

Information about

# Hepatitis B

A vaccine preventable disease

## What is Hepatitis B?

The term 'hepatitis' means inflammation of the liver. It has a number of different causes including damage by a virus. Hepatitis B is an important cause of viral hepatitis. Other causes of viral hepatitis include the Hepatitis A, C, D and E viruses, and sometimes the Epstein-Barr (glandular fever) virus and cytomegalovirus (CMV).

## How does Hepatitis B virus damage the liver?

The Hepatitis B virus (or HBV) multiplies in the liver cells. The body then tries to get rid of the Hepatitis B by killing the infected cells. It is the self-defence or immune response that does most of the damage to the liver. Liver damage usually occurs over a long period of time.

## How is Hepatitis B spread?

Most people with Hepatitis B became infected at the time of birth or in early childhood, usually in countries with a high rate of Hepatitis B in the community. People infected in early life are very likely to carry the infection long term and are at risk of complications of liver disease as they get older.

In people who have not been vaccinated, Hepatitis B can be contracted through exposure to infected blood and other bodily fluids, usually through a breach in the skin or contact with the internal lining surfaces of the body.

**The Hepatitis B vaccine is extremely effective at protecting against Hepatitis B infection. It is very safe and relatively inexpensive. It provides protection against Hepatitis B in 95% of vaccinated people, although occasional people will not be protected despite vaccination.**



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

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### The various ways adults can acquire Hepatitis B include:

- Use of injecting drugs (at any time in the past or present)
- Sexual contact (either heterosexual or homosexual)
- Blood transfusion – this is extremely rare these days as blood in Australia is tested for Hepatitis B before it is transfused
- Tattooing with unsterilised needles and equipment
- Close family contact with someone with Hepatitis B
- Accidental inoculation (i.e. needle stick) or being splashed with infected blood or secretions – affects people such as healthcare workers

### What damage can Hepatitis B do?

The outcome of Hepatitis B infection depends largely on the age at which it is contracted.

People who are infected with the Hepatitis B virus at birth or in early childhood almost always go on to have long-term (chronic) infection. They are usually completely well during childhood and early adulthood, but are at risk of developing complications and becoming unwell as they get older. Approximately 15-25% of people with chronic Hepatitis B will develop cirrhosis (scarring of the liver) or liver cancer during their lifetime.

If a teenager or adult becomes infected with the Hepatitis B virus, there is about a 50% chance that they will become ill and develop jaundice (turn yellow). This illness is called 'acute hepatitis'. However, in the other 50% of cases, there is no illness or jaundice and the infection is silent (or 'subclinical'). Newly infected adults have a good chance (approximately 95%) of being able to get rid of, or 'clear', the virus from the body by six months after infection. People who clear the virus are immune to the disease (cannot be reinfected) and do not develop long-term liver damage.

Approximately 5% of adults are unable to clear the virus and develop chronic Hepatitis B. Generally, they remain in good health for many years, but there is an increased chance of developing cirrhosis (scarring of the liver) or liver cancer over many years or decades.

### How can the doctor tell if you are infected with HBV or have any liver damage?

It is very important that people with chronic Hepatitis B are regularly assessed by their doctor. This is because the activity of Hepatitis B and the degree of liver damage may change over time. Specific treatment may be recommended at certain times. Many people with chronic Hepatitis B should undergo regular checks to ensure they are not developing a cancer.

There are many tests that assess liver damage, or the likelihood of future liver damage from Hepatitis B. The interpretation of these tests is not always straightforward and sometimes specialist advice is needed.

### Some of the more important tests include:

- **Hepatitis B surface antigen** – if positive, you are infected with the Hepatitis B virus
- **Hepatitis B surface antibody** – this blood test is positive if someone has cleared previous Hepatitis B infection or has had successful Hepatitis B vaccination. It indicates immunity to Hepatitis B
- **Hepatitis B virus DNA (HBV DNA)** – this measures the level of Hepatitis B virus DNA in the bloodstream and, in people over 30, has important implications for the likelihood of cirrhosis and liver cancer in the future. It helps your doctor make decisions about treatment
- **Liver function tests** – blood tests that give an indication of the level of liver inflammation or damage. Includes the 'ALT' (or alanine aminotransferase) test that is used to decide on the timing of treatment
- **Liver ultrasound scan** – uses sonar (inaudible sound waves) to provide pictures of the liver. Ultrasound performed every six months is used as a screening test to see if any new lumps or nodules have developed in the liver
- **Alpha-fetoprotein** – a blood test that can sometimes detect liver cancer. It is often performed every six months along with ultrasound
- **Liver biopsy** – the removal of a tiny piece of liver under local anaesthetic using a special needle passed through the skin. This is used on occasion to assess damage in the liver
- **Fibroscan®** – this is a non-invasive scan used to assess how much scar tissue or fibrosis has developed in the liver

### Is there any treatment?

People who have immunity to Hepatitis B and normal liver function tests do not need any treatment or follow-up.

People who have chronic Hepatitis B but no evidence of active liver damage may not require treatment, but should undergo annual check-ups with blood tests. This is very important as the state of activity of Hepatitis B changes over time, and can change from one year to the next.

The presence of liver damage can be determined from liver function tests, liver biopsy and Fibroscan®. If there is evidence of liver damage from Hepatitis B, the doctor may consider using an antiviral medicine, of which there are several types available in Australia for treating Hepatitis B virus infection. They include either a once-daily antiviral tablet that usually needs to be taken long term, or a weekly injection of a medicine called Pegylated Interferon, which is given for 12 months. These treatments have various benefits and side-effects, and therefore the type of treatment should be tailored individually to each patient. You should discuss these

treatments with your liver specialist. All people on antiviral treatment require regular monitoring and should never stop treatment without approval from their liver specialist, because suddenly stopping the treatment could result in a severe inflammation, jaundice or even liver failure.

## Screening for liver cancer in people with Hepatitis B?

Liver cancer can develop in anyone with chronic Hepatitis B. The risk is particularly high in people who have developed cirrhosis. Regular screening has been shown to increase the chance of finding a small, treatable cancer, and to increase the chance of surviving if a cancer develops.

Screening involves an ultrasound examination and a blood test (alpha-fetoprotein or AFP) every six months. This is recommended for anyone with cirrhosis due to Hepatitis B, and in some people infected with Hepatitis B but without cirrhosis. These include Asian men over the age of 40, Asian women over the age of 50, African people over the age of 20, and people with a family history of liver cancer. If a new lump or nodule is found, then your doctor will arrange another test such as a CT or MRI scan. The advantage of regular screening is that small, early tumours are often able to be successfully treated, whereas larger tumours may be much more difficult to treat.

If a cancer is detected during a screening test, then the person should be referred to a specialist who is experienced in the treatment of liver cancer. Many effective treatments are available for people diagnosed with liver cancer.

## What else can be done to improve the liver?

People who have chronic HBV should eat a normal, well-balanced diet. Unless your doctor suggests otherwise, alcohol consumption should be kept to an average of no more than one standard drink of alcohol per day. People with chronic HBV should avoid behaviour associated with contracting other blood-borne viruses (e.g. they should practice safe sex and not share injecting equipment) as well as preventing the spread of the Hepatitis B virus (see 'How can we stop the spread of Hepatitis B?' below).

## Do people with chronic Hepatitis B need to stay under medical supervision?

People who have chronic Hepatitis B infection, but are thought to have little or no liver damage and have normal physical examinations and a normal ALT level, should still see their doctor or specialist every 6-12 months for a check-up. There is a small chance of worsening liver damage in these people, such as the development of cirrhosis or liver cancer. People who

already have cirrhosis of the liver should be kept under close medical supervision and will usually require antiviral treatment.

## Hepatitis B and cancer chemotherapy or immunosuppressive therapy

Cancer chemotherapy or other immunosuppressive medications can lead to a severe flare of hepatitis activity in anyone who has chronic Hepatitis B. You should always mention you have been diagnosed with Hepatitis B to any doctor planning to give you chemotherapy or other strong medicine that could suppress the immune system. It is important to seek advice from a liver specialist before starting these forms of treatment. If antiviral medication is started around the same time as chemotherapy, then potentially dangerous flares of hepatitis can be prevented.

## What if I am having a baby?

All pregnant women are screened for Hepatitis B in early pregnancy. Sometimes this is the first time that a woman finds out she has Hepatitis B. It is important that hepatitis is fully assessed with LFTs and HBV DNA level during pregnancy.

All babies of women with Hepatitis B should be given two injections within 12 hours of birth. These injections include a Hepatitis B vaccination and a Hepatitis B antibody injection. A full course of vaccination is then given along with usual infant vaccinations. This strategy is extremely effective at preventing your baby from getting Hepatitis B. Women with very high levels of HBV DNA in the blood may still transmit Hepatitis B despite these injections and your doctor may discuss with you about having antiviral tablets in the last 2-3 months of pregnancy to reduce this risk.

There is no problem with breast-feeding your baby if your baby had vaccinations at birth.

Babies born to mothers with Hepatitis B should have a blood test to make sure they didn't contract Hepatitis B. It is recommended that this blood test is performed at around 9-12 months of age.

## How can we stop the spread of Hepatitis B?

The most important step in preventing the spread of Hepatitis B is to arrange for all susceptible close contacts (i.e. family members, sexual contacts) to be vaccinated against Hepatitis B (see below).

### Other ways to prevent the spread of Hepatitis B include:

- Do not donate blood, organs or body tissue
- Do not allow your blood to contact someone else's blood
- Inform healthcare workers (including dentists) who are responsible for your care that you are Hepatitis B positive

- Ensure anyone living in the same house as you, and who is not already immune, is vaccinated against Hepatitis B – this requires a course of three injections over six months
- Ensure your children are vaccinated
- Cover all cuts and abrasions with adequate dressings, and don't allow other people to touch your wounds without gloves on
- All babies are now vaccinated from birth with a paediatric dose of Hepatitis B vaccine. In addition, babies born to mothers with Hepatitis B also receive a dose of Hepatitis B immunoglobulin shortly after birth, to protect them until they start to make their own antibodies against Hepatitis B
- Ensure regular sexual partners are vaccinated. Until they complete the course of injections, and a follow-up blood test shows they are immune, you should practise safe sex
- For casual sexual contacts, always practise safe sex. This means condoms for all intercourse, and avoidance of trauma or blood contact
- Dispose of blood-stained articles safely
- Wipe up blood spills with concentrated household bleach
- Do not share needles or any other injecting drug equipment
- If your job involves potential for blood or other body fluid to spread to other people (e.g. if you are a healthcare worker involved in invasive procedures), consider your responsibilities and discuss other career options with a counsellor or your doctor

## Tell me more about Hepatitis B vaccination

The Hepatitis B vaccine is very safe and relatively inexpensive. It is also very effective and gives good immunity in 95% or more of the population. People over 40 years of age are less likely to develop good immunity. The vaccine is usually given in three injections over six months.

*People at high risk of contracting Hepatitis B need a blood test one month after the last dose to check whether or not they are immune.*

## Should everyone be vaccinated against Hepatitis B?

In Australia, a universal Hepatitis B vaccination program provides the Hepatitis B vaccination free of charge to all infants and adolescents. Anyone who is at risk of contracting Hepatitis B can arrange for Hepatitis B vaccination through their employer (e.g. for healthcare workers and others), their general practitioner or sexual health centre.

## It is strongly recommended that the following groups of people be vaccinated against Hepatitis B:

- All babies and adolescents who have not had the Hepatitis B vaccination previously
- People who have had accidental exposure (e.g. at work) – a non-immunised person who is exposed to Hepatitis B should also receive an injection of Hepatitis B immunoglobulin
- Healthcare workers
- Emergency services workers
- Household, family or sexual contacts of carriers
- Men who have sex with men
- Sex industry workers
- Injecting drug users
- Renal dialysis patients
- Clients and staff of institutions for the intellectually disabled and those in close contact with the de-institutionalised
- Aborigines and Torres Strait Islanders
- Haemophiliacs and other people who can expect to receive multiple blood or blood product transfusions, especially if these are given overseas
- Prisoners and prison staff
- International travellers
- People who play contact sport
- Childcare workers and staff of schools
- People with other forms of liver disease
- Embalmers

## Further questions?

This leaflet cannot be completely comprehensive, and is intended as a guide only. The information is current at the time of printing, but may change in the future. If you have further questions you should raise them with your own doctor. There are also Digestive Health Foundation brochures available on Hepatitis A and Hepatitis C – visit [www.gesa.org.au](http://www.gesa.org.au)

## 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 B 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)

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