

Frequently Asked Questions
on
Viral Hepatitis



**World Health
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Frequently Asked Questions (FAQs) on Viral Hepatitis

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Q1 What is hepatitis?

Hepatitis is inflammation of the liver, characterized by jaundice, fever, liver enlargement, and abdominal pain. The word hepatitis derives from the ancient Greek word *hepar* (root word *hepat*) meaning “liver”, and the Latin word *itis* meaning “inflammation”.

There are many causes of inflammation of the liver, including side-effects of medication, excessive alcohol intake, some toxic chemicals, disorders of the gall bladder or pancreas, and infections. There are many infective agents that can cause inflammation of the liver, or hepatitis.

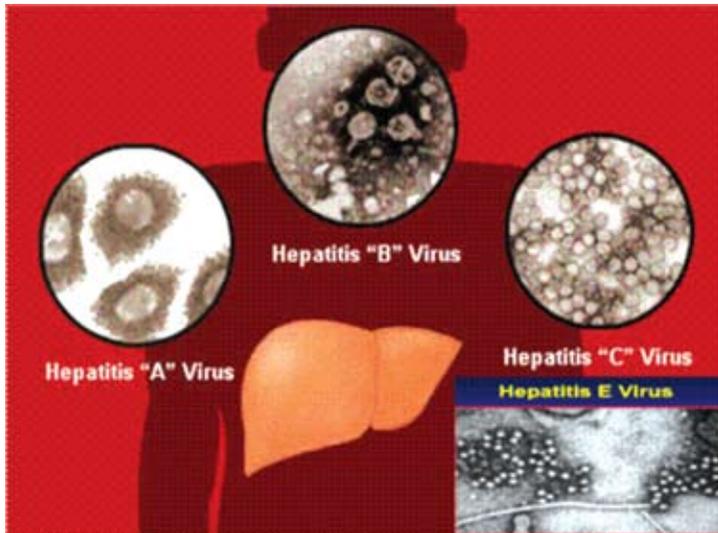
Q2 How is hepatitis different from jaundice?

Jaundice originates from the French word “*jaune*”, meaning yellow. Jaundice is the yellow colouration of the skin, mucus membranes, or eyes due to the yellow pigment from bilirubin. Jaundice is the easily visible/recognizable symptom of the inflammation of liver — hepatitis.

Q3 What is viral hepatitis?

Viral hepatitis is an infection of the liver caused by a virus, that affects people from all walks of life regardless of age, race, gender, or sexual orientation.

There are seven different viruses that cause hepatitis. The most common cause is infection with one of four viruses, called hepatitis A, B, C, and E. All of these viruses can cause an acute disease with symptoms lasting several weeks including yellowing of the skin and eyes (jaundice), dark urine, extreme fatigue, nausea, vomiting and abdominal pain. It can take several months to a year to regain good health. Complications of viral hepatitis include chronic liver disease, liver failure, and liver cancer.



Q4 How does viral hepatitis spread?

Hepatitis A usually spreads when a person consumes food or fluid contaminated by the stool of a hepatitis A-infected person (even though it may look clean). The virus is shed in

the faeces of infected people, and this type of transmission is known as faecal-oral transmission.

Some common routes for hepatitis A transmission include:

- Household contact with an infected person.
- Sexual contact with an infected person (more common in homosexual men with multiple partners).
- Eating or drinking contaminated food or water. Cold cuts and sandwiches, fruit and fruit juices, milk and milk products, vegetables, salads, shellfish, and iced drinks are commonly implicated in outbreaks. Contamination of foods by infected workers in food-processing plants and restaurants is also common.
- Sharing contaminated eating utensils.
- Touching contaminated surfaces and then placing the hands near or in the mouth.



Hepatitis A transmission is common throughout the developing world, where infections occur most frequently during early childhood, and usually present mild symptoms or none at all. This is because transmission of the virus is enhanced by poor personal hygiene and overcrowding. In developed countries, hepatitis A transmission is less common, but community-wide outbreaks still occur in some areas.

Hepatitis B can be transmitted in several ways. It can spread when blood from an infected person enters the body of a person who is not infected. Hepatitis B transmission can also occur through contact with other bodily fluids, such as semen, vaginal fluids, or saliva.

The hepatitis B virus is 50 to 100 times more infectious than HIV.

Some modes of transmission of the hepatitis B virus (HBV) include:

- having sex with an infected person without using a condom (the effectiveness of latex condoms in preventing infection with HBV is unknown, but their proper use will almost certainly reduce transmission).
- By sharing drugs, needles, or “works” when “shooting” drugs.



- Through needlesticks or “sharps” exposures on the job.
- Having a tattoo or body-piercing done with tools that are contaminated through being used on someone else.
- By sharing objects that may have a very tiny amount of blood on them, such as a toothbrush, razor, or tools used for manicures.
- From an infected mother to her baby during birth.

The following groups of people are considered to be at a high risk of contracting hepatitis B:

- People with multiple sex partners or who have been diagnosed with a sexually transmitted disease (STD).

- Men who have sex with men.
- Sex partners of infected persons.
- Intravenous drug users.
- People who received a transfusion of blood or blood products that have not been tested for hepatitis B
- People who live in the same household as a chronically infected person.
- Infants born to infected mothers.
- Healthcare workers.
- International travellers.
- Haemodialysis patients.



Hepatitis C transmission occurs mostly through infected blood and blood products. Before 1990, there was no way to test for the virus when people donated blood. So some people were infected when they had a blood transfusion. Today, transmission of hepatitis C occurs most frequently through infected blood, whether it is from working in a laboratory or a dialysis unit, by infected needles used for tattoos or body piercings, or through sharing drug needles. In a few cases, people have been infected with hepatitis C by sharing objects

that may have a tiny amount of infected blood on them, such as a toothbrush, razor, or tools used for manicures.

Hepatitis C can also be spread by sexual intercourse, but this is rare. For steady sexual partners, there are no recommendations about changing one's sexual practices just because you or your partner has hepatitis C. But having more than one sex partner does increase your chance of getting the virus.

Hepatitis C is not transmitted through normal, everyday activities. You will NOT get infected by sitting next to a person with the virus, shaking hands, hugging, kissing or sharing eating utensils.

Hepatitis E, like hepatitis A, is usually spread when a person consumes food or fluid contaminated by the stool of a hepatitis E-infected person or animal (even though it may appear clean). The virus is shed in the faeces of infected people and animals, and this type of transmission is known as faecal-oral transmission.

Some specific ways in which hepatitis E transmission occurs include:

- Eating or drinking contaminated food or water. Most outbreaks in developing countries have been associated with contaminated drinking water. Vegetables, salads, shellfish, and iced drinks are also commonly implicated in outbreaks.
- Sharing and eating from contaminated utensils.

- Touching contaminated surfaces and then placing your hands near or in the mouth.
- Household contact with an infected person (uncommon).

Casual contact — as in the usual office, factory, or school setting — does not lead to the hepatitis E virus spreading.

When a person becomes infected with the hepatitis E virus, he or she will not feel sick immediately. The period between hepatitis E transmission and the appearance of symptoms is called the hepatitis E incubation period. It may be as short as 14 days or as long as 60 days; the average is five to six weeks.

Sporadic cases and outbreaks of hepatitis E are very common in countries of the WHO South East Asia Region.

Q5

How can I prevent infection with hepatitis A and hepatitis E?

Hepatitis A and Hepatitis E are most commonly spread by eating or drinking contaminated food. To prevent infection with these viruses:

- Wash hands well after using the toilet and before eating.
- Eat only freshly-cooked foods.
- Drink only boiled or commercially bottled water in places where sanitation and the water supply is questionable and

do not eat raw fruit or vegetables that cannot be peeled, unless cleaned thoroughly.

- Avoid raw or steamed shellfish, such as oysters, that live in contaminated waters.



- Get vaccinated for hepatitis A to prevent being infected with this virus (but this does not protect against hepatitis E infection)

There is currently no approved hepatitis E vaccine (although several vaccines are currently being tested). Therefore, the best way to prevent hepatitis E is to practice good personal hygiene and avoid high-risk situations. This means avoiding drinking water from unsafe sources and practicing good hygiene and sanitation.



Q6 How can I prevent infection with hepatitis B and hepatitis C?

The best way to prevent hepatitis B is to get vaccinated. However, there is no vaccine for hepatitis C.

The hepatitis B vaccine is usually given through three injections over six months. Candidates for hepatitis B vaccination include the following groups of people:

- All infants (high priority).
- Young adults.
- Anyone whose sex partner has chronic hepatitis B.
- Men who have sex with men.



- Someone who has been recently diagnosed with a sexually transmitted disease.
- People with multiple sex partners.
- Anyone who “shoots” drugs.
- Anyone who lives with a person with chronic hepatitis B.
- People whose jobs expose them to human blood.

Certain behaviours put a person at risk of contracting hepatitis B. Avoiding these high-risk behaviours is another approach to hepatitis B prevention. The same approach is applicable for the prevention of hepatitis C as no vaccine is available for the prevention of this infection.

Some recommendations for avoiding high-risk behaviours:

- If you have sex with more than one partner, use latex condoms correctly every time you have sex. Using

condoms may lower your risk of getting hepatitis B and hepatitis C.

- Do not share toothbrushes, razors, nail clippers, washcloths, or anything else that could have an infected person's blood on it.
- If you are thinking of getting a tattoo or body piercing, ensure that the artist or piercer follows good health practices and cleans and disinfects tools thoroughly before each use.
- If you are a healthcare worker, get vaccinated against hepatitis B and always follow standard infection control precautions. Handle needles and other sharp objects in a safe manner.
- Do not "shoot" drugs. If you do, stop and get into a treatment programme. If you can't stop, never share drugs, needles, syringes, water, or "works".
- If you are pregnant, get a blood test for hepatitis B. Infants born to infected mothers should be given the first dose of the vaccine within 12 hours after birth.

If you already have hepatitis B or hepatitis C you should:

- Not donate blood, organs, or tissue
- Not take any illegal drugs and share any types of needles
- Make sure your babies get all of their hepatitis B shots.

Q7

How common is viral hepatitis and can it be fatal?

Hepatitis A

- Has a worldwide distribution and is endemic in most countries.
- Fourteen million acute cases of hepatitis A, and 3000 deaths occur annually worldwide.
- In the WHO South-East Asia Region an estimated 400 000 acute cases of hepatitis A occur every year with 800 deaths.

Hepatitis B

- About two billion people worldwide have been infected with the virus and about 360 million live with chronic infection.
- An estimated 600 000 persons die each year due to the acute or chronic consequences of hepatitis B worldwide.
- About 25% of adults who become chronically infected during childhood later die from liver cancer or cirrhosis (scarring of the liver) caused by the chronic infection.
- An estimated 100 million hepatitis B carriers – 5.6% of the population – live in the WHO South-East Asia Region. More than 300 000 are estimated to die each year due to chronic consequences of hepatitis B particularly cirrhosis and liver cancer.

Hepatitis C

- Worldwide, 170 million people have been infected with the virus. Every year, the virus causes 2.3 – 4.7 million new infections and 350 000 deaths.
- Approximately 30 million hepatitis C carriers, more than 1.6% of the total population, live in the countries of the WHO South -East Asia Region. More than 120 000 are estimated to die each year due to cirrhoses and liver cancer associated with hepatitis C.

Hepatitis E

- Worldwide an estimated 14 million symptomatic cases of hepatitis E; 300 000 deaths and 5200 stillborns occur annually.



- Epidemics can grow rapidly and with high mortality among pregnant women.
- In the WHO South East Asia Region, annual symptomatic cases of hepatitis E are estimated at 6.5 million, with 160 000 deaths and 2700 stillborns. More than 50% of all global hepatitis E deaths occur in the Region.

Q8

How dangerous is viral hepatitis compared to other communicable diseases?

Data published in the WHO Global Burden of Diseases reports of 2004 and 2008, presented in the table below, show that the number of estimated deaths in the Region associated with viral hepatitis and their consequences (cirrhosis and liver cancer) is much higher than the number of estimated deaths caused by malaria, dengue and HIV/AIDS combined. This estimation does not include deaths associated with hepatitis A and hepatitis E. The number of deaths associated with viral hepatitis are highest among all communicable diseases, after tuberculosis (even when hepatitis E data is not included). Approximately 70-80 % of cirrhosis and liver cancer cases are associated with hepatitis B and hepatitis C infection.

| Disease | 2004. Number of estimated deaths | 2008. Number of estimated deaths |
|--------------|----------------------------------|----------------------------------|
| Hepatitis A | Not included in estimation | Not included in estimation |
| Hepatitis B | 37 017 | 53 145 |
| Hepatitis C | 13 686 | 19 996 |
| Hepatitis E | Not included in estimation | Not included in estimation |
| Cirrhosis | 210 160 | 284 292 |
| Liver cancer | 58 452 | 62 491 |
| Dengue | 10 627 | 8 690 |
| Malaria | 36 498 | 50 747 |
| HIV/AIDS | 206 086 | 244 279 |
| TB | 490 194 | 518 717 |

Q9 What is the treatment for viral hepatitis?

Hepatitis A

No specific treatment is available for hepatitis A. However, the following guidelines are often recommended:

- Fluids and diet. The best treatment is to make sure that the patient drinks plenty of fluids and eats low-fat foods.
- Rest. The patient should rest while he or she has fever or jaundice. When fever and jaundice decreases, activity may be gradually increased with the healthcare provider's approval.

- Prescription or non-prescription, no drugs should be given without consulting the doctor.

Hepatitis B

There is no cure for hepatitis B and no specific treatment is available. However, the following guidelines are often recommended:

- Fluids and diet. The best treatment is to ensure that the patient drinks a lot of fluids and eats low-fat foods.
- Rest. The patient should rest while he or she has fever or jaundice. When fever and jaundice decreases, activity may be gradually increased with the healthcare provider's approval.
- There is no medicine that gets rid of the hepatitis B virus (HBV) or heals the liver. Chronic hepatitis B can be treated with drugs, including interferon and anti-viral agents, which can help some patients. Treatment can cost thousands of dollars per year and is not affordable to most patients in developing countries.



- Patients with advanced liver disease need to follow specific diets as advised by the treating physician. As a general recommendation the patient should avoid eating fatty foods because the body has difficulty digesting fat when the liver is not working well.
- Patients without liver cirrhosis require about 2–3 grams protein per kilogram of body weight. Patients with cirrhosis need an individual nutrition plan from their specialist or nutritionist.
- There is some evidence that iron can lower the response to interferon treatment in adults. Although no results have been reported for children, the issue of restricting iron intake should be discussed with the treating physician.

Hepatitis C

On May 2011, the United States Food and Drug Administration approved two drugs for Hepatitis C. The first one is boceprevir and the other is telaprevir (Incivek). Both drugs block an enzyme that helps the virus to reproduce. The drugs are intended to improve on standard treatments using the injected drug pegylated interferon alpha and the pill ribavirin.

Treatment is generally recommended for patients with proven hepatitis C virus infection and persistently abnormal liver function tests.

Treatment during the acute infection phase has much higher success rates (greater than 90%) with a shorter duration of treatment; however, this must be balanced against the 15 – 40

% chance of spontaneous clearance without treatment. Current combination therapy is usually supervised by physicians in the fields of gastroenterology, hepatology or infectious disease.

The treatment may be physically demanding, particularly for those with a prior history of drug or alcohol abuse. It can qualify for temporary disability in some cases. A substantial proportion of patients will experience a panoply of side effects ranging from a 'flu-like' syndrome (the most common, experienced for a few days after the weekly injection of interferon) to severe adverse events including anaemia, cardiovascular events and psychiatric problems such as suicide or suicidal ideation. The latter are exacerbated by the general physiological stress experienced by the patient.

Current guidelines strongly recommend that hepatitis C patients be vaccinated for hepatitis A and B if they have not yet been exposed to these viruses, as infection with a second virus could worsen their liver disease.

Alcoholic beverage consumption accelerates hepatitis C (HCV)-associated fibrosis and cirrhosis, and makes liver cancer more likely; insulin resistance and metabolic syndrome may similarly worsen the hepatic prognosis. There is also evidence that smoking increases the fibrosis (scarring) rate.

If a hepatitis C carrier consumes 50 -100 ml alcohol (whisky, vodka or other hard drinks) per day , he or she increases the risk of liver cancer by 100 times. That is why it is important to know your hepatitis C infection status and change your lifestyle accordingly.

Hepatitis E

There are no specific medicines that can cure hepatitis E. Therefore, treatment is focused on dealing with any symptoms or complications that may occur. Even without specialized treatment for acute hepatitis E, most people recover completely within a few weeks.

High mortality associated with hepatitis E infection in pregnant women is the biggest danger.

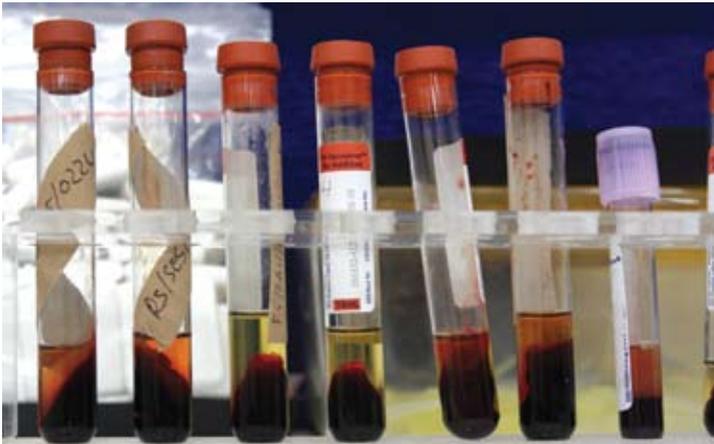
Below are some key steps to follow as part of hepatitis E treatment:

- Get enough calories. Many people with hepatitis E get nauseated, especially late in the day. In order to get enough calories, try eating most of your food early in the day. Eating several small meals throughout the day (instead of three large meals) may also be helpful. If you feel sick in the morning, try eating some crackers or dry toast before getting out of bed. It may also help to drink lemon water or have a lemon drop.
- Get plenty of rest. It's important to get as much rest as you can while your body fights off the virus.
- Drink plenty of fluids. You should try to drink at least 10 to 16 glasses a day of water, clear juices, or other drinks that do not contain caffeine.
- Avoid medicines that can harm the liver. Talk with your healthcare provider about all the medicines that you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

- It is generally recommended that people with hepatitis E infection avoid alcohol completely.

Q10 How can I find out if I am susceptible to viral hepatitis?

Generally everyone is susceptible to all forms of viral hepatitis. In some individuals these infections will not have any manifestation or have only asymptomatic infection and clinically cannot not be diagnosed as hepatitis.



To determine a person's susceptibility to these infections is possible only by a laboratory test:

Hepatitis A

- Detection of an antibody to hepatitis A virus IgM in serum demonstrates current or recent infection with hepatitis A.

- Detection of an antibody to hepatitis A virus IgG in serum demonstrates past infection of hepatitis A (clinical or asymptomatic).
- Absence of antibodies to hepatitis A virus IgM or IgG demonstrates that the person has not had hepatitis A and is susceptible to this infection.

Hepatitis B

- Detection of HBsAg in serum demonstrates that the person is a carrier of hepatitis B.
- Detection of HBs Ab (antibody) demonstrates recovery or immunity to hepatitis B.
- Detection of anti-HBc IgM is a marker for acute hepatitis B infection.
- Detection of anti-HBcIgG is a marker for past or chronic hepatitis B infection.
- Detection of HBeAg indicates active replication of virus.
- Presence of Anti-Hbe indicates that the virus is no longer replicating. However, the patient can still be positive for HBsAg.,.
- HBV-DNA - indicates active replication of virus. This is more accurate than HBeAg. This is used mainly for monitoring response to therapy.

Hepatitis C

- HCV antibody is generally used to diagnose hepatitis C infection. It is not useful in the acute phase as it takes at least four weeks after infection for the antibody to appear.
- HCV-RNA – various techniques are available e.g. PCR and branched DNA. This technique may be used to diagnose HCV infection in the acute phase. However, its main use is in monitoring the response to antiviral therapy.
- HCV-antigen - an Enzyme Immunoassay (EIA) for the HCV antigen is available. It is used in the same capacity as HCV-RNA tests but is much easier to carry out.
- Genotyping – genotype 1 and 4 do not have a satisfactory prognosis overall and respond poorly to interferon therapy. A number of commercial and in-house assays are available.
- Genotypic methods – DNA sequencing, PCR-hybridization e.g. INNO-LIPA.
- Serotyping – particularly useful when the patient does not have detectable RNA.
- Viral load – patients with high viral load are thought to have a poorer prognosis. Viral load is also used for monitoring response to IFN therapy. A number of commercial and in-house tests are available.

Hepatitis E

- Detection of the antibody to hepatitis E virus IgM in serum demonstrates current or recent infection of hepatitis E
- Detection of the antibody to hepatitis E virus IgG in serum demonstrates past infection of hepatitis E (clinical or asymptomatic).
- Absence of any antibody to hepatitis E virus IgM or IgG demonstrates that the person has not had hepatitis E and is susceptible to this infection.

World Hepatitis day 28 July

Viral hepatitis is a potentially lethal disease that is widespread in the WHO South-East Asia Region. However, few people are aware of how dangerous the disease can be. This publication answers some basic questions that are of relevance to the general public.

For more information, please contact:

Disease Surveillance and Epidemiology Unit (DSE)
Department of Communicable Diseases
World Health Organization
Regional Office for South-East Asia



**World Health
Organization**

Regional Office for South-East Asia
World Health Organization
Regional Office for South-East Asia
World Health House,
Mahatma Gandhi Marg
New Delhi - 110002, India



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