



4
CHAPTER 4

HEPATITIS C TESTING

- The decision to be tested for hepatitis C should be made by the individual, in the context of information and advice received from health care workers, with discussion and informed consent.
- Testing for hepatitis C virus RNA, the virus genetic information, shows whether the individual has successfully cleared the virus (in about 25% of cases) or is currently infected.



SUMMARY OF IMPORTANT POINTS

- The initial screening test for hepatitis C looks for antibodies to the virus to establish whether the individual has been previously exposed to the infection. The test does not show whether an individual is currently infected.
- There are several other tests which are used to monitor the liver and to assess people for treatment.
- Testing shows whether an individual has been exposed to the virus, and secondly whether the individual has successfully cleared the virus, or if a chronic infection has developed. Management of the individual will depend on these results.



PRINCIPLES FOR HEPATITIS C TESTING

The principles set out below are a core component of the *National Hepatitis C Testing Policy*. This policy was revised in 2007 by the Hepatitis C Subcommittee of the Ministerial Advisory Committee on AIDS, Sexual Health and Hepatitis and the Blood Borne Virus and STIs Subcommittee of the Australian Population Health Development Principal Committee. The document is supported by congruent, local jurisdictional policies. The *National Hepatitis C Testing Policy* forms the basis of how hepatitis C testing should be conducted in Australia. It is available at www.health.gov.au.

The guiding principles for hepatitis C testing are:

- Testing is voluntary, confidential, with informed consent, and needs to be accompanied by discussion about the test and the implications of being tested, post-test discussion and specific informed consent. This is fundamental to Australia's response to hepatitis C. *See Chapter 5: Living with Hepatitis C.*
- Testing is of the highest possible standard.
- Testing should be of benefit to the person being tested, either directly or indirectly.
- Testing should be accessible to all those at risk of hepatitis C viral infection.
- Testing is critical to understanding the epidemiology of hepatitis C viral infection in the community.
- Testing can be critical to interruption of transmission and can support harm minimisation.
- Testing to monitor people with hepatitis C before, during and after treatment is an integral part of their care.

TESTING CONSIDERATIONS

- Testing should be affordable and guided by cultural appropriateness.
- Testing should be offered in a private and sensitive manner that is respectful of the person and their cultural sensitivities.
- Individuals whose first language is not English should have access to the Interpreter Service. Telephone interpreters are available through the Translating and Interpreting Service. *See Contacts Section in Resources.*
- There are many reasons why people decide to be tested for hepatitis C.
- Deciding whether or not to be tested is up to the individual, and testing must never take place without informed consent.
- Being tested can raise many psychological, emotional and social issues for the individual.
- Knowing the result of a hepatitis C test may give people at risk of hepatitis C infection a sense of direction over aspects of their health and encourage them to seek more information and make informed decisions about their options.
- Being tested for hepatitis C may motivate people to change particular behaviours to prevent further transmission of the virus.
- Some people who test positive choose to make important changes to their lives, such as reducing alcohol intake, improving diet and considering overall health maintenance.

ISSUES RELATING TO TESTING

- Each person will have different concerns before, during and after being tested.
- Some people find it useful to prepare questions before attending for an appointment with a doctor or health care professional and health care workers should encourage people attending for testing to ask questions throughout the process of testing.
- It is important that people receive clear and appropriate answers to all questions they may have about hepatitis C and the testing process.

- Individuals have the right to ask questions of their doctor or health care worker to determine their interest in, and knowledge of, hepatitis C and its implications.
- Individuals may consider talking to hepatitis council staff or consulting a liver specialist if they are not receiving helpful answers to their questions.
- Written information in the individual's first language (if available) should be provided when the discussions occur. Health care workers should take into account any cultural sensitivity.

Note: information about hepatitis C in languages other than English is available on the Multicultural HIV/AIDS and Hepatitis C Service (MHAHS) website: <http://multiculturalhivhepc.net.au>.

WHERE TO GET TESTED

- GPs can request hepatitis C testing.
- State and territory hepatitis councils, drug user organisations and NSPs can give information about doctors and clinics that have experience in hepatitis C testing.



HEPATITIS C TESTING

Thinking about being tested for hepatitis C can raise psychological and social issues that individuals may not have anticipated or discussed previously. The *National Hepatitis C Testing Policy* provides the basis of how hepatitis C testing should be conducted in Australia. Testing is voluntary and needs to be accompanied by discussion about the test, the implications of being tested, post-test discussion and specific informed consent.



RISK ASSESSMENT AND INDICATIONS FOR TESTING

Risk assessment involves an understanding of the relationship between (past or present) risk factors and hepatitis C transmission. Knowledge of the prevalence of risk factors and the epidemiology of hepatitis C in Australia and overseas is valuable in targeting individuals, who may have been exposed to the infection, for testing.

Testing should not be conducted without a full assessment of the relative risks and benefits. The benefits of testing as a routine procedure simply aiming at diagnosis are limited. However, in some cases a person may request testing, but not wish to disclose the reason for seeking the test.

People who have ever injected drugs

In Australia, approximately 80% of current infections and 90% of new infections have been caused by sharing of injecting equipment contaminated with hepatitis C infected blood or other forms of infected blood exposure within the injecting environment. Therefore, any history of injecting, however long ago, is a very strong indication to offer testing. Individuals who have injected drugs only once without taking precautions to prevent infection, are at low but real risk of infection.

People who are or have ever been incarcerated

Imprisonment has been shown to be an independent risk factor for hepatitis C transmission. Hepatitis C prevalence for all prisoners is estimated at 30–40% and higher for women. While a history of incarceration is a very strong indication to offer testing, hepatitis C testing in correctional settings should be based on risk assessments.

Recipients of organs, tissues, blood or blood products in Australia before February 1990, or overseas at any time

Hepatitis C transmitted by transfused blood or blood products account for 5–10% of all cases in Australia. Tests are offered to people in Australia who were transfused before hepatitis C testing commenced in February 1990 and individuals who received transfusions overseas. All organs and organ donors are screened for hepatitis C virus at the time a donation is made to ensure there is no risk of transmission of hepatitis C virus to the recipient.

People with tattoos, or skin piercings

Skin penetration practices are not independent risk factors for hepatitis C transmission. The indications for testing will include consideration of other factors that may contribute to an increased risk of transmission such as population prevalence or poor infection control procedures, e.g. tattooing, branding, scarification, body implanting and skin piercings which were carried out in some overseas countries. The risks associated with high prevalence and poor infection control procedures are also much higher if the tattoo or piercing was carried out in a custodial setting.

People born in countries with high hepatitis C prevalence

The risk of hepatitis C infection may be greater for people born in countries where there is a high prevalence of hepatitis C infection than it is for people born in Australia. It is estimated that between 3 and 11% of people in Australia who have been exposed to the hepatitis C virus are immigrants from countries where there is a high prevalence of hepatitis C. In certain circumstances, country of birth is an indication to offer hepatitis C testing, particularly for people coming from countries in Asia, Africa and South America where hepatitis C transmission is not predominantly associated with injecting drug use.

Sexual partners of people with hepatitis C

The risk of sexual transmission of hepatitis C is very low unless blood is associated with sexual activity. There is emerging evidence of an increased risk of sexual transmission of hepatitis C for men who are also HIV positive. *See Chapter 1: Hepatitis C: All about the Virus.*

Pregnant women

Testing of pregnant women on a routine basis is not recommended but testing may be indicated following risk assessment and pre-test discussion with explicit informed consent obtained.



PRE- AND POST-TEST DISCUSSIONS

Gaining informed consent is required prior to testing. Pre- and post-test discussion should take into account the individual's testing history, gender, cultural beliefs and practices, behaviour, on-going risk, language and literacy levels.

The issues raised in making a decision to be tested for hepatitis C may be of sufficient emotional significance that they need to be addressed in some depth before the individual is able to make an informed decision about being tested, and in this respect, counselling skills may need to be used in the pre-test session.

The manner in which a diagnosis is provided to people frames their understanding of hepatitis C and how having hepatitis C may affect their life. It is important to determine the person's own understanding of their risk of infection and to talk about the ways infected blood may get into the bloodstream of a non-infected person and the activities that increase that risk. The pre-test setting is an ideal opportunity to identify any misconceptions that a person may have.

At times, health care workers may feel that the likelihood of a positive result is negligible. Given that some of the behaviours that put people at risk of hepatitis C infection are socially unacceptable or illegal, it is worth considering that the person may not want to disclose some or all of their risk behaviours. A test should not be denied to an individual because the health care worker deems the risk to be low, or because information has not been forthcoming.

A more comprehensive personal history is often revealed in the post-test session. Sometimes the person being tested chooses not to reveal the real reasons for requesting a test in the pre-test session. The pre-test session is still an invaluable opportunity to provide clear information and education about hepatitis C and other blood-borne viruses.

Note: Information about hepatitis C in languages other than English is available on the MHAHS website: <http://www.multiculturalhivhepc.net.au>

The aims of the pre-test session are to:

- provide information about the process of being tested;
- enable individuals to decide whether or not to be tested;
- obtain informed consent if the decision is to go ahead with testing;
- provide psycho-social support; and
- help reduce the risk of further transmission of hepatitis C, by providing relevant information.

The aims of post-test discussions are to:

- discuss the meaning of the test result;
- provide information about health maintenance and treatment options if the result is positive;
- provide psycho-social support for people who test positive; and
- reinforce transmission prevention messages, regardless of whether people test negative or positive.

Appropriate pre- and post-test discussions for Aboriginal and Torres Strait Islander people may require additional consideration such as time, clinician skills, culturally specific resources and good communication skills.

Some people may choose not to have pre- and post-test discussions. The impact of a positive or a negative hepatitis C result will vary for individuals, as will the depth of their understanding about the virus and its implications.

BEST PRACTICE IN PRE- AND POST-TEST DISCUSSIONS

Giving correct and up-to-date information (both oral and written) as part of a general discussion is an effective way of educating people. Printed information provided at the pre-test discussion stage can be particularly useful. This information is available through hepatitis councils.

It can be helpful if the same worker provides both pre- and post-test discussions. In this way, the potential for developing a trusting and respectful relationship is enhanced. This is most important in the context of educating people about Harm Reduction. See *Chapter 3: Reducing Hepatitis C Transmission in the Community* for more information. Providing continuity of care can improve people's opinion about the service they are receiving. It is often easier for health care workers to educate people about risk reduction and health maintenance if they have already established a rapport. The ability of the health care worker to make the person feel valued is vital.

PRE-TEST SESSION ISSUES

Confidentiality

Confidentiality is often a major concern for people being tested for hepatitis C. It is important for health care workers to explain what information is recorded in a person's history and who has access to this information. It is helpful for health care workers to outline the meaning of confidentiality to all staff, and ensure the processes to be followed to maintain client confidentiality are observed at all times within a workplace. This is particularly relevant for Aboriginal and Torres Strait Islanders given the sensitivities, existing kinship systems and relationships within these communities. It is also relevant for people from culturally and linguistically diverse (CALD) communities who may speak languages other than English amongst themselves and have different values within their own given culture.

It is a legal requirement in all states and territories that clinicians and/or laboratories notify health departments of all positive hepatitis C diagnoses or test results. These results are only used for epidemiological purposes. Health departments are bound by law to keep personal information (i.e. names and addresses and other identifying details) confidential. The monitoring of trends and patterns in hepatitis C virus transmission is a key component in the development of policies and strategies to understand and combat hepatitis C infection in Australia.

Informed consent

To make an informed decision about being tested, people need clear and appropriate information about hepatitis C. Health care workers must be able to describe:

- how hepatitis C is transmitted;
- the meaning of the window period;
- the meaning of a negative result;
- the meaning of a positive result;
- the meaning of a false positive result, a false negative result and an indeterminate result;
- possible outcomes if the result is positive;
- health maintenance strategies if the result is positive or negative;
- the range of medical and non-medical support available;
- that hepatitis C is a notifiable disease; and
- how to reduce hepatitis C transmission – this applies to people who have received a positive or a negative result.

Strategies to ensure informed consent is gained from people from CALD background may include using health care interpreters (if available) or telephone interpreters. These are available nationally for public and private health care workers. *See: Contacts Section in Resources.*

Because many people still believe that hepatitis C is a fatal disease, failure to provide good information prior to testing increases the chance that the client will be traumatised by a positive result. The health care worker's role here is to assess how a person may react to the news of a positive result until a further appointment can be arranged.

Assessing a person's emotional state

Health care workers should informally assess a person's psychological and emotional state in the pre-test session. They should also help the person to decide whether or not to be tested at this time. Assessment could include:

- checking how the person has coped with stress in the past;
- checking if there are other stressful events in the person's life at the given time;
- inviting the person to imagine how they would react to a positive result;
- inviting the person to imagine how they would react to a negative result;
- enquiring about existing support structures;
- determining whether anyone else knows that the person is being tested;
- determining if and when the individual can return in person for the test result; and
- exploring whether the person might want to share their result with anyone else, why and how.

Note: If there are other stressful events for the person at the given time, it is often advisable to defer testing until a less stressful time.

If health care workers sense that a person has not been able to absorb essential information regarding the test, on account of recent drug or alcohol use, it is important that they talk about this and suggest they return at another time for an additional pre-test session.

Health care workers need to be aware that some people will only be able to attend under the influence of alcohol or other drugs. In this situation the worker must make a professional judgement regarding whether the person can adequately understand the information about the test and provide informed consent. In the event that a person is assessed as unable to understand essential information regarding the test and provide informed consent, it may be appropriate to provide the person with written material that they can consider in a less stressful environment. It is critical that the worker discuss the issues with the person and suggest they return at another time for an additional pre-test session.



POST-TEST SESSION ISSUES

A negative result

If the result is negative, there is an opportunity for the health care worker to revisit some of the issues raised in the pre-test session and to clarify any misunderstandings. The person who has been tested may be grateful for information about available resources. They may also feel more inclined to return for future testing or other discussions and support if they feel that they have not been judged. The post-test session is also a valuable opportunity for the provision of harm reduction information, or referral to other services, for people who are currently injecting drugs.

A positive result

If the result is positive, health care workers can provide support in a safe place and work through the initial issues raised by the person who has been tested. Often people will not recall much of what is said following a positive test result and it is good practice to provide written information at the pre-test session. Ideally, this should include clear and accurate printed resources that the client can take away and read. At the post-test session, it may be appropriate to go over positive test results and the written information provided including the treatment options.

The health care worker's roles at the post-test session are to:

- assess how a person may react to the news of having hepatitis C until a further appointment can be arranged; and
- answer any immediate questions that the client has, ideally referring back to information and issues already covered at the pre-test session.

BEST PRACTICE IN POST-TEST DISCUSSIONS

The *National Hepatitis C Testing Policy* strongly recommends that the test result is given in person, and not over the phone or in writing. In some rural and remote areas, alternative arrangements may need to be negotiated, such as forwarding the result to another health worker so that the result can be given in

person. The aim is to ensure that the individual being tested always receives appropriate and relevant information and support.

There is a tendency to bombard newly-diagnosed people with information. In many instances, it is more helpful to provide the person with concise information in small quantities. Giving complex medical information may have the effect of making a person feel powerless. Working through issues in a calm and orderly manner allows individuals a sense of control over what is happening. Printed resources and referral to other services such as hepatitis councils or peer-based injecting drug user groups will be useful in this situation.

People who have received clear and accurate information about hepatitis C are better equipped to protect themselves and others and are also able to educate their peers and thus play an important role in the prevention of further transmission of hepatitis C and other blood-borne viruses. Health care workers should have a range of client-focused hepatitis C information resources to hand.

While the information above provides recommendations about the content and process of pre- and post-test discussions, in practice a pre-test session is not always undertaken. If it is not possible to provide a pre-test session, health care workers should follow (to the best of their ability as the situation allows) the recommendations for both pre- and post-test information in the post-test session. The provision of printed information in this situation would be especially useful for the client.

A person who injects drugs and who is diagnosed with hepatitis C will not necessarily be in a position to consider hepatitis C treatment or want to cease to use drugs. In particular, treatment may not be a priority for those with complex social or health issues, such as homelessness. While abstinence from drugs will not be every person's goal, harm reduction education to avoid infection with other genotypes, infecting others and/or to reduce drug consumption is a worthwhile objective. An empathetic and non-judgemental attitude is required when managing drug dependence problems. The individual's readiness for change will influence the success of any intervention. Goals for stopping or reducing drug use need to be agreed on and be attainable. Many lifestyle adjustments are required for some people to maintain a drug-free existence, and these changes may require social support and/or psychological therapies.



AVAILABLE TESTS

TESTING FOR HEPATITIS C ANTIBODIES

What does the test involve?

- The initial screening test for hepatitis C is a blood test – usually an antibody test.
- With informed consent, a sample of blood is taken and sent to a laboratory to be tested.
- The antibody test is usually free for people who take their Medicare card to a doctor who bulk bills. In some states and territories, sexual health clinics also provide this service free, and do not require presentation of a Medicare card.

What does the test look for?

- The body's immune system produces antibodies to fight the virus and this initial test looks for specific antibodies to determine previous exposure to the hepatitis C virus.
- The antibody test does not look for the virus itself. Approximately 25% of people exposed to the hepatitis C virus will clear the virus naturally but the antibodies remain. The antibody test cannot determine if the infection has cleared or if it has become chronic. A Polymerase Chain Reaction (PCR) test will provide this additional information. *See information in PCR Section below.*
- After infection, it can take up to 3 months before antibodies can be detected. This is known as the 'window period'. During this time it is possible to get a false negative result. A false negative test result occurs when an infection has occurred but the antibodies have not reached a level where they can be detected. Hepatitis C transmission is possible during this period, and health care workers should encourage people to be blood aware, regardless of known or presumed hepatitis C status.

- Blood samples that initially test positive are confirmed using a second independent antibody test before a final positive report is given. Samples that test negative usually mean that a person has not been infected. However, the blood sample may have been taken in the window period before antibodies can be detected. In this situation, a molecular test, usually the (PCR) test can be useful in early diagnosis because the virus is often present in blood two to three weeks after infection, well before antibodies appear.
- Babies born to mothers with hepatitis C will have maternal antibodies which usually disappear after about 18 months. A positive antibody test after this time may indicate that the child has been exposed to the virus. A PCR test would be useful at this stage to determine if the infection has cleared, or if it has become chronic. There is usually no benefit in testing a baby born to a mother with hepatitis C before the age of 18 months, as treatment is not an option.

Indeterminate antibody test results

Antibody tests are usually clearly either positive or negative, although they can come back as indeterminate. There are at least four interpretations of an indeterminate test:

- **Seroconversion:** the antibody response has not fully developed. It is expected that blood samples tested using PCR at this time would be positive.
- **Immunosuppression:** the blood sample may have been taken from someone with a reduced immune response, perhaps due to infection with HIV or drug treatments to prevent organ rejection. It is likely that PCR testing would find many of these positive.
- **Waning antibody response:** there is some evidence that for people who naturally clear hepatitis C, antibodies will remain but decrease over time. When tested using PCR, such samples would be negative.
- **False positive or non-specific reactivity:** the proteins made by molecular techniques are not identical to the proteins produced in natural infection, and sometimes cross-reactions with other antibodies can occur. These samples will test negative using PCR.



For most people, laboratory testing will provide a clear result. In cases where the antibody test result is difficult to interpret, as in an indeterminate result, PCR testing can provide important clarifying information. However, for some people further clinical information and follow-up testing may be necessary.

What if the result of the antibody test is positive?

The post-test discussion provides the opportunity to consider the choices available for further tests, management and possible treatment of a person with a hepatitis C infection.

An antibody positive test does not equate with having chronic hepatitis C. A PCR test is required to determine whether a person has an ongoing infection. A PCR test should be considered for all people who test positive for hepatitis C antibodies.

Everyone reacts differently to finding out that they have hepatitis C; some people are angry, shocked, depressed or confused, while other people with high risk personal histories may expect the positive test result.

Health care workers should ensure that all individuals who receive a positive result are offered a post-test discussion session. This provides the opportunity to:

- review information and assess how well a person understands the issues discussed at the time of testing;
- discuss questions and issues in detail; and
- consider the choices available for further tests e.g. PCR, management and possible treatment.

See Chapter 5: Living with Hepatitis C.

Some people find it helpful to take a friend with them when they receive their test result, or to have someone close by to talk to about the result.

Health care workers are advised to inform people who are being tested that free and confidential information and support is available from:

- hepatitis councils and/or support groups in capital cities and some regional areas of Australia;
- peer-based drug user organisations;
- haemophilia organisations for people with haemophilia who are affected by blood-borne viruses; and
- a range of community-based organisations and government agencies.

The provision of written information about hepatitis C can be useful for people receiving a positive test result. Resources are available from the hepatitis councils. See *Contact Section in Resources*.

DISCLOSURE

- Hepatitis C is a notifiable disease.
- Often the biggest issue for people who have tested positive is whether or not to tell anyone, and who to tell. This issue is often referred to as disclosure.
- It is up to the person with hepatitis C to decide who to tell, when, how and why.
- There is no legal requirement for an individual to disclose their hepatitis C status to anyone, except to the Red Cross Blood Service, or if entering the Australian Defence Force, or where health care workers are undertaking exposure prone procedures.
- People have a contractual obligation to disclose their health status when taking out insurance. See *Chapter 7: Preventing Discrimination and Reducing Stigma and Isolation*.
- In relation to the donation of human reproductive material, donors are expected to answer a questionnaire about their medical history and lifestyle and undergo testing. In WA, it is a specific offence to provide misleading information when providing sperm to a sperm bank.
- Disclosure of hepatitis C infection may have an impact on personal and working relationships.

- Many people with hepatitis C have been discriminated against after disclosing their hepatitis C status to others, including health care workers, so careful consideration about who to tell and why is always advisable.
- For people with hepatitis C to receive the best care and advice, it may be advisable for them to disclose their hepatitis C status to their health care worker.
- If individuals require assistance on issues of disclosure, or in dealing with any resultant discrimination, health care workers can provide referral to a hepatitis council or peer-based drug user organisation.

See Chapter 7: Preventing Discrimination and Reducing Stigma and Isolation.

Who is notified of positive test results?

It is a legal requirement in all states and territories that clinicians and/or laboratories notify health departments of all positive hepatitis C diagnoses. These results are only used for epidemiological purposes. Health departments are bound by law to keep personal information (i.e. names and addresses and other identifying details) confidential.

TESTING FOR THE VIRUS

Determining if a person has a current infection is usually done by testing for hepatitis C virus RNA. The amount of virus RNA in the blood is relatively low and a number of molecular technologies have become available to overcome this problem. The most common test used is the PCR test.

POLYMERASE CHAIN REACTION TEST (PCR)

What does the test involve?

With informed consent, a sample of blood is taken and sent to a laboratory to be tested.

What does the test look for?

PCR detects the genetic material of the virus, hepatitis C virus Ribonucleic acid (RNA), in the blood using a special molecular amplification technique. In the case of hepatitis C, PCR can be used to determine the following:

- the presence or absence of virus in the blood (hepatitis C virus RNA) – this is sometimes called a qualitative PCR test;
- the level of virus present in the blood (viral load) – this is sometimes called a quantitative PCR test; and
- a PCR test is used as a preliminary step before genotyping of the virus.

See Chapter 1: Hepatitis C: All about the Virus.

PCR testing should be considered for all individuals who test positive for hepatitis C antibodies. PCR testing is an important component in assessing and monitoring people on treatment and is also useful in resolving problems associated with indeterminate antibody test results.

The cost of the PCR (to detect the presence or absence of virus), genotype and viral load tests is covered under the Medicare Benefits Schedule for those who meet certain criteria. *See Section on Medicare Benefits Schedule below.*

BRANCHED CHAIN DNA TEST (BDNA) AND TRANSCRIPTION-MEDIATED AMPLIFICATION (TMA)

These alternative laboratory techniques are used to detect hepatitis C virus RNA and to estimate viral load. TMA is the method used by the Australian Red Cross Blood Service to test donated blood for hepatitis C virus RNA. Since the introduction of an international standard for hepatitis C virus RNA, results from different quantitative tests can be compared. The major role for viral load testing is for those individuals considering treatment.

LIVER FUNCTION TESTS (LFTS)

What do the tests involve?

With informed consent, a sample of blood is taken and sent to a laboratory to be tested.

What do the tests look for?

- LFTs are used to monitor the ongoing condition of the liver.
- LFTs detect abnormal levels of enzyme production in the liver, and the enzyme most commonly monitored using this test is alanine aminotransferase (ALT).
- LFTs alone do not identify liver damage. It is possible to receive normal liver function test results and still have liver damage. It is uncommon, except in cases of cirrhosis, to have LFTs within the normal range if the damage is severe.

Test results

Due to differences in technology, 'normal ranges' quoted by laboratories may differ. This means that people should not compare results from different laboratories, but be guided by the normal ranges quoted by the laboratory that performed the test.

Generally, where LFTs are consistently elevated and/or fluctuating and the person has an antibody positive test result and a history of risk behaviour, it is highly likely that hepatitis C is circulating in the blood. In this situation, a PCR viral detection test may be considered unnecessary unless treatment is being considered.

It is recommended that people with hepatitis C have regular LFTs, as advised by their GP or liver specialist. Health care workers should provide photocopies of the results. This is particularly useful if people need or want to see a different doctor or to track the progression of their tests.

LIVER BIOPSY

Overview

A liver biopsy is the removal of a small piece of tissue from the liver for examination under a microscope. It is the best way to determine the extent of liver damage. LFTs give a snapshot of the health of the liver, but they cannot give an indication of how severe the damage is or whether the liver has developed scarring (fibrosis). It is possible for LFT results to show normal ALT levels when there is liver damage and the person is ill. However, it is uncommon (except in cases of cirrhosis) to have normal liver function test results if liver damage is severe. It is also possible to have elevated or fluctuating LFT results and for the person to feel quite well.

Note: Liver biopsies are no longer a requirement for people to access subsidised treatment under the Pharmaceutical Benefits Scheme. Gastroenterologists may still recommend this procedure in particular circumstances.

What does this procedure involve?

- A liver biopsy is considered to be a minor surgical procedure and involves a local anaesthetic. It is performed in a hospital or clinic.
- A liver biopsy involves removing a small piece of tissue from the liver with a special needle, which is inserted through the skin between the lower right ribs. The tissue is examined under a microscope by an experienced pathologist who can assess the extent of existing liver disease.
- People undergoing a biopsy will be required to lie still for approximately six hours after the procedure to ensure that complications do not occur.
- Some people experience episodes of short-lived pain after the procedure. This can be reduced through the provision of appropriate pain relief.



- For some people, such as those with bleeding disorders, liver biopsies may not be appropriate or possible.
- Contact a local haemophilia treatment centre. *See Contacts Section in Resources.*
- There may be cultural reasons where people may be unwilling to undertake a liver biopsy.

MEDICARE BENEFITS SCHEDULE

The cost of tests mentioned in this chapter are generally covered by Medicare, although some tests are subject to specific criteria and limits to the number or frequency of the tests. The Medicare Benefits Schedule (May 2006) (<http://www.health.gov.au/mbsonline>) currently includes the following hepatitis C treatment, assessment and monitoring tests:

- Quantitation of HCV RNA load in plasma or serum in the pre-treatment evaluation or the assessment of efficacy of antiviral therapy of a patient with chronic HCV hepatitis – where any request for the test is made by or on the advice of the specialist or consultant physician who manages the treatment of the patient with chronic HCV hepatitis. To a maximum of 2 of this item in a 12 month period. Item number 69442.
- Nucleic acid amplification and determination of hepatitis C virus (HCV) genotype (subject to certain conditions). To a maximum of 1 of this item in a 12 month period. Item number 69443.
- Detection of hepatitis C viral RNA (subject to certain criteria being met). To a maximum of 1 of this item in a 12 month period. Item number 69444.
- Detection of hepatitis C RNA in a patient undertaking antiviral therapy for chronic HCV hepatitis. To a maximum of 4 episodes in a 12 month period. Item number 69445.





COMMONLY ASKED QUESTIONS

WHICH IS THE TEST THAT TELLS A PERSON THEY HAVE BEEN EXPOSED TO HEPATITIS C?

This is called an antibody test. This is a simple blood test that shows whether a person has produced antibodies to the hepatitis C virus. It can show whether a person has been exposed to hepatitis C in the past, but does not indicate a person's current viral status. A person who has been infected and has cleared the virus will test positive to hepatitis C antibodies for a period of time following viral clearance. *See Chapter 1: Hepatitis C: All about the Virus.*

There are no tests that can tell how long a person has been infected with hepatitis C. Ideally testing should take place only after a person has received pre-test information and discussion. It is strongly recommended that all test results, negative and positive, are given face-to-face.

WHICH IS THE TEST THAT TELLS A PERSON THAT THEY ARE CURRENTLY INFECTED WITH HEPATITIS C?

The PCR test detects virus in the blood and can show whether a person is currently infected with hepatitis C. It can therefore indicate whether a person can transmit the virus on to others. A negative test result means that the virus was not detected in the blood – this means that the infection most likely has cleared although sometimes (uncommonly) there may be very low levels of the virus undetectable by the test.

WHAT ARE LIVER FUNCTION TESTS (LFTS)?

LFTs are used to monitor the ongoing condition of the liver. LFTs detect abnormal levels of enzyme production in the liver, and the enzyme most commonly monitored using this test is alanine aminotransferase (ALT). People may consider having regular liver function tests so that they can monitor any changes in liver status and talk with their GP or liver specialist about the implications of these changes.



IS IT POSSIBLE TO FEEL TERRIBLE BUT HAVE NORMAL ALTS?

The ALT levels from your liver function tests by themselves are not always an accurate reflection of the state of your liver. It is possible for ALT levels to be within the normal range, even though there is some liver damage which consequently makes you feel unwell. Conversely, it is also possible to have elevated or fluctuating ALT levels and feel well.