

Hepatitis C

Essential information for professionals

First identified in 1989, hepatitis C has emerged as a significant public health problem. This paper has been produced for professionals to provide up-to-date information on hepatitis C virus (HCV). It includes information on the prevalence of HCV in England, how the virus is transmitted, how to identify those at risk, diagnosis and testing procedures, and treatment. It also signposts further sources of information.

What is hepatitis C?

HCV is a blood-borne virus that causes liver disease. The effects of HCV infection vary from one individual to the next. Many people will remain symptom free, some will develop cirrhosis and a few will develop liver cancer. It is thought that significant numbers of people in England may be chronically infected with HCV. These carriers may be passing the virus on to others. Unlike hepatitis A and B there is no vaccine against HCV, but infection is preventable through strategies that minimise transmission.

Studies in the UK suggest that around 0.4% of people in England are chronically infected with HCV. As the average list size for GPs in England is 1800 patients, this equates to about seven patients per GP.

What are the signs and symptoms?

Most people who become infected with hepatitis C are unaware of it at the time. Some people may briefly feel unwell, or may have nausea and vomiting and, rarely, jaundice. Many with chronic hepatitis C will have no symptoms, while others will feel

unwell to varying degrees. Most people will remain well for a number of years and this makes the infection difficult to recognise.

Symptoms may include:

- muscle aches and a high temperature
- mild to severe fatigue
- nausea
- loss of appetite
- weight loss
- depression or anxiety
- pain or discomfort in the liver
- jaundice
- poor memory or concentration
- alcohol intolerance.

It should be noted that the severity of symptoms does not necessarily equate to the extent of liver damage. Some patients will report quite severe symptoms with no clinical signs of liver disease, while cirrhosis can be present without any obvious symptoms.

For those in whom the disease progresses to cirrhosis, complications such as oesophageal varices and ascites are common.

What's the long-term outlook for the patient?

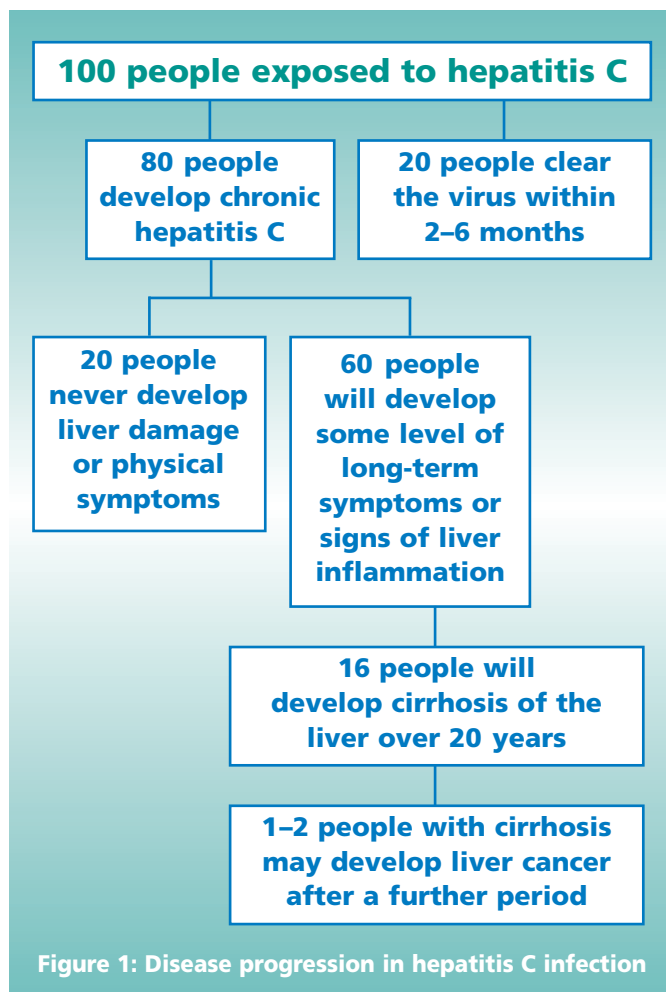
Current evidence suggests that:

- around 20% of those infected with HCV will clear the virus at the acute stage.

Of the 80% who do not:

- some will remain well, and never develop liver damage;
- many will develop only mild to moderate liver damage (with or without symptoms);
- about 20% will progress to cirrhosis of the liver over a period of 20 years;
- a small proportion of those with cirrhosis will progress to primary liver cancer.

An example of the estimated overall progression of the disease is illustrated below.



Numerous studies have attempted to determine predictors of disease progression to cirrhosis. These studies indicate that some factors influence this progression, including:

- alcohol consumption – alcohol is strongly associated with increased likelihood of progression to severe liver complications;^{1,2}
- age at infection – those who acquire HCV at an older age have a more rapidly progressing disease;^{2,3}
- gender – studies indicate that men are more likely to progress to cirrhosis than women;^{2,3}
- co-infection with HIV or hepatitis B – those who are also co-infected with either HIV or hepatitis B are likely to progress to serious disease more rapidly.^{2,3}

How is hepatitis C transmitted?

HCV is carried in the blood, and has been detected in other body fluids. However, blood has been identified as the main vehicle of infection.⁴

- The major route of HCV transmission in the UK is by sharing equipment for injecting drug use, mainly via blood-contaminated needles and syringes. Spoons, water and filters may also be vehicles of infection.
- There is a risk to recipients of blood transfusions (before September 1991), or blood products (before 1986) in the UK. For example, there is a high prevalence of HCV in people with haemophilia who received untreated clotting factors before 1986.⁵ All blood and blood products in the UK are now screened.
- Mother to baby transmission does occur, but appears to be uncommon, with upper

estimates of 6%.^{3,6} However, this is increased to around 15–20% when there is co-infection with HIV. There is no association proven, as yet, between breastfeeding and HCV transmission, and HCV-positive mothers should not be advised against breastfeeding.⁶

- Sexual transmission of hepatitis C is possible but uncommon. Estimates for sexual transmission of HCV are less than 5% in regular sexual partners.^{2,3}
- Transmission can occur through medical and dental procedures abroad, where infection control may be inadequate.
- Health care workers (and, to a lesser extent, other workers, such as police, prison staff and social workers) may be at risk of HCV infection from occupational injuries, for example needlestick injuries. (Details of guidance on the investigation and management of occupational exposure to hepatitis C are contained in the further reading section on page 7).
- There is a risk from tattooing, ear piercing, body piercing and acupuncture with unsterile equipment.
- There is some evidence that transmission may occur through the sharing of toothbrushes, razors and other personal toiletry items that could be contaminated with blood.⁷

There is no risk of HCV transmission from everyday social contact such as holding hands, hugging or kissing or through sharing toilets, crockery and kitchen utensils.

The proportional significance of various risk factors (where reported) is illustrated in Table 1. This highlights the source of infection in those who had positive diagnostic or screening tests for HCV from 1997 to 2000, as reported to the Public Health Laboratory Service (PHLS).

**Table 1:
Transmission of HCV**

Risk factor	Percentage
Injecting drug use	92.3%
Blood product recipient	1.0%
Transfusion	1.4%
Sexual exposure	1.5%
Renal failure	0.5%
Vertical household (mother to baby)	0.9%
Other known	2.4%
Total	100 %

Source: Public Health Laboratory Service

Prevalence in the UK

In the UK, injecting drug users (IDUs) are known to be at greatest risk of acquiring HCV. Over 30% of IDUs attending specialist services have evidence of hepatitis C infection,⁸ and some smaller studies^{9,10} have recorded levels nearer to 50–80%. Ninety-two per cent of positive diagnostic or screening tests for HCV reported to PHLS between 1997 and 2000 were among those with a history of injecting drug use at some time (see table 1).

Of all cases of HCV investigation in England and Wales reported to PHLS between 1992 and 2000 (including IDUs and all other risk factors), the following characteristics were noted:

- 64% were aged between 25 and 44.¹¹
- the ratio of male to female was about 2:1.¹¹

How is hepatitis C diagnosed?

Tests

An initial antibody blood test will indicate whether a person has ever been infected with HCV. About 20% of people who become infected with HCV will clear the virus at the acute stage; however, these people will still have positive antibody results.

In order to establish if the virus is still present, and to diagnose the extent of the disease, further specialist tests are required. A polymerase chain reaction (PCR) test will identify current circulating virus. More sophisticated PCR tests can then identify the amount (viral load) and the genotype of the virus. Liver biopsy will show the degree of any liver injury (inflammation, fibrosis, cirrhosis, etc). Additional investigations may be appropriate.

Who carries out HCV tests?

Antibody tests may be carried out by GPs, local drug services and sexual health/GUM (Genito Urinary Medicine) clinics. The presence of chronic infection will need to be confirmed by PCR testing.

Patients are usually referred to specialist hepatologists, gastroenterologists or infectious disease physicians for further investigations/assessments.

Who should be tested?

Antibody testing should be considered for:

- anyone who has ever injected drugs;
- current injecting drug users;
- recipients of blood (before September 1991), or blood products (before 1986 in the UK);

- children born to mothers with HCV (*NB: the test result may be difficult to interpret in children under 18 months old, due to the presence of maternal antibodies and specialist virological advice will be needed*);
- regular sexual partners of those with HCV;
- people who may have had unsterile medical or dental procedures abroad;
- people who may have had ear piercing, body piercing, tattooing or acupuncture with unsterile equipment.

What information do patients need?

Before testing

When antibody testing is undertaken it is important that the fears and anxieties of patients are discussed. Patients should also be made aware of the implications of both a positive and a negative result so that they are able to give informed consent to the process. A range of health professionals in primary care and other specialist services are appropriate to provide pre- and post-test advice.

Prior to antibody testing, practitioners should consider the following issues:

- Does the patient clearly understand the testing procedure?
- Is the patient able to give informed consent?
- Does the patient have enough information about the disease to understand the long-term implications of a positive result?
- What support does the patient have, particularly after the receipt of a positive test result?
- Is the patient assured of confidentiality?

After testing

Results should be given in person wherever possible.

Negative results

Where antibody test results are negative, patients should, where appropriate, be counselled that any continued risky behaviour may lead to infection in the future.

Repeat testing is advised if the patient is believed to have been recently exposed to the virus, since HCV antibodies can take up to six months to develop.

Positive results

In the event of a positive antibody test, it is important that the patient clearly understands the result, and that further specialist tests are required to establish current HCV infection and identify the extent of any disease.

The patient may need support to come to terms with a positive test result and potential future implications. Referring practitioners should consider providing such support during the period that patients wait to see a specialist.

If current HCV infection has been diagnosed, patients should be advised:

- to stop or reduce alcohol consumption – continued alcohol consumption is the most likely predictor of disease progression.¹ (Patients may need to be referred for specialist alcohol support and counselling);
- not to donate blood or carry an organ donor card;
- **never** to share **any** injecting equipment;
- that, although rare, sexual transmission can occur (condoms minimise this risk).
- not to share razors or toothbrushes or any toiletry equipment that could have been contaminated with blood;

What is the treatment for hepatitis C?

Increasingly effective treatments are available. The National Institute for Clinical Excellence (NICE) recommends a combination therapy of Interferon and Ribavirin in the treatment of chronic HCV.¹² This treatment is successful in clearing the virus (with no detectable virus six months after treatment has ceased) in 38–43% of those treated.^{13,14}

The treatment generally lasts for six to twelve months and involves self-subcutaneous injection of Interferon Alpha three times a week, plus a daily dosage of oral Ribavirin.

Treatment is not recommended for drug users who continue to inject, where drug interactions, compliance and the possibility of re-infection are issues. This will need to be assessed on a case-by-case basis. The treatment is contraindicated for many patients, including those with pre-existing medical conditions and pregnant women. Side effects (fatigue, nausea, headaches, depression) can be intolerable for some.

More recently available is a newer Pegylated Interferon, which maintains therapeutic drug levels over a longer period, is administered only once weekly and, in combination with Ribavirin, appears to be more successful in clearing the virus than conventional Interferon and Ribavirin, with efficacy rates of around 55%.^{15,16} (Pegylated Interferon has not yet been considered by NICE).

Further information

National Hepatitis C Resource Centre (a Mainliners project)

The National Hepatitis C Resource Centre is a specialist service that offers accessible advice and is an information point for people living with hepatitis C, healthcare professionals, members of the public and the media. The centre maintains a list of local support groups for people with HCV and provides information and leaflets. The centre also co-ordinates a national forum to represent the needs and views of people with HCV.

Contact: National Hepatitis C Resource Centre, PO Box 31844, London SE11 4DT.

Tel: 020 7735 7705. Advice line: 020 7582 5226, Mon, Wed and Fri, 12pm–3pm.

Website: www.hep-ccentre.com

e-mail: advice.info@hep-ccentre.com

British Liver Trust

The British Liver Trust (BLT) is concerned with raising awareness and providing information and education on all forms of liver disease. The charity produces a number of publications, for example *Hepatitis C* and *Hepatitis C and injecting drug use* patient leaflets. These are free to patients by sending an SAE to the address above, and for a small charge to primary care and other services. The BLT has expert advice on hand but is only able to respond to written medical enquiries by letter, fax or email.

Contact: British Liver Trust (BLT), Ransomes Europark, Ipswich IP3 9QG.

Tel: 01473 276 326 (administration only).

Website: www.british-liver-trust.org.uk

e-mail: info@britishlivertrust.org.uk

Children's Liver Disease Foundation

This organisation specialises in supporting children with liver disease.

Contact: Children's Liver Disease Foundation,

36 Great Charles St, Birmingham B3 3YJ.

Tel: 0121 212 3839.

Website: www.childliverdisease.org

e-mail: info@childliverdisease.org

Department of Health Drugs Website

The DH drugs website is intended primarily as a resource for a wide range of professionals to help in the delivery of drug prevention and treatment services. *Hepatitis C – guidance for those working with drug users (published 2001)*, may be of particular interest, and can be downloaded from the website.

Contact: Drug Misuse Team, Department of Health, Room 580D, Skipton House, 80 London Road, London SE1 6LH.

Website: www.doh.gov.uk/drugs

Local sexual health/GUM clinics

Offer free, confidential advice and treatment. Details of GUM clinics can be found at www.lovelife.uk.com

The National Drugs Helpline – 0800 77 66 00

Provides confidential information and advice to drug users and anyone concerned about drugs.

Drinkline – 0800 917 8282

Provides confidential information and advice about sensible drinking. Drinkline can put people in touch with local alcohol advice centres where help is available on a one-to-one basis.

NHS public/patient leaflets

- *Hepatitis C – your questions answered* is available free to primary care and other services. Contact NHS Response Line on: 08701 555 455, www.doh.gov.uk
- *Hepatitis C factsheet* is available free to primary care and other services. Contact NHS Response Line on: 08701 555 455, www.doh.gov.uk

Further reading

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- Department of Health (1999) *Hepatitis C – guidance for those working with drug users*. London: Department of Health. www.doh.gov.uk/drugs/hepcguide.htm
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