

facts about...

HEPATITIS B

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What is HEPATITIS B?

Hepatitis is inflammation of the liver. It has a number of different causes, but the most common is damage by a virus. Hepatitis B is one of the viruses which can damage the liver. Others 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. Ironically, it is the self-defence, or immune response which does the most damage to the liver.

How is Hepatitis B spread?

Hepatitis B is spread by contact with blood and other bodily fluids, usually through a breach in the skin or contact with internal lining surfaces of the body. The various ways people can acquire hepatitis B include:

1. From an infected mother to her baby at around the time of birth. This is the most common way for the virus to spread in some parts of the world.
2. By use of injecting drugs (at any time in the past or present).
3. By sexual contact.
4. By blood transfusion. This is fortunately extremely rare these days, as blood in

Australia is tested for hepatitis B before it is transfused.

5. By tattooing with unsterilised needles.
6. By close family contact.
7. By accidental inoculation (ie. needlestick) or splashing with infected blood or secretions (eg. some groups or health care workers).

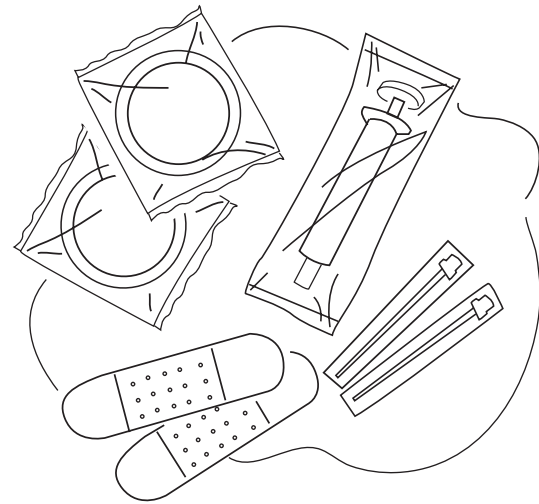
What damage can Hepatitis B do?

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

TELL ME MORE ABOUT 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..

Babies, who are infected with the hepatitis B virus at birth, almost always go on to become longterm ("chronic") carriers of the virus. However the infection at birth is silent, and the babies appear healthy and do not become jaundiced (turn yellow). Such people generally appear perfectly healthy for many years, but after 20, 30, 40 or 50 years they can become unwell. Chronic carriers who acquire their infection early in life have an overall chance of approximately 25% of developing cirrhosis (scarring of the liver) or even 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 (or turn yellow). This illness is called acute hepatitis. However, in the other 50% of cases, there is no jaundice and the infection is silent (or "subclinical"). Adults have a good chance (between 90% and 95%) of being able to get rid of the virus, or "clear" the virus from the body. Individuals who have been infected and clear the virus are immune to the disease and do not develop long-term liver damage.

The approximately 5-10% of adults who are unable to clear the virus become long-term, "chronic" carriers. Generally such people remain in good health for many years. However, there is an increased chance, that chronic carriers of the hepatitis B virus (HBV) will develop cirrhosis (scarring of the liver) or liver cancer over many years or decades.

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

There are many tests, which assist doctors in assessing liver damage, or 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 are:

1. Hepatitis B surface antigen: This is the test to see whether or not you are infected with the hepatitis B virus.
2. Hepatitis B e antigen: This blood tests tell the doctor whether or not the virus is continuing to multiply in the liver. People who have HBe antigen are more infectious to others than those who don't. They are also at greater risk of continued liver damage.
3. Hepatitis B virus DNA: This is another test for activity or replication rate of the virus. **The result of this test has important implications for an infected person's outcome (eg. Likelihood of scarring of the liver, liver cancer risk).**
4. Hepatitis B surface antibody: This blood test is positive if someone has had hepatitis B, cleared the virus, and is now immune. People who have had successful hepatitis B vaccination also usually have a positive hepatitis B surface antibody, indicating that they are immune.
5. Liver function tests: Blood tests which give an estimate of liver inflammation or damage. The "ALT" or (alanine amino transferase) test is a reasonably good guide. Other parts of the liver function tests can help the doctor assess whether or not there may be cirrhosis.
6. Liver ultrasound or scan: These tests use inaudible sound waves (sonar) to give the doctor pictures of the liver and can assist in diagnosing cirrhosis or liver cancer.

7. Liver biopsy: This is the removal of a tiny piece of liver under local anaesthetic, and is used on occasions to assess damage in the liver.

8. Alpha-fetoprotein: Is a blood test which can sometimes detect liver cancer.

Is there any treatment?

Those people who have immunity and normal liver functions tests do not need any treatment.

People who are chronic hepatitis B carriers without liver damage do not require treatment. However if there is liver damage, the doctor may consider using an anti-viral medicine.

There are several types of anti-viral medications available in Australia for treating hepatitis B virus infection. They include lamivudine, adefovir, entecavir and interferon. You should seek specialist advice and treatment supervision as these drugs have different benefits and side effects, and therefore the type of treatment should be tailored individually to each patient. Sometimes long-term treatment with such drugs can lead to another strain of hepatitis B virus becoming detected. A modification in your treatment regimen may be required in such cases.

What else can be done to improve the liver?

Carriers of HBV should eat a normal healthy diet. Unless your doctor suggests otherwise, alcohol should be minimised to one standard drink of alcohol per day. People should avoid behaviour associated with contracting other blood-borne viruses. (eg. they should practice safer sex and should not share injecting equipment) **as well as preventing spread of hepatitis B virus (see 'How to stop the spread of hepatitis B' section below).**

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

People who have chronic hepatitis B infection or carriers, but are thought to have

very little or no damage to their liver (ie. are HBe antigen and HBV-DNA negative), **and have normal physical examination and normal ALT level, must still see their doctor or specialist annually for a check-up. There is a small chance of ongoing liver damage in these people and a risk of developing severe scarring of liver and/or liver cancer, more so if the hepatitis B infection occurred at birth.**

People who are thought to have liver damage from hepatitis B should see their doctor regularly. Often the doctor will recommend a physical examination and ALT level every 6 or 12 months. People who are hepatitis B e antigen positive are at risk of continued liver damage and should definitely see their doctor at least annually.

People who already have cirrhosis of the liver will generally be kept under close supervision by their doctors. Sometimes regular ultrasound examinations and alpha-fetoprotein levels are recommended. People with very advanced liver disease may be referred to a liver transplant unit for discussion about liver transplantation.

Anyone who has had previous exposure or confirmed infection with hepatitis B, and are contemplating treatments that may impair their immune response (eg. cancer chemotherapy, organ or bone marrow transplantation, large doses of corticosteroid medications to treat inflammatory conditions) must seek advice from a liver specialist. Anti-viral medication for hepatitis B may need to be started in advance and continued for a period of time to prevent a potentially dangerous 'flare' or reactivation of the hepatitis B virus in a person with suppressed immunity.

How can we stop the spread of Hepatitis B?

The most important step in preventing spread of hepatitis B is to arrange for all susceptible close contacts (ie. family members, sexual contacts) to be vaccinated against hepatitis B (see below). People with hepatitis B should also follow the guidelines shown below.

1. Do not donate blood, organs or any body tissue.
2. Do not allow your blood to contact anyone else's blood.
3. Tell health care workers (including dentists) who are responsible for your care that you are hepatitis B positive.
4. Make sure anyone living in the same house as you and who is not already immune, is vaccinated against hepatitis B - this requires a course of 3 injections over 6 months.
5. Your children should be vaccinated.
6. Babies should be vaccinated FROM BIRTH with a paediatric dose of hepatitis B vaccine. In addition, babies born to carrier mothers should also receive a dose of hepatitis B immunoglobulin as soon as possible after birth.
7. Regular sexual partners should be vaccinated. Until they have completed the course of injections, and a follow up blood test shows they are immune, you should practise safe sex.
8. For casual sexual contacts, you should practise safe sex. This means condoms for all intercourse, and avoidance of trauma or blood contact.
9. Cover all cuts etc, with adequate dressings. Do not allow other people to touch your wounds without gloves on.
10. Dispose of blood-stained articles safely
11. Wipe up blood spills with concentrated household bleach.
12. Do not share needles or any other injecting drug equipment.

13. If your job involves potential for blood or other body fluid spread to other people (eg. if you are a health care worker involved in invasive procedures), you should consider your responsibilities and discuss other career options with a counsellor or your doctor.

Tell me more about 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. Older people (ie. Over 40 years) 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 see whether or not they are immune.

Should everyone be vaccinated against Hepatitis B?

The Digestive Health Foundation has a policy statement, which recommends that all Australian babies, children and teenagers, and people at increased risk of developing hepatitis B, are immunised against hepatitis B, as happens in many other countries in the world. Until this happens, it is recommended that the current National Health and Medical Research Council guidelines be followed. **These guidelines state that the following broad categories of people should be vaccinated against hepatitis B (vaccination should be requested from general practitioner or local council):**

1. All babies and adolescents who have not had hepatitis B vaccination previously.
2. Babies of infected mothers (all pregnant women SHOULD be tested for hepatitis B).
3. People who have had accidental exposure (eg. at work).
4. Health care workers.
5. Household, family or sexual contacts of carriers.

6. Sexually active homosexual or bisexual men.
7. Sex industry workers.
8. Injecting drug users.
9. Renal dialysis patients.
10. Clients and staff of institutions for the intellectually disabled and those in close contact with the de-institutionalised.
11. Aborigines and Torres Strait Islanders.
12. Haemophiliacs and others who can expect to receive multiple blood or blood product transfusions, especially if these are given overseas.
13. Prisoners and prison staff.
14. International travellers.
15. People playing contact sport.
16. Child care workers, staff of school.
17. Those with other liver diseases.
18. Embalmers.
19. People working in accident and emergency services.

Note: All pregnant women should be tested for hepatitis B so that their babies can be vaccinated against hepatitis B if the mother is a carrier.

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.

This information booklet has been designed by the Digestive Health Foundation as an aid to people who have Hepatitis B or for those who wish to know more about it. This is not meant to replace personal advice from your medical practitioner.

The Digestive Health Foundation (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, the professional body representing the Specialty of gastrointestinal and liver disease in Australia. Members of the Society are drawn from physicians, surgeons, scientists and other medical specialties with an interest in GI disorders.

Since its establishment in 1990 the DHF has been involved in the development of programs to improve community awareness and the understanding of digestive diseases.

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.



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This brochure is promoted as a public service by the Digestive Health Foundation. This leaflet cannot be completely comprehensive and is intended as a guide only. The information given here 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.

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