitted and blood borne infections, including HIV, syphilis and hepatitis B. Safer sex practices that can lower the chance of blood-to-blood contact include the use of barrier methods (such as condoms), regular application of lubricant during prolonged sex, the use of lube from a personal container, and the use of sterile and unshared equipment (such as sex toys or BDSM gear) for activities that can increase the likelihood of blood being present during sex.

Some people use certain drugs before or during sex to increase arousal, facilitate disinhibition and enhance or prolong sexual activities. In some contexts, this is known as “party and play” (PnP) or “chemsex.” The safer drug use practices outlined earlier in this unit are also important in order to prevent hepatitis C during sex in these contexts.

## Considerations for service providers

Access to information and resources on hepatitis C prevention can help people lower their chances of acquiring and/or transmitting hepatitis C. Service providers should offer hepatitis C counselling in an environment that is tailored to the needs of communities being served and support clients in a way that is nonjudgmental and free from stigma. Stigma related to hepatitis C can negatively impact how clients access education and services related to hepatitis C prevention, as well as testing and treatment.





## ***Access to essential prevention approaches***

Education and counselling activities related to hepatitis C prevention should include information on how hepatitis C can be passed between people and should support the uptake of highly effective prevention strategies. This includes education on safer drug use and safer sex and facilitating access to harm reduction and safer sex supplies and services.

## ***Continuous prevention***

A person can get reinfected with hepatitis C if they are exposed to the virus again, even after they are cured or have cleared the virus on their own. Service providers can counsel clients on how to use prevention strategies consistently and correctly, regardless of hepatitis C status. Communicating the risk of hepatitis C reinfection is important for people who are at ongoing risk for hepatitis C. Those with ongoing risk should continue to be offered access to essential prevention services, such as harm reduction supplies, safer sex supplies and testing, as well as treatment to cure a new infection.

Conversations about hepatitis C can be an entry point when working with clients to put together a comprehensive plan for maintaining their health, including prevention of and routine screening for viruses such as hepatitis B, hepatitis C and HIV, as well as other blood-borne and sexually transmitted infections.

## ***Overdose prevention***

We cannot talk about strategies for safer drug use without acknowledging the current drug poisoning and overdose crisis. People who use drugs need support to help prevent other harms associated with substance use beyond the transmission of hepatitis C and other infections. Service providers should offer education on how to prevent, prepare for and respond to drug poisoning and overdose; they should also distribute or facilitate access to naloxone.

## ***Integrating hepatitis C prevention into established services***

Hepatitis C services can be integrated within established services, including harm reduction and sexual health spaces. Incorporating hepatitis C prevention and testing into these services can increase knowledge about hepatitis C, support prevention and encourage screening, linkage to care and access to treatment.

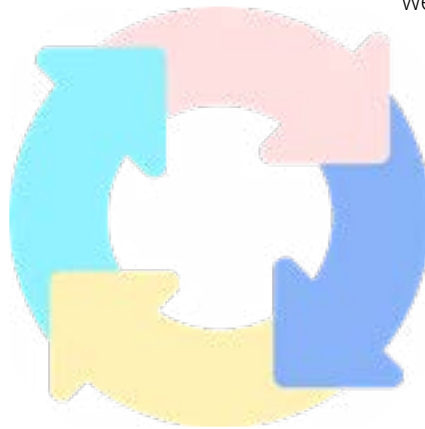


Examples of how hepatitis C prevention can be integrated into other prevention practices and services include:

- + co-locating hepatitis C health services within harm reduction services, such as needle and syringe programs, supervised consumption sites or safe supply programs
- + incorporating hepatitis C counselling and testing into regular and targeted health services for gbMSM. Service providers can use these spaces to provide education on the benefits of other strategies to reduce blood-to-blood contact (such as condoms) as well as education on treatment for hepatitis C.

## ***Supporting health and well-being by addressing underlying health and social factors***

In addition to providing information about hepatitis C prevention options, service providers can support clients to address factors that negatively impact overall wellness, such as mental health concerns, homelessness, poverty or use of alcohol and other substances. Providing referrals and linkage to other appropriate and relevant social and support services can help set people up to successfully adopt hepatitis C prevention strategies.



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# 3 Hepatitis C Testing

**At the end of this unit, the learner will be able to:**

- 1 *Explain the importance of hepatitis C testing and outline the benefits of early diagnosis of hepatitis C*
- 2 *Describe the hepatitis C testing process*
- 3 *Identify the different types of hepatitis C tests commonly used in Canada*
- 4 *Describe two broad approaches to hepatitis C screening that are used in Canada*
- 5 *Recognize the importance of linkage to care, treatment and other supports*

In Canada, many people living with hepatitis C don't know they have it. This is because people can have hepatitis C for 20 to 30 years or more without feeling sick or showing any symptoms. However, during this time hepatitis C is affecting the body and injuring the liver, which can cause significant health problems over time. Because it is so common for people with hepatitis C to not experience any obvious symptoms for many years, hepatitis C can remain undiagnosed for a long time.

Hepatitis C testing is the only way to know whether someone has hepatitis C. Both testing for and diagnosis of hepatitis C can have many benefits.

A diagnosis of chronic hepatitis C means a person can be linked to treatment for hepatitis C. Treatment for hepatitis C is highly effective and cures more than 95% of people within eight or 12 weeks. The earlier a person is diagnosed and starts treatment, the better it is for their long-term health. Early diagnosis and treatment can help prevent long-term liver health complications for most people. This is because it decreases the amount of time the virus has to injure the liver, leading to better health outcomes.

In addition to the health benefits of treatment, when a person is cured of hepatitis C, there is no longer any virus in their blood. This means there is no risk of passing hepatitis C on to others. When enough people with hepatitis C are cured in the community, the result is a reduction in the number of new infections in that community. This concept is known as community transmission.

Regardless of the test result, a person who has engaged in hepatitis C testing can be provided information and connected to other supports. This includes information about how hepatitis C is transmitted and how it can be prevented and an opportunity to deliver or refer people to prevention services, such as harm reduction programs.

## Accessing hepatitis C testing in Canada

In Canada, the majority of hepatitis C testing takes place in a healthcare provider's office, but it can happen in a variety of healthcare and community-based settings, such as hospitals, public health clinics, health centres, pharmacies, prisons and mobile vans or other outreach settings. The availability of testing in settings outside of healthcare providers' offices varies by province or territory.

To access testing from a healthcare provider or community worker, a person can request a test or a provider may offer testing to the person. In both cases, a person must consent before receiving a hepatitis C test.

All hepatitis C tests in Canada require a blood sample. A blood sample may be collected at the place where the test is offered or a healthcare provider may give a person a requisition to have blood drawn at a local laboratory.

## The hepatitis C testing process

Two tests are usually required to diagnose a hepatitis C infection.

The first test is called a **hepatitis C antibody test**. This test looks for hepatitis C antibodies in the blood. A positive antibody test means that a person has antibodies to hepatitis C and therefore has had hepatitis C at some point in their life. Everyone who has ever had hepatitis C will have antibodies for life, even if they have been cured or have spontaneously cleared the virus. These hepatitis C antibodies do not provide protection against future infection if a person is re-exposed to the virus. These hepatitis C antibodies do not provide immunity against future infection if a person is re-exposed to the virus.

If a person tests positive for hepatitis C antibodies, they will need a second test to confirm if the virus is currently in their body.

The second test is typically a **hepatitis C RNA test**. This test detects if someone currently has a hepatitis C infection. It does this by looking for the genetic material of the virus in the blood. A positive RNA test means that the person has hepatitis C. A negative RNA test means that the person no longer has hepatitis C, either due to spontaneous clearance or cure through hepatitis C treatment.

## Testing and reinfection

A person can get hepatitis C more than once, even after they are cured or have spontaneously cleared the virus.

When someone gets hepatitis C again, this is known as **reinfection**. When this happens, the person will only need an RNA test to diagnosis hepatitis C. An antibody test is not necessary or useful in this case because anyone who has had a previous hepatitis C infection will test positive for hepatitis C antibodies for their entire life.

## Standard testing

The majority of hepatitis C testing is done through a laboratory. This kind of testing is generally initiated in a healthcare provider's office or in other health- or community-based settings. To test for hepatitis C, blood is drawn from a person's vein and sent to a public health laboratory for testing. Depending on the region, there are two ways that this type of testing is completed in the laboratory.

The first method is known as **two-step testing**. When a person provides a blood sample for an antibody test, if the antibody test is negative, no further testing is done and a negative result is reported to the provider. However, if the antibody test is positive, there needs to be an RNA test to diagnose a hepatitis C chronic infection. In the two-step method, the person needs to return to give a second blood sample for the RNA test. The result of the RNA test is reported back to the provider.

The second method is known as **reflex testing**. Reflex testing simplifies the testing process by requiring only one sample of blood for both the antibody and RNA tests. If the antibody test is positive, the same blood sample is automatically used by the laboratory to perform the RNA test and the results are reported back to the provider.



Reflex testing simplifies the testing process and reduces the risk of people not coming back for RNA testing after a positive antibody test. Reflex testing simplifies the testing process and reduces the risk of people not receiving an RNA test after a positive antibody test.

## **Dried blood spot testing**

A limited number of communities in Canada currently offer **dried blood spot, or DBS, testing**. This is another way to take a blood sample for testing in a laboratory. With DBS testing, a blood sample is taken through a finger prick and drops of blood are collected on a paper card. The card is dried at room temperature and then mailed to a public health laboratory.

Once at the laboratory, the blood sample first goes through an antibody test. If the antibody test is negative, no further testing is done and a negative result is reported to the provider. If the antibody test is positive, then an RNA test can be done with a blood sample from the same card. If the RNA test is positive, no further testing is done and a positive result is reported to the provider.

## **Point-of-care testing**

Hepatitis C **point-of-care, or POC**, tests allow hepatitis C testing to happen at the location where blood is taken. These tests use a couple of drops of blood from a finger prick to test for hepatitis C antibodies or RNA. These tests use drops of blood from a finger prick to test for hepatitis C antibodies or RNA.

One POC hepatitis C antibody test has been licensed for use in Canada—the OraQuick Hepatitis C Virus Antibody Test. With this test, a person can find out their result in about 20 to 40 minutes during a single appointment. If the hepatitis C POC antibody test is negative, no further testing is done and the person is told their negative result on the spot. If it is positive, a person should be connected to RNA testing.

- + One POC hepatitis C RNA test has been licensed for use in Canada—the Xpert Hepatitis C Viral Load Fingerstick. This test can diagnose a current hepatitis C infection in just under 60 minutes. If the hepatitis C POC RNA test is negative, the person is told their negative result and no further testing is done. If it is positive, a person should be connected to care.
- + POC testing for hepatitis C is not widely available in Canada. Where it is used, it is generally only available in a limited number of specified locations, such as harm reduction programs and community-based health and social service settings.

In some countries, hepatitis C self-testing is available for people to test themselves in their home or other locations using saliva or blood droplets from a finger prick. Hepatitis C self-testing is not currently approved for use in Canada.

There are two main approaches to hepatitis C screening that are used in Canada: **risk-based testing** and **one-time testing**. These approaches are applied in different ways and depend on the population being screened for hepatitis C.

The most common approach to hepatitis C screening in Canada is **risk-based testing**. This involves offering hepatitis C testing to people who are at increased risk of having hepatitis C. This may be based on past or present behavioural, clinical or demographic characteristics. Examples of risk-based testing include offering testing to people who are currently using drugs or have used drugs in the past or through screening programs in federal and provincial prisons.

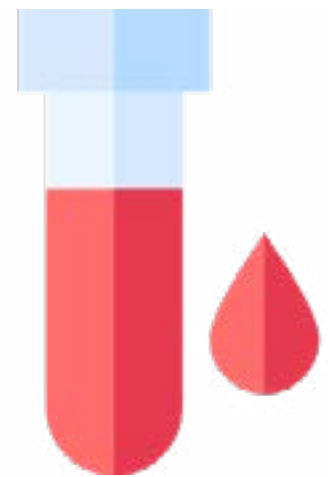
For people who have ongoing risk of exposure to hepatitis C, regular testing helps them to know if they have a current infection. This includes people who have either cleared hepatitis C or have been cured of hepatitis C but continue to have an ongoing risk of reinfection. Regular testing allows new infections to be diagnosed and linked to care early.

## **One-time testing**

Another approach to hepatitis C screening is **one-time testing**. This involves offering a hepatitis C test once to all people within a certain group. Groups that would benefit from one-time testing often have a higher prevalence of hepatitis C but may not have ongoing and identifiable risks for exposure. This approach expands testing beyond those with known risk factors to try to reach more people with undiagnosed hepatitis C.

Uptake of this approach has been limited in Canada, but has been recommended for two main groups:

- + **People born between 1945 and 1975.** There is a higher prevalence of hepatitis C among people born between 1945 and 1975. Healthcare providers may perceive people in this age cohort as having a low risk for infection and may be challenged to identify risk factors that would make a person eligible for risk-based testing. One-time testing can help identify the undiagnosed in this group.





- + **Confidentiality** is an important consideration for a person who is deciding to be tested for hepatitis C. It is the responsibility of the person performing the test to ensure that test results and counselling discussions are kept confidential. However, since hepatitis C is a public health issue, all positive test results in Canada must be reported to public health.

## How can a person be supported during the testing process?

- + Getting tested for hepatitis C can bring up many feelings for some people. Service providers may provide emotional support during the testing process and encourage clients to return for test results.
- + Service providers may share information and tackle myths about hepatitis C, including information on prevention activities, testing approaches and treatments that cure hepatitis C. Engaging in the testing process can be an opportunity to take part in education about options for prevention strategies and routine testing for people with ongoing risks for exposure.
- + Service providers can also help to connect people to other services in their community. Taking part in hepatitis C testing is one way that people can be linked to essential health and social services that may benefit them, including harm reduction, primary healthcare, housing and mental health services.

## How can a person be supported following a hepatitis C diagnosis?

Receiving a hepatitis C diagnosis is an important first step to being linked to hepatitis C care, including treatment to cure hepatitis C, ongoing prevention and other health services. Service providers can help connect a person with hepatitis C to care and treatment, as well as help people address any barriers to accessing care.

A person who has been diagnosed with hepatitis C should also be provided prevention counselling and resources, such as harm reduction supplies and services, in order to lower the risk of reinfection after treatment or passing hepatitis C to other people before and during treatment.



- + **Immigrants and newcomers to Canada from countries where hepatitis C is common.** This group can benefit from one-time testing. Individuals may have been exposed through unsafe medical and dental practices in their home countries but are not aware of their risk for hepatitis C.

Lack of knowledge about hepatitis C among healthcare providers and patients:

- + One-time testing eases the burden of having to identify past or current risks for exposure, particularly for those that may have occurred years or even decades prior.
- + Hepatitis C stigma: Systematically offering a hepatitis C test can help normalize hepatitis C testing and help reduce stigma.

Service providers can support people as they move through the testing process and, regardless of the test result, can offer essential information, support and encouragement relating to hepatitis C prevention, testing and treatment.

## The 3 C's of testing

Respecting and protecting people's rights needs to be central to hepatitis C testing. This includes consideration of the three C's of testing—counselling, consent and confidentiality.

- + **Counselling** involves having discussions with people both before and after the test; this is known as pre- and post-test counselling. It ensures that people receive the information, resources and supports they need.
- + **Informed consent** means that a person gives their approval to be tested after they have been educated about the test.

/ course content

# 4 Hepatitis C Treatment

**At the end of this unit, the learner will be able to:**

- 1 Describe what hepatitis C treatment is
- 2 Explain how hepatitis C treatment works and what a typical treatment regimen involves
- 3 Explain hepatitis C reinfection and treatment
- 4 Identify when ongoing monitoring is required after a person is cured of hepatitis C
- 5 Learn strategies and considerations for supporting people in their hepatitis C treatment journey

## What is hepatitis C treatment?

Hepatitis C is a curable infection. While some people spontaneously clear the virus during the first six months of having hepatitis C, most people need treatment to cure an infection. If left untreated, hepatitis C can lead to serious health problems, such as abdominal infections, internal bleeding, liver failure and potential early death.

The medications used to treat hepatitis C are called direct-acting antivirals, or DAAs. These medications work in different ways to stop the virus from making copies of itself inside the liver. DAAs are highly effective and cure over 95% of people with hepatitis C in eight or 12 weeks. They are oral medications that are simple to take and they have few side effects.

Older interferon-based hepatitis C treatment was difficult to take with many side effects and had a low success rate. Some people may have heard that hepatitis C treatment is difficult, others may not have been eligible for treatment in the past, and some people may have received the old interferon-based treatment. As a result, some clients may be apprehensive to take hepatitis C treatment. However, hepatitis C treatment is much different now with DAAs. It is important that service providers share these positive advances in hepatitis C treatment to give clients a better-informed picture of what it looks like now.

## What does hepatitis C treatment involve?

There are different combinations of DAAs that are available to cure hepatitis C. If a person decides that they are ready to start treatment, a healthcare provider can work with them to determine which treatment option is best for them.

For most people, hepatitis C treatment involves taking one to three pills once a day for eight or 12 weeks. The number of pills taken and for how long depends on the combination of DAAs.

There are a few factors to consider when a person and their provider are deciding which hepatitis C treatment makes sense for them. These include:

- + the degree of liver injury
- + other health conditions or medications that might affect treatment
- + whether or not the person has been treated before
- + whether or not the person is pregnant or trying to get pregnant



Hepatitis C treatment in Canada is recommended to treat chronic hepatitis C infection, or infection that has lasted longer than six months. How chronic infection is determined by a healthcare provider can vary depending on the treatment coverage requirements in the region.

There are very limited situations in which hepatitis C treatment is not recommended. Because there is little information on the effects of DAAs during pregnancy, DAAs are not recommended for pregnant people. Clinical trials of DAAs during pregnancy are ongoing, and this recommendation may change in the future.

## Adherence

All medications work best when they are taken exactly as prescribed. For treatment to have the best chance to cure hepatitis C, it is important that the pills are taken every day for the full length of treatment, as prescribed by the healthcare provider. This is called adherence.

## Does treatment for hepatitis C have any side effects?

Treatment for hepatitis C today typically has mild to no side effects. The most common side effects experienced by people taking treatment include headache, fatigue, nausea and diarrhea. Side effects usually decrease or stop a few weeks after treatment has started and are very rarely so severe that a person decides to stop treatment.

## What does it mean to be cured of hepatitis C?

Twelve weeks after a person has finished their hepatitis C treatment, they will be asked to complete a blood test called a hepatitis C viral load test to see if any hepatitis C virus is still in their body. This test is sometimes referred to as *sustained virological response (SVR)*. Some people will refer to a cure 12 weeks after treatment as SVR12.

- + If the viral load test comes back negative, which means there is no virus in the blood, the person is cured of hepatitis C. There is no more hepatitis C virus in the body.
- + If the viral load test comes back positive, treatment did not cure the person's hepatitis C. The healthcare provider will share information on retreatment options.

## What are the benefits of treatment for hepatitis C?

Regardless of the outcome, engaging with hepatitis C treatment can have a positive impact on a person's life. A person who has engaged with hepatitis C care may have more access to essential supports and services, such as supportive relationships with service providers, resources for ongoing prevention or assistance navigating the healthcare system.



Being cured of hepatitis C has many health benefits. Being cured means the hepatitis C virus is no longer in the body, so it can't cause any more inflammation or injury to the liver or other non-liver health issues related to hepatitis C infection. For some people, liver health, non-liver hepatitis C-related health issues and quality of life may improve over time after cure. For example, after being cured of hepatitis C, some people report feeling much better, including having more energy and less body pain. The earlier the treatment, the better it is for the person's health. Early treatment helps to cure hepatitis C before the virus has a chance to further injure the liver or impact other health systems. This lowers the chances of developing more serious health complications.

In addition to the health benefits, curing a person of hepatitis C eliminates the risk for transmission of the virus. This helps to reduce the number of new infections in Canada and around the world.

## Can a person get hepatitis C again after they have been cured?

A person can get hepatitis C again if they are exposed to the virus, even after they have been cured or have cleared the virus on their own. This is called **reinfection**. A reinfection is a new hepatitis C infection.

Reinfections happen because being cured through treatment or clearing the virus on their own does not give a person immunity against future infections. Immunity is the ability of the body to resist a particular disease. In this case, immunity is the body's ability to fight hepatitis C virus infection.



Reinfections are a reality of hepatitis C work and service providers will work with people who have ongoing risks for getting a new hepatitis C infection. People who are at ongoing risk for hepatitis C infection should be counselled on continuous prevention and should be offered access to essential prevention services, such as harm reduction supplies and testing.

Treating a reinfection is the same as treating a person with hepatitis C for the first time. If a person gets hepatitis C again and they do not spontaneously clear the virus within six months, they will need to be treated again. Clients who experience a reinfection should be supported in a nonjudgmental way including discussing treatment options.

## Who is eligible for hepatitis C treatment?

Canadian hepatitis C treatment guidelines recommend that **all people** with chronic hepatitis C be considered for treatment. This includes people who use drugs and/or alcohol. People who use these substances should be offered hepatitis C treatment, regardless of whether they plan to continue, reduce or stop their use of substances.



Treatment is recommended for chronic hepatitis C infection, or infection that has lasted longer than six months. How this is determined by a healthcare provider can vary depending on the treatment coverage requirements in the region.

Most people don't have to pay out of pocket for treatment. The majority will have the cost of hepatitis C treatment covered through provincial or territorial drug programs. There is also federal coverage for some people, including refugees, members of the military, people in federal prison and designated Indigenous people. Others may rely on private drug insurance plans through their employer. Pharmaceutical companies also have programs that help a person with paperwork related to drug coverage and can pay a deductible.

Public and private drug plans may have different policies for covering treatment for first-time infections and for reinfections.



## When is ongoing monitoring required after treatment is completed?

Many people who have been cured of hepatitis C will require no further liver care after treatment. However, people who have advanced liver injury, also known as cirrhosis, before starting hepatitis C treatment will require additional support and monitoring after being cured. Even after being cured, people with cirrhosis have a higher risk of developing liver cancer and require regular monitoring for liver cancer for the rest of their life.

## Strategies and considerations for supporting people in hepatitis C treatment and care

Service providers play an important role in supporting a person with hepatitis C during their treatment journey. Referrals to care and treatment, availability of treatment resources and access to support services can help a person engage in care and start treatment after a hepatitis C diagnosis.

The following examples include some of the various ways service providers can support a person with hepatitis C.

- + **Help people understand the benefits of treatment and cure.** The individual health benefits of hepatitis C treatment and cure are the most important benefit of treatment. It can also be important to talk about the prevention benefits of treatment.
- + **Support people to get access to and coverage for hepatitis C treatment.** This may include navigating public or private drug plans to ensure coverage or connecting with programs offered by pharmaceutical companies that provide support to navigate treatment coverage and can pay a deductible.
- + **Engage people with a trusted provider to develop a treatment plan.** This is particularly important for people who may want support with treatment adherence. Service providers support adherence by scheduling more frequent check-ins with their clients or helping clients keep track of pills through strategies such as pill boxes, adherence apps or daily or weekly dispensing of treatment.

- + **Connect people to additional treatment supports.** Some people may benefit from additional supports to become engaged in care, such as patient navigation or accompaniment to medical appointments.
- + **Connect people to additional programs and services within the community.** This may be important for some people with hepatitis C. It can include community services like mental health services, housing services and income support programs.
- + **Support people and their health after being cured.** Some strategies may include communicating the risk of hepatitis C reinfection and counselling about how to prevent a new infection, connecting clients with harm reduction services (such as supervised consumption sites, overdose prevention sites or needle and syringe programs), and supporting clients to connect with healthcare providers about any other health concerns they may have.