

Hepatitis C factsheet: PCR (RNA) testing



For more information about anything in this factsheet, phone the Hepatitis Infoline on 1800 803 990 or go to www.hep.org.au

What is PCR (RNA) testing?

RNA testing refers to an advanced technology that is used to detect ribonucleic acid from the hep C virus (also called HCV).

Several types of RNA technologies exist with the most commonly-used version being the Polymerase Chain Reaction (PCR) test. Less commonly used versions include the transcription mediated amplification (TMA) test – which is used as a screening test by Australian blood banks, and the branched chain DNA (bDNA) test which is generally used as a research tool.

Unlike the HCV antibody test that looks for signs that the body has at some time mounted an immune response to HCV, the PCR test looks for current presence of the virus.

In working with hep C, there are two types of PCR tests:

- Viral detection test: it looks for the virus
- Viral load test: it looks for how much virus per ml of blood
- Genotype test.

PCR viral detection test

The basic PCR viral detection tests are used to confirm the actual presence of HCV. This is especially useful in the case of people who have an inconclusive (unclear) HCV antibody test, or with people who have previously cleared their hep C.

These tests are also used at three weeks after a transmission risk incident (e.g. a needle stick injury) to check if a person has contracted hep C.

The test is also used to show if someone has been cured (a negative PCR test result at 12 weeks after treatment finishes).

PCR viral load testing

PCR viral load testing estimates the amount of hep C virus circulating in someone's blood. Establishing and monitoring someone's viral load may help identify if they are suitable for shorter treatment duration.

PCR genotype testing

PCR genotype testing can determine which type of treatment a person will be offered.

Availability - PCR viral detection test in diagnosis (69499)

Detection of hepatitis C viral RNA if at least 1 of the following criteria is satisfied:

- (a) the patient is hepatitis C seropositive;
- (b) the patient's serological status is uncertain after testing;
- (c) the test is performed for the purpose of:
 - (i) determining the hepatitis C status of an immunosuppressed or immunocompromised patient; or
 - (ii) the detection of acute hepatitis C prior to seroconversion where considered necessary for the clinical management of the patient;

To a maximum of 1 of this item in a 12-month period.

Availability - PCR viral detection test in hep C treatment (69445)

Detection of hepatitis C viral RNA in a patient undertaking antiviral therapy for chronic HCV (including a service described in item 69499). To a maximum of 4 of this item in a 12-month period.

Availability - PCR viral load tests (69488)

Quantitation of HCV RNA load in plasma or serum in:

- (a) the pre-treatment evaluation, of a patient with chronic HCV, for antiviral therapy; or
- (b) the assessment of efficacy of antiviral therapy for such a patient.

Availability - PCR genotype tests (69491)

Nucleic acid amplification and determination of HCV genotype if the patient is HCV RNA positive and is being evaluated for antiviral therapy of chronic HCV. To a maximum of 1 of this item in a 12-month period.

Hep C point-of-care testing

In May 2020, a point-of-care test for detection and quantification of HCV RNA was approved by the TGA. The test shows a similar sensitivity and specificity to traditional PCR tests. Sample type is via finger-prick which offers a great advantage where venous blood sampling is difficult or where traditional blood testing services are unavailable. The ability to obtain an on-site result in a single visit using the approved point-of-care test is a significant development for increasing the number of people with HCV starting their treatment and cure.

Hep C transmission and PCR in health care settings

The NSW Ministry of Health recommends that following needle stick and other sharps injury in health care settings, voluntary PCR testing of source individuals should be done.

In NSW, health care workers who perform exposure prone procedures must be aware of their HCV PCR status. Those who are HCV PCR positive must not perform exposure prone procedures (see NSW Ministry of Health circular, PD2019_026).

Exposure prone procedures are those with potential for a health care worker to bleed into a patient as the result of a sharps injury, e.g. surgical procedures in body cavities. The NSW Ministry of Health has a longer and more precise definition to guide health care workers (see above circulars).

Window period

After catching hep C virus, it takes two weeks before it will show up in a PCR test (this is called the PCR window period).

When testing babies born to hepatitis C positive mums, an eight-week window period applies (the baby can be tested after eight-weeks following birth).

For more information about anything in this factsheet, phone the *Hepatitis Infoline* on 1800 803 990 or go to www.hep.org.au

This factsheet was developed by Hepatitis NSW. It was reviewed by the Hepatitis NSW Medical and Research Advisory Panel with assistance from ASHM (Australasian Society for HIV Medicine).

Last updated 12 Jan 2021