

- Do not donate blood, sperm, organs or any other tissues.
- Make sure people in close contact with you are vaccinated (see below).
- Be careful about blood contact when playing contact sport.
- Get advice from your doctor if your job involves the potential for blood exposure to other people.

## Vaccination

The best way to prevent hepatitis B is by getting vaccinated.

The hepatitis B vaccine is very safe and provides lifelong protection against acute or chronic hepatitis B infection. The immune response to vaccination is determined by the age and general health of the individual. Protective immunity is achieved in more than 99 percent of infants, 95 percent of adolescents but only 80 percent of those over 40 years of age. The immune response is lower in people with immunosuppression, kidney failure or liver failure from another cause.

Neonatal vaccination (all babies) will prevent infection at birth and in early childhood and, on current evidence, provides lifelong protection in more than 99 percent of people.

The vaccine is usually given by three injections over six months. In New Zealand, all babies of HBsAg positive mothers are offered protection against hepatitis B at no cost. In addition, the baby also receives a single injection and hepatitis B immunoglobulin at birth as added protection.

Hepatitis B immunisation is also recommended and publicly funded for the following groups:

- all children up to their 16th birthday
- household and sexual contacts of known carriers
- prison inmates (Agreement between Ministry of Health and the Department of Corrections).

Hepatitis B immunisation is also recommended, but not publicly funded, for the following groups (note that employers should fund hepatitis B vaccine for employees at occupational risk):

- adults at risk because of their occupation – including dentists, medical practitioners, nurses, laboratory technologists, physiotherapists, students entering the health profession, orderlies, and other emergency, educational or health care workers who may come into contact with blood or bodily fluids in the course of their work (including all carers for people with intellectual disabilities)
- those undergoing renal dialysis
- adults with cirrhosis from any cause, and prior to liver transplant, who should receive hepatitis B vaccine early in the course of their illness

- adults with chronic hepatitis C infection
- individuals with haemophilia and other regular recipients of blood products
- men who have sex with men
- sex workers
- injecting drug users
- people with a high number of sexual partners.

People at high risk of contracting hepatitis B, such as health care workers, should be tested one month after the final dose of vaccine to assess whether they are immune to hepatitis B.

## Do I need to tell others?

Your hepatitis B test result is personal. You do not have to tell anyone straightaway, however, you are required to take precautions to prevent transmission of hepatitis B to others (please refer to Precautions). You are advised to inform sexual partners and your close household contacts so that they can be tested and vaccinated if necessary.

There is no legal requirement to tell any of your treating doctors, nurses, dentists or other health care providers that you have hepatitis B. However, it is advisable that you do this so that you get the best treatment for your needs. If you decide to tell any of these professionals, they are required to keep that information confidential unless you give your consent or unless disclosure is required by law (eg, court order) or in exceptional circumstances. Unfortunately you cannot donate any blood or body fluids. If you are a health care worker with hepatitis B you must not perform 'exposure prone' procedures.

There is no risk of transmitting the infection through food handling and therefore there is no need to disclose your infection if you work in the food industry.

## Where can I find out more information?

If you need more information, please talk to your GP or specialist.

The Hepatitis Foundation of New Zealand promotes education and research of viral hepatitis, early detection and long-term follow up of chronic hepatitis B and can also provide information on hepatitis B. See <http://www.hepfoundation.org.nz>

Local regional public health services can provide information about hepatitis B.

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# Hepatitis B Fact sheet

for people living with chronic infection

## What is hepatitis B?

Hepatitis means inflammation of the liver. It may be caused by infection with a virus, such as the hepatitis B virus. When the hepatitis B virus enters the body it travels to the liver, where it lives and multiplies in liver cells. The presence of the virus in the liver stimulates the immune system to kill it. Unfortunately, it is the body's immune response, not the virus that causes most of the inflammation and damage to the liver.

The impact of hepatitis B infection depends on a person's age when they become infected. Infants with hepatitis B infection almost always develop a long-term (chronic) infection, whereas people who get the infection as adults have a 95 percent chance of clearing the virus from their body.

Many people with hepatitis B do not get sick and do not know they have hepatitis B virus infection. Some people experience tiredness, nausea (feeling sick) and jaundice (yellowing of the eyes and skin). Infants rarely develop symptoms. About 50 percent of adolescents and adults develop jaundice when they first get the infection, which is called acute hepatitis B. Less than 1 percent of infected people will develop liver failure and either die or require emergency liver transplantation.

## Chronic hepatitis B

A person is diagnosed with chronic hepatitis B when they have the virus infection for longer than 6 months (confirmed through blood tests). Chronic hepatitis B develops in about 5 percent of adults, some children and most infants following acute infection. People with chronic hepatitis B are likely to have a lifelong infection, and although they generally remain in good health, they have an increased risk of developing serious complications, such as cirrhosis (scarring of the liver) and liver cancer. Importantly, people with chronic hepatitis B have the potential to spread the infection if they do not follow some simple precautions.

## How is hepatitis B spread?

Hepatitis B is spread when blood and other infected bodily fluids (including saliva, semen and vaginal fluids) enter the bloodstream either through a break in the skin or through mucous membranes (eg, eyes, mouth). Hepatitis B virus can be spread as follows:

- a pregnant woman with hepatitis B infection can transmit the infection to her baby at the time of birth — this is the most common way the virus is spread in developing countries around the world
- vaginal, anal or oral sex without a condom
- sharing injecting equipment

- tattooing or body piercing using non-sterile equipment
- close contact, including sharing toothbrushes, razors, nail files or other personal items that may lead to the exchange of bodily fluids
- blood transfusion (donated blood is screened in New Zealand and most developed countries and so there is only a very small risk of infection. Receiving a blood transfusion in some areas of the world can still be extremely risky)
- accidental needlestick injury or splashing of infected blood or bodily fluids, especially for health care workers, or from bites from an infected person
- contact sports.

## Managing and testing for hepatitis B

People with chronic hepatitis B virus infection should see their doctor regularly and some will benefit from medication. There are several blood tests available to diagnose and monitor hepatitis B (some are outlined in the table below). The interpretation of these tests is not always straightforward and may require the expertise of your GP or specialist.

Blood test	Abbreviation	What it means
Hepatitis B surface antigen	HBsAg	Hepatitis B infection
Anti-hepatitis B core antibody IgM	Anti-HBc IgM	Acute infection
Anti-hepatitis B core antibody IgG	Anti-HBc total	Previous or current infection
Anti-hepatitis B surface antibody	Anti-HBs	Immunity to hepatitis B infection
Hepatitis B e antigen	HBeAg	Viral replication and infectivity
Hepatitis B virus DNA	HBV DNA	Viral replication
Alanine aminotransferase	ALT	Estimates liver inflammation or damage
Alphafetoprotein	AFP	Marker for liver cancer, a complication of chronic HBV infection

There are other tests that can detect changes in the liver, such as liver ultrasound or scan, and liver biopsy (the removal of a tiny piece of the liver under local anaesthetic). These tests are used to diagnose cirrhosis and liver cancer.

## Treatment for hepatitis B

Each treatment has different benefits and side effects. You need to discuss your treatment options with your specialist.

Before starting treatment, people with hepatitis B should have a liver biopsy to check if there is any damage to the liver. If there is no damage, treatment may not be recommended. However, if you have high HBV DNA, and elevated ALT levels, and your liver biopsy shows liver inflammation or damage, your doctor will discuss treatment with you.

## Reducing the risk of liver damage; lifestyle issues

People with hepatitis B should eat a balanced diet that includes a variety of foods to meet the body's need for energy, growth and repair. Unless a person with hepatitis B has significant liver damage, there are no particular foods that should be favoured or avoided. If you are in doubt, you can see a dietician for advice.

Alcohol intake should be minimised to one standard drink per day and should be completely avoided if severe scarring or cirrhosis are present. Similarly, smoking cigarettes should be reduced and preferably stopped.

Support is available to help you reduce your alcohol intake and quit smoking.

Obesity may also contribute to liver disease due to the effects of fat in the liver. Obese patients should be encouraged to adopt lifestyle changes, including dietary alterations and increased exercise.

Some prescribed medicine, over-the-counter medicine and herbal remedies, including Chinese medicines, can be harmful to the liver, especially if taken in high doses or for a long period of time. It is important to discuss all your medication with your specialist and GP.

It is also important to avoid contracting other blood-borne viruses, such as hepatitis C or HIV, as this can dramatically affect your health and cause further liver damage. Therefore, avoid unsafe sex and sharing injecting equipment. Following these precautions also helps stop the spread of hepatitis B.

## Preventing the spread of hepatitis B

### Precautions

- Practise safe sex – use condoms during vaginal, anal and oral sex.
- Do not allow anyone to have contact with your blood – cover cuts and clean up spilt blood yourself.
- Do not share toothbrushes, razors or other personal items.
- Do not share needles, syringes or other injecting equipment.