

Information about

# Hepatitis C

## What is Hepatitis C?

Hepatitis C is an infectious disease affecting the liver, caused by the Hepatitis C virus (HCV). Hepatitis C is now thought to be the most common cause of chronic hepatitis (long-lasting inflammation in the liver) in the Australian community. It is estimated that approximately 220,000 Australians are living with chronic Hepatitis C.

The infection is often asymptomatic (no symptoms) but, once established, chronic infection can progress to scarring of the liver (fibrosis) and advanced scarring (cirrhosis), which may be apparent after many years.

HCV was discovered in 1988. Since 1975, scientists had been searching for an elusive agent called non-A, non-B Hepatitis – it was given that name because many cases of hepatitis caused by blood transfusion turned out not to be due to either Hepatitis A or B.

## Who should be tested for Hepatitis C?

- People who have ever injected drugs
- People who have received a blood or blood product transfusion prior to 1991
- People with abnormal liver tests or evidence of chronic liver disease
- People with tattoos
- People born in countries with a high prevalence of Hepatitis C

**The risk of acquiring Hepatitis C in someone who has injected drugs is probably more than one in three; and after one year of regular use the chance is more than 70%.**



## What happens if my Hepatitis C test is positive?

Prior to being tested you should have received some information about Hepatitis C from your doctor.

If your test is positive, talk to your family doctor. They will decide if the test result is a 'true positive'. A Hepatitis C (PCR) test, which tests for the virus itself rather than just an antibody, may be performed to confirm that you actually have the infection.

Your doctor will also give you more information about Hepatitis C, assess for possible liver damage and do some additional blood tests. Your doctor may suggest antiviral treatment and arrange referral to a liver specialist for further assessment.



An information leaflet for patients and interested members of the general public prepared by the Digestive Health Foundation

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## How did I get infected with the Hepatitis C Virus (HCV)?

People acquire Hepatitis C by contact with infected blood. The most common way to contract Hepatitis C is through use of injecting drugs. Some people, however, contracted Hepatitis C through transfusion of blood or other blood products before effective screening of blood products became available in the early 1990s.

Clearly the biggest risk for infection with Hepatitis C is injecting drug use. Individuals are most likely to acquire Hepatitis C from sharing needles, but other injection equipment, blood-contaminated swabs or fingers may carry the virus from one user to the next. The risk of acquiring Hepatitis C in someone who has injected drugs is probably more than one in three; and after one year of regular use the chance is more than 70%. It is possible that Hepatitis C infection can be contracted by sharing razor blades, toothbrushes or other personal sharp items with someone who has Hepatitis C.

Unlike Hepatitis B and the human immunodeficiency virus (HIV or AIDS virus), HCV is not spread readily by sexual contact. It is thought that partners of HCV-infected individuals do not have an increased risk for HCV unless they have had direct blood-to-blood contact (e.g. sharing razor blades) or have an independent reason why they might have the HCV infection. Ordinary close contact (kissing, sharing crockery or cutlery etc.) does not lead to transmission of this virus.

Hepatitis C is not commonly spread from an infected mother to her baby at the time of birth. However, some babies of women with acute or chronic Hepatitis C do become infected, particularly if the mother has a high level of Hepatitis C virus in the blood (see below).

For some people, the only risk factor for having Hepatitis C infection is that they were born in a country with a high prevalence of Hepatitis C. It is thought that they contracted the infection through exposure to non-sterile medical practices including mass immunisation or surgery, or traditional and folk-medicine practices. It is important to try to identify the likely source of Hepatitis C infection as this allows your doctor to estimate how long you may have been infected, and therefore how severe your liver damage might be.

**The most common way to acquire HCV in Australia is by injecting drug use. Even a single exposure to someone else's blood could be enough to transmit the infection.**

## Can I infect others with Hepatitis C?

If you're infected with Hepatitis C your blood is infectious. You must be careful not to let other people come into contact with your blood. Some advice is given about this later on in 'How to avoid the spread of Hepatitis C'.

Hepatitis C is not spread by sharing eating utensils or by physical contact such as hugging or kissing. People with Hepatitis C should maintain a normal lifestyle.

## Can I still have sexual contact?

It is unusual for Hepatitis C to be spread sexually, although it may occur rarely. The exact factors that cause sexual spread are unknown, but it may be more common if people have acute Hepatitis C, or both Hepatitis C and HIV infections. The advice in 'How to avoid the spread of Hepatitis C' should be followed.

Couples in long-standing, monogamous relationships do not need to change their sexual practices. Others should use safe sex practices to prevent transmission of sexually transmitted diseases.

## I am having a baby. Is there anything I can do to reduce the risk to my baby?



There is only a small risk (approximately 2%) of transmitting Hepatitis C to a baby. This risk is higher (approximately 15%) if the mother also has HIV infection. Hepatitis C can only be transmitted if the virus is present in the bloodstream at the time of delivery. Having just the Hepatitis C antibody, without the virus itself, is not a risk for transmission.

Some invasive procedures during pregnancy and around the time of birth may increase the risk of infection to the baby. There is no evidence that any particular method of delivery (Caesarean section versus normal vaginal delivery) will lower the risk of transmission of HCV. However, it is suggested that, if possible, invasive procedures such as foetal scalp monitoring be avoided.

There is no evidence that breast-feeding increases the risk of transmitting the infection to a baby. It is currently recommended that mothers with Hepatitis C breast-feed their babies if they wish to. However, breast-feeding should be ceased if there are cracked nipples or any infection in the breast until the problem has resolved.

Hepatitis C antibodies will cross the placenta and be detectable in the baby for many months. It is not recommended that babies be tested for Hepatitis C antibodies until at least 18 months of age. Babies can be tested earlier using an HCV RNA test (PCR) at six months of age. If these tests are positive, your baby may have contracted Hepatitis C and should be referred to a paediatric specialist for review.

## What are the symptoms of Hepatitis C?

Most infections cause no symptoms at first. Some people will experience acute hepatitis (nausea, feeling unwell, sometimes jaundice or turning yellow), but they may eliminate the virus from their bodies – the chance of this occurring is thought to be between 15% and 45%. The remainder of infections become chronic (i.e. long-term). The infected person may either remain healthy or have long-lasting liver inflammation (chronic hepatitis).

## What happens with chronic Hepatitis C infection?

It is not uncommon for people with Hepatitis C to feel tired or vaguely unwell, or have intermittent nausea or abdominal discomfort. Symptoms are not always a reliable guide to the amount of liver damage. Thus a person with liver inflammation, but little liver scarring, can sometimes feel quite unwell, whereas another with cirrhosis (severe scarring of the liver) can feel quite well.

In a minority of people the virus causes slow, ongoing damage to the liver, with progressive scarring leading to cirrhosis over 20 years or more. Estimates of the proportion of people likely to develop cirrhosis from Hepatitis C vary from 7% to 20%, and it has become clear that there are often 'co-factors' that make it more likely someone will develop cirrhosis. These co-factors include being infected at an older age, drinking excessive amounts of alcohol, being also infected with Hepatitis B, and being overweight or diabetic. People with cirrhosis can remain perfectly well and without symptoms for many years. However, in some people, cirrhosis may lead to progressive deterioration of liver function and liver failure. Cirrhosis can also lead to the development of liver cancer. It is important to realise that Hepatitis C is a very slow, progressive disease, so that any decisions you may be considering about treatment are not urgent. Take your time and talk to your doctor.

## How do I know if I have developed significant liver damage?

Your doctor will assess your history of infection and whether you have co-factors that make it more likely you have significant liver damage. Your doctor will also perform a physical examination and review your blood test results.

A new test called a Fibroscan® is available in many liver clinics. It is a non-invasive test similar to an ultrasound that allows assessment of the amount of scar tissue in the liver. It is very helpful for determining if someone has minimal liver damage or severe liver damage.

In some parts of Australia, a test called a Hepascore® may be recommended. This is a blood test that measures a panel of different chemicals in the blood and has been shown to accurately predict the amount of liver damage that is present

In some people, a liver biopsy (removal of a small piece of liver using a needle) may be recommended.

People with moderate or severe liver damage should consider having antiviral treatment as soon as possible as eradication of the virus can lead to long-lasting health benefits. Once liver failure has developed it is usually too late to undergo antiviral treatment.

## Helpful advice for people with Hepatitis C infection

- People with HCV infection should continue to lead a normal, active lifestyle
- People with HCV should eat a healthy and well-balanced diet
- People who are overweight should aim to lose weight gradually through a balanced diet and exercise. Even the loss of a few kilograms can lead to improvement in liver tests and liver scarring
- Don't drink too much – even moderate alcohol consumption can affect the progression of Hepatitis C. Alcohol intake should be limited to less than one standard drink per day
- Stop smoking
- Avoid illicit drug use – you can be infected with multiple strains of HCV and can be reinfected, even if you have cleared the infection previously
- Certain vitamin supplements or herbal remedies can be harmful to the liver – consult your doctor before taking any of these
- People with HCV infection should consider vaccination against Hepatitis A and Hepatitis B. For more information, see the Digestive Health Foundation brochures on Hepatitis A and Hepatitis B at [www.gesa.org.au](http://www.gesa.org.au)
- Treatment is available for Hepatitis C and can lead to long-term elimination of the Hepatitis C virus. Current available therapy is based on a combination of Interferon injections and Ribavirin capsules. BUT not everyone with Hepatitis C needs treatment, particularly if the liver disease is very mild
- People with cirrhosis due to HCV should have their liver function regularly monitored, and undergo regular screening with six monthly ultrasound scans for development of liver cancer
- People with liver failure due to HCV may require liver transplantation

## Are there different strains of Hepatitis C?

There are a number of different strains or genotypes of Hepatitis C. The Hepatitis C genotype can be determined by a simple blood test. The treatment your doctor recommends will depend on what Hepatitis C genotype you have. In Australia, the majority of people have infection with genotype 1 or genotype 3, but all genotypes are seen.

## Is there any specific treatment for chronic Hepatitis C infection?

Yes, there is a treatment available for Hepatitis C that can lead to eradication of the infection (CURE) in a significant proportion of people. The most effective therapy is 'combination therapy', which includes weekly pegylated Interferon injections plus twice daily Ribavirin capsules. People with genotype 1 infection will usually also be recommended to have a third medicine to increase the chance of successful treatment ('triple therapy'). This third medicine is a direct acting antiviral drug called a protease inhibitor and is given three times daily.

Combination therapy and triple therapy directly suppresses the virus and helps the body's immune system fight against the virus.

Not everyone with Hepatitis C needs antiviral treatment, however, just about everyone does have access to treatment if they want it. Whether or not you should have treatment is best decided in consultation with your doctor.

Some people with genotype 1 who have failed previous treatment may have a high likelihood of responding to triple therapy.

In some people the treatment is unsuccessful, however new treatments are under development and may be available in the future.

## How likely am I to respond to antiviral therapy for Hepatitis C?

A number of factors determine how likely you are to respond to antiviral therapy.

An important factor that determines someone's chance of eradicating the infection is the Hepatitis C genotype they are infected with. This also determines the type of treatment that will be recommended.

Another important factor is your genetic make-up. Variations in a gene called IL28B predict how likely you are to respond to antiviral treatment. This test is available in Australia but is not subsidised by Medicare.

Other factors, such as the amount of scar tissue present in the liver, and the amount of virus circulating in the blood, may also affect your chance of responding to treatment. Your doctor can select the most appropriate type and duration of therapy to maximise your chance of long-term cure.

Once you start antiviral treatment, the early response to treatment (i.e. how much the virus level falls in the first 4-12 weeks) is an extremely important predictor of the success of treatment.

## How is antiviral therapy given?

Pegylated Interferon is given by subcutaneous (under the skin) injection, like insulin. Most people can give the injection to themselves and these need to be given once a week.

Ribavirin is taken as capsules twice a day.

Protease inhibitors (called Boceprevir or Telaprevir) are given as tablets or capsules three times a day.

Your treating doctor and nurse will provide full information as to how these treatments are given.

Treatment is usually continued for six months or 12 months, depending on the genotype that you are infected with, and whether or not you are showing a response.

## What are the side-effects?

Antiviral therapy has many side-effects. Interferon frequently causes flu-like symptoms and some people notice a loss of appetite, tiredness, irritability and mood changes. Some people develop depression, especially those with a past history of it. If you have had mental illness you may still be able to receive treatment, but only if your condition is stable and you are under the supervision of a psychiatrist. Interferon can lead to a drop in the number of white blood cells (fight infection) and platelets (help the blood to clot) in the blood.

Ribavirin often leads to a drop in the number of red blood cells (carry oxygen around the body). Therefore, people with a history of some blood disorders, heart or kidney disease may be advised not to have treatment. Ribavirin is also damaging to the developing foetus - both women and men must use contraception during treatment and for at least six months afterwards.

Protease inhibitors have additional side-effects and your doctor or nurse will discuss these with you in detail. The most important side-effects, depending on the specific drug used, include anaemia (low blood count), skin rash and a bad taste in the mouth.

It is important when considering treatment for Hepatitis C to discuss all the possible side-effects with your doctor and your Hepatitis C nurses. It is also important to consider the impact treatment may have on your lifestyle and plan your path to ensure it causes the least disruption.

## Is the treatment easily available?

The drugs used in combination therapy are expensive. In Australia, the Commonwealth Government subsidises up to 12 months of combination treatment for people with chronic Hepatitis C infection. The dose of Interferon and Ribavirin, and duration of treatment, will be decided by your doctor. Some people should not have antiviral treatment because they may develop complications. These concerns will be discussed by your doctor.



## Are there any other treatments?

Many new antiviral drugs are being assessed in clinical trials in Australia and overseas. We do not yet know if these will help.

## Monitoring of people with advanced Hepatitis C?

People with Hepatitis C who have developed severe liver scarring or cirrhosis are at significant risk of developing complications. Regular monitoring and screening tests are recommended.

Six monthly ultrasound scans are recommended to detect any new lumps or nodules that may be early liver cancers. If a concerning nodule is identified, another scan (CT or MRI) will be recommended for further assessment.

There is an increased risk of developing diabetes and regular testing should be undertaken.

There is an increased risk of developing thinning of the bones (osteopaenia or osteoporosis), which may increase the chance of a bone fracture. Second yearly bone density scans are recommended. Many people with advanced Hepatitis C are deficient in vitamin D. If low vitamin D levels are found on a blood test, supplementation with Vitamin D3 is recommended.

People with cirrhosis, particularly if the platelet count is low, are at risk of developing enlarged veins (varices) in the lower oesophagus (food pipe), which may spontaneously bleed. An endoscopy (a test to examine the oesophagus) is usually recommended to assess if varices have developed.

People with cirrhosis should have blood tests to assess the function of the liver performed at least every 3-6 months. Deterioration in blood tests, or development of other features of liver failure, may prompt referral to a liver transplant specialist.

## Is there a vaccine for Hepatitis C?

No. Development of a vaccine against Hepatitis C will be difficult – there are many strains of the virus and the virus can change over time. However, it is recommended that persons infected with Hepatitis C should be immunised against Hepatitis A and B.

## How to avoid the spread of Hepatitis C

### DO NOT...

- Donate blood
- Share needles or similar drug injecting devices or equipment
- Share toothbrushes or razor blades and other personal items like nail scissors and tweezers

### DO...

- Advise your doctor or dentist about your hepatitis condition prior to any procedure
- Cover cuts/abrasions with adhesive dressings
- Clean any spills of blood with household bleach, and wear gloves
- Dispose safely of blood stained materials (e.g. sanitary pads)
- Use safe sex practises unless in a stable, monogamous relationship

## Digestive Health Foundation

This information leaflet has been designed by the Digestive Health Foundation (DHF) as an aid for people who have been diagnosed with Hepatitis C or for those who wish to know more about it. This is not meant to replace individualised advice from your medical practitioner.

The DHF is an educational body committed to promoting better health for all Australians by promoting education and community health programs related to the digestive system.

The DHF is the educational arm of the Gastroenterological Society of Australia (GESA), the professional body representing the specialty of gastrointestinal and liver disease. Members of the Society are drawn from physicians, surgeons, scientists and other medical specialties with an interest in gastrointestinal (GI) disorders. GI disorders are the most common health-related problems affecting the community.

Research and education into gastrointestinal disease are essential to contain the effects of these disorders on all Australians.

Further information on a wide variety of gastrointestinal conditions is available on our website - [www.gesa.org.au](http://www.gesa.org.au)

**dhf**

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