



## **HEPATITIS**

Hepatitis is an inflammation of the liver that can be caused by viruses, chemicals or drugs. The two most common types of viral hepatitis are Hepatitis A (also called "infectious hepatitis") and Hepatitis B (or "serum hepatitis"). In both types, the virus affects the liver in similar ways. However their transmission and prevention are quite different. Contracting hepatitis through work related activities is a compensable work place injury.

### **The Hepatitis Alphabet**

**Hepatitis A** is transmitted through food or water that has been contaminated by sewage and through human carriers. When hygiene standards are poor, the virus is swallowed with the contaminated material. Infection occurs after an incubation period of three to four weeks following the ingestion with a majority of patients making a complete recovery.



**Hepatitis B** is transmitted through blood and other body fluids, from exposure to contaminated needles, or through unsafe sexual contact with an infected person.

**Hepatitis C** is also transmitted through blood, body fluids and blood products. It is very similar to hepatitis B. A carrier state exists for hepatitis C and cirrhosis may be the end result of the infection. No vaccine is available.

Other rarer forms of hepatitis (for e.g. **Hepatitis E** and **Hepatitis Delta**) are also found. This fact sheet will focus on the infection and control of Hepatitis B, which is the more serious type of the disease and can affect a number of occupational groups.

## **HEPATITIS A**

### **HOW DOES ONE GET HEPATITIS A?**

**Hepatitis A** (Hep A) is a viral disease that affects the liver. It is spread by direct contact or by touching items that have been handled by, and contaminated with faeces from, an infected person. These can include food, drinks and other objects. Immunisation against hepatitis A includes a course of injections over six to 12 months. Some travellers, childcare workers, gay men and people with liver problems are advised to be immunised against Hepatitis A.

### **THE SYMPTOMS of HEPATITIS A**

Infants and young children infected with hepatitis A will rarely show symptoms of infection and may appear quite well, or have only mild symptoms. The majority of adults will show symptoms. Symptoms of hepatitis A include:

- Fever
- Weakness
- Fatigue
- Loss of appetite
- Nausea
- Joint aches and pains
- Vomiting
- Jaundice (yellowish eyes and skin, dark urine and pale-coloured faeces).

The duration of the illness varies but most people feel better and their Liver Function Tests (LFTs) begin to normalise a month after the onset of infection. Hepatitis A infection never causes a chronic (long-term) infection.

Death because of hepatitis A infection is very rare. The likelihood of severe disease or death resulting from hepatitis A infection is much greater in people with pre-existing liver damage, including people with chronic liver disease due to hepatitis B or C, and people over 50 years of age. Once you have had hepatitis A you cannot get it again.

## **At-Risk Occupations**

### **Hepatitis A:**

The workers at risk include:

- Plumbers and sewage workers
- Health care workers, including cleaners and attendants
- Child care workers
- Workers in institutions for mentally disabled people, where the standards of hygiene may be poor

**NOTE:** *This is not a complete list of at-risk occupations - other workers may be at risk and an assessment should be done of any potential risks in other occupations. Risks factors should be evaluated by a relevant professional (eg. occupational physician or nurse) to determine any control measures.*

### **Testing for Hepatitis A**

The incubation period (time between exposure to the virus and the development of symptoms) varies between 15 and 50 days, with an average of 30 days. Hepatitis A virus is excreted for up to two weeks before the onset of symptoms. Therefore, people with hepatitis A should be considered infectious for a week after the onset of jaundice.

Hepatitis A is diagnosed by a blood test. The detection of IgM hepatitis A antibodies (anti-HAV IgM) confirms recent infection. These antibodies are present for three to six months after infection. The detection of IgG hepatitis A antibodies (anti-HAV IgG) indicates past infection and immunity against hepatitis A infection.

Liver function test (LFTs) abnormalities, specifically elevated serum bilirubin and serum aminotransferase (ALT and AST) values, may also indicate acute liver infection.

## **HOW TO PREVENT AND CONTROL HEPATITIS A**

To avoid the transmission of hepatitis A:

- Always wash hands thoroughly after going to the toilet, before preparing and eating food, after handling soiled linen e.g. nappies and after working with sewage e.g. plumbers/ waste disposal
- Avoid sharing food, cutlery, crockery, cigarettes and drinks with other people
- When travelling in regions with poor sanitation, drink bottled water and avoid eating food that has been cleaned or prepared using contaminated water
- In a natural disaster, listen to warnings about contaminated drinking water and follow any instructions issued by the relevant authorities
- Consider being vaccinated (see below for more details).

# **HEPATITIS B**

## **HOW DOES ONE GET HEPATITIS B?**

**Hepatitis B** passes from person to person through contaminated blood, body fluids or tissues from an infected person. Infection is most common via a break or cut in the skin. Accidental injuries occur from 'sharps' contaminated with infectious blood. ('Sharps' are needles, broken glass and other sharp objects which, if contaminated with Hepatitis B infected blood, can transmit the virus.) Hepatitis B infection follows an extended incubation period of six weeks to six months. People are infectious before symptoms develop and during the time symptoms develop. A small proportion of infected people become chronic carriers and are permanently infected with the virus, but without the symptoms of the disease.

There is a vaccine available for Hepatitis B.

## **THE SYMPTOMS of HEPATITIS B**

The severity of the symptoms vary from person to person. The common symptoms are fatigue, lack of appetite, muscle aches, joint pain, nausea, vomiting, fever and jaundice (yellow pigmentation of the skin). Usually the symptoms last three to four weeks. Once you have had hepatitis A you cannot get it again.

Not all persons infected with Hepatitis B will become ill. About one in four persons infected with Hepatitis B, though physically recovered, can remain chronically infected with the virus; they are capable of infecting other people. Chronic infection may lead to cirrhosis of the liver.

## **OCCUPATIONAL RISK OF HEPATITIS**

People who work with contaminated materials such as sewage, human blood, body fluids and tissues, or waste matter containing these materials, are at risk of contracting both Hepatitis viruses.

## **At-Risk Occupations**

### **Hepatitis B:**

Workers at risk are those in direct contact with the blood, body fluids or body tissues of other people. Infectious material must enter the body via a cut, needlestick injury or less commonly through the lining of the mucous membranes of the eyes or mouth.

Those at risk are:

- Health care workers (clinical or laboratory) through needle stick injury;
- Health care workers exposed to blood or blood products;
- Laboratory workers in contact with human blood, body fluid and tissues;
- Accident and emergency workers;
- Providers of first-aid in the workplace;
- Workers at institutions of mentally disabled people when hygiene is poor;
- Prison workers and workers in drug rehabilitation centres.

**NOTE:** *This is not a complete list of at-risk occupations - other workers may be at risk and an assessment should be done of any potential risks in other occupations. Risk factors should be evaluated by a relevant professional (eg. occupational physician or nurse) to determine any control measures.*

## Testing for Hepatitis B

Many people with hepatitis B have no signs of illness and do not realise they have the virus in their body. Hepatitis B is diagnosed through various blood tests, which look for markers of the hepatitis B virus in the blood.

To understand the tests, it is important to understand two basic medical terms:

- Antigen—a foreign substance in the body, such as the hepatitis B virus; and
- Antibody—a protein that the immune system makes in responses to a foreign substance. Antibodies can be produced in response to a vaccine or a natural infection.

Test	Abbreviation	What it shows
Hepatitis B surface antigen	HBsAg	Shows that the person is infected with hepatitis B. It can be detected during acute and chronic infection.
Hepatitis B surface antibody	HBsAb or Anti-HBs	Shows that the person has developed immunity to hepatitis B. It can be detected in people who have recovered from hepatitis B or been vaccinated against hepatitis B.
Hepatitis B e antigen	HBeAg	Shows that hepatitis B virus is multiplying.
Hepatitis B e antibody	HBeAb or Anti-HBe	Shows that the person's immune system has responded against hepatitis B and the virus is not actively replicating.
Hepatitis B core antibody	HBcAb or Anti-HBc	Shows that a person has been infected with hepatitis B but does not provide any protection against infection.
Hepatitis B virus DNA	HBV DNA	Measures the amount of hepatitis B virus in the bloodstream and indicates how actively the virus is multiplying.

Other tests are used to check how the liver is working and whether it has been damaged by the virus.

For example:

- Liver Function Tests (LFTs): are a group of blood tests that show how well your liver is working. One important test is the Alanine Aminotransferase (ALT). The ALT is released from liver cells into the bloodstream when the liver is injured. An ALT level above normal may indicate liver damage. ALT levels are included in the regular monitoring of all chronic hepatitis B patients; this test can also be useful in deciding whether a patient would benefit from treatment, or for evaluating how well a current treatment is working;
- Liver biopsy: involves the removal of a small piece of tissue from the liver using a fine needle. The tissue is examined under a microscope to look for inflammation or liver damage; and
- Alpha-fetoprotein: is a blood test which can sometimes detect liver cancer

## HOW TO PREVENT AND CONTROL HEPATITIS B

- All blood, including your own, should be considered to be infectious. Spilt blood should be cleaned up immediately using a household bleach solution or disinfectant containing iodine.
- Precautions must be taken to prevent spread of blood. All cuts and abrasions, no matter how small, should be cleaned and covered with a waterproof dressing.
- Personal protective equipment such as gloves, aprons and eye protection may be necessary. Thick protective gloves should be worn when working in environments or with material where discarded needles are likely to be found. This especially applies to lavatory cleaners and public transport cleaners.

- Disposable, single-use needles should be used wherever possible. All used needles should not be recapped after use, but should be placed in a special container, which is incinerated when full. When re-usable needles and other skin-puncturing implements have to be used, proper sterilisation must be undertaken. The sharing of an unclean needle is extremely dangerous.
- All incidents where any person is contaminated with blood, blood products or suffers a 'sharps' injury must be reported and medical advice sought.
- When your skin is splashed with blood, the affected area should be washed **gently** with soap and water as soon as possible.



### **FIRST AID for sharps injury**

1. Attend to wound immediately.
2. Try and bleed the wound. Expel as much blood as possible.
3. Rinse wound with large amount of water (running tap water may be used). For splash injury to eye, rinse for five minutes.
4. Apply antiseptic to wound. (Soap may be used if antiseptic is not readily available)
5. Apply dressing to wound and seek medical attention.



### **VACCINATION**

Vaccination is available for both Hepatitis A and Hepatitis B.

Vaccination is an effective method of preventing a non-immune person from contracting the infection. This method of protection should be offered by employers for workers in occupations where there is a risk of exposure to human blood or other body fluids and tissues.

Vaccination requires three injections over six months and a follow-up blood test to ensure that immunity has been achieved. The vaccination is thought to give protection for 5 to 10 years, although it may last for as little as three years in some individuals. Post-exposure inoculation with Hepatitis B hyper immune immune-globin injection is expensive and painful. It is only available when a person has been exposed to proven Hepatitis B positive blood.

### **ARE ALL AUSTRALIANS IMMUNISED?**

All workers belonging to at risk occupations are advised to be vaccinated. Individuals with an increased chance of contracting the infection should also be encouraged to be vaccinated, to prevent the spread of the infection within that community group.

### **HEPATITIS INFECTION AND DISCRIMINATION**

The *National Consensus Statement on Hepatitis B* (Worksafe,1993) provides guidance for workplaces with issues regarding potential risk of Hepatitis B infection. It recommends certain procedures as a strategy to prevent and control infectious disease in a workplace. Chronic carriers should be protected from discrimination and entitled to all rights and benefits as other workers.

The National Health and Medical Research Council (NH&MRC) publication *Guidelines for Infection Control Diseases Hazard in Health Care Establishments* states:

- If staff are carriers (of Hepatitis B), they are entitled to all the rights and benefits of any other person, but in general should not be removed from work.
- When a worker is a Hepatitis B carrier, and has a potential to transmit the virus at work, the work practices must be reviewed

**REFERENCE:** Worksafe Australia, *National Consensus Statement on Hepatitis B* (AGPS, Canberra, 1993)

[Department of Health and Ageing - Infection Control Guidelines](#) can be accessed by following the links.

**Hepatitis Australia:** A good source of information regarding all forms of Hepatitis

### For further information and advice contact the Workers Health Centre

*The Workers Health Centre provides a range of quality services in occupational health and safety including:*

➤ Medical Screenings & Health Checks	➤ WHS Training
➤ Hearing Tests	➤ Rehabilitation & Return To Work
➤ Workplace Assessments	➤ Related Services In Psychology, Acupuncture And Massage Therapy

*For further information and advice ring us on 02 9749 7666*



**WORKERS HEALTH CENTRE**  
 People | Recovery | Work

*Industrial Health and Research Foundation - ABN 50 804 045 194*

PO Box 123, Granville NSW 2142. Ground Floor, 133 Parramatta Rd, Granville NSW 2142

Tel (02) 9749 7666 Fax (02) 9897 2488 Email [admin@workershealth.com.au](mailto:admin@workershealth.com.au) Website [www.workershealth.com.au](http://www.workershealth.com.au)

WHC acknowledges support in the production of these Factsheets, from the Western Sydney Local Health District (WSLHD), a Division of the NSW Ministry of Health.

Facts003© Workers Health Centre 2016