



Hepatitis A, B, C

Hepatitis is a general term referring to inflammation of the liver. The usual cause is viral, either Hepatitis A, B, or C. However, toxins and drugs may also induce a hepatitis. The onset of hepatitis may be gradual or sudden. Symptoms can include: loss of appetite, nausea, fatigue, fever, vague abdominal discomfort, jaundice (yellowing of the skin), muscle aches and dark urine. Because the symptoms can be mild, some people are not aware that they have had a bout of hepatitis.

The liver enzymes (especially AST/SGOT and ALT/SGPT) tend to rise significantly. The serum bilirubin level also rises and is what causes the yellowing of the skin often associated with hepatitis. Blood tests are available for the determination of Hepatitis A, B, and C as the cause of the liver abnormality.

Hepatitis A is usually transmitted through a food or water source. The disease is quite contagious and there have been several large outbreaks, particularly in restaurants and day care centers. The incubation period (time from exposure to actual illness) is 3 - 5 weeks. Most cases of Hepatitis A are self limited and resolve spontaneously. Hepatitis A does not progress to chronic liver disease.

Hepatitis B is transmitted sexually, through IV needles, or from mother to infant. The incubation period is 2 - 4 months. There are approximately 300,000 new infections of Hepatitis B per year in the United States. The Hepatitis B surface antigen appears early in the course of the disease and may persist for several months. If this surface antigen remains positive after 6 months from the onset of disease, it will likely persist indefinitely and the individual will become a chronic carrier of Hepatitis B. Up to 10% of patients with acute Hepatitis B will develop chronic hepatitis, which can result in cirrhosis (scarring of the liver) or liver cancer. Interferon and anti-viral drugs are used in the treatment of chronic Hepatitis B.

Hepatitis C is transmitted primarily through IV needles, although likely it may be transmitted through other pathways as well. It was formerly called non A/non B Hepatitis and accounts for at least 90% of hepatitis from blood transfusions. The Hepatitis C antibody appears anywhere from 6 weeks to 9 months after infection and individuals positive for the Hepatitis C antibody should be presumed to be carrying the infection. Many infected with Hepatitis C have no symptoms, however the majority will progress to chronic liver disease. Most with Hepatitis C antibody, if undergoing a liver biopsy, will have an abnormal liver showing chronic hepatitis even if the liver enzymes were normal. 60% or more of patients infected with Hepatitis C progress to chronic hepatitis and at least 20% progress to cirrhosis. There is also a high risk for developing liver cancer. Treatment with interferon or anti-viral drugs may be given, but in many patients, treatment is not successful in curing Hepatitis C infection.

Underwriting action will depend upon which type of hepatitis the applicant has. A history of Hepatitis A, once completely resolved, will not be rated. Likewise, a history of Hepatitis B, if completely resolved and no evidence of being a chronic carrier of Hepatitis B, will be non-rated. If the Hepatitis B surface antigen remains positive but all liver enzymes are normal, the rating will be Table B. Cases of cirrhosis or chronic Hepatitis B or C will usually be declined for individual coverage. If "cured" of the viremic state by interferon or anti-viral treatment, documented by at least 2 test results, the most recent being at least 1 year out from treatment, then a Table B rating will apply.

To get an idea of how a client with a history of Hepatitis A, B, or C would be viewed in the underwriting process, feel free to use the attached *Ask "Rx" perts* for an informal quote.

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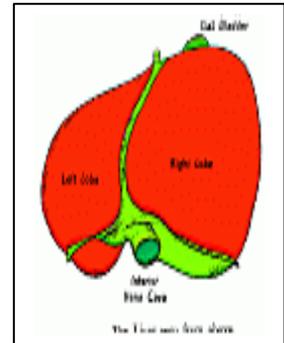
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Hepatitis B

Hepatitis B is inflammation of the liver due to infection with hepatitis B virus (HBV). See *Rx for Success #18 (Hepatitis A,B,C)*. Hepatitis B infection is a common condition with more than half of the population of the world chronically infected. The incidence of chronic infection in the United States is about 2%.



Transmission of HBV is by blood, birth and sex. One-half of new infections are mild unrecognized events. The other one-half are clinically significant illnesses with jaundice and elevated liver function tests. Occasionally acute hepatitis B is a fulminating disease that may terminate in death. Persons infected as adults are likely to recover spontaneously and become immune (90%). Persons infected before five years of age are likely to become carriers (90%). The incidence of new infections is decreasing mainly due to widespread administration of a vaccine that has been available since the early 1980s.

Infection persisting more than six months is chronic hepatitis. Persons with chronic hepatitis B may develop cirrhosis (*end stage liver disease*) after 25 years of infection and liver cancer after 30 years of infection. For these reasons, chronic hepatitis B is frequently declined for life insurance. To be considered for life insurance a client must be recovered, in a carrier state or have only a mild form of hepatitis.

Blood tests showing elevated transaminases, especially ALT (SGPT), are often the first laboratory sign of hepatitis B infection. These blood liver tests can fluctuate over time in the same individual.

Other blood tests include:

- HBsAg - HBV present
- HBsAb - immunity to HBV
- HBeAg - HBV infection with active viral replication
- Polymerase chain reaction (PCR) – measures the viral load of genetic material of HBV

Non-invasive imaging tests include:

- CT scan – provides anatomic information such as size and shape of the liver
- Ultrasound – provides similar information

Invasive testing includes:

- Liver biopsy – examines a piece of liver for cell damage and scarring

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Any alcohol intake increases the rate of progression to fibrosis, cirrhosis, or cancer. Persons with hepatitis B plus another liver impairment are not usually insurable.

When antiviral drug treatment is indicated, interferon alfa-2b is the usual choice. Studies suggest a sustained response in many individuals with drug therapy. Relapse is unlikely if the person tests negative for circulating virus beyond one year after treatment.

Underwriting action will depend on the age of the client, the levels of liver function tests and viral load and the results of liver biopsy, CT scan and ultrasound.

For example:

A client > 40 yrs old with (+) HBsAg, but normal LFTs, would not be rated. If viral load testing has been done, it must be negative.

A client age 41 with (+) HBsAg plus mildly elevated (*that is, $\leq 2x$ normal*) liver tests, viral load less than 5,000,000 (*if done*), and no more than mild changes on liver biopsy would be rated Table E. There can be no ratable alcohol history and no more than two drinks per day.

To get an idea of how a client with Hepatitis would be viewed in the underwriting process, feel free to use the Ask "Rx" *per* underwriter on the next page for an informal quote.

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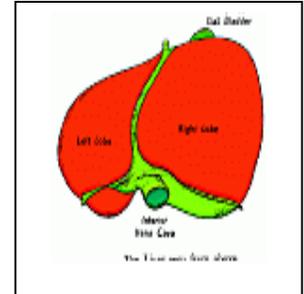
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Hepatitis C

Hepatitis C is inflammation of the liver due to a virus infection called hepatitis C (HCV) virus. Prior to the identification of the virus it was called nonA nonB hepatitis. See *Rx for Success #18* (Hepatitis A,B,C). Hepatitis C is a common infection with up to 6% of the United States population affected. Up to 15% of those infected have spontaneous recovery, and have no virus in their blood. The remaining 85% have chronic hepatitis C. Chronic viral hepatitis can lead to cirrhosis (end stage liver disease) in 25 years or can lead to liver cancer in 35 years. For these reasons, chronic hepatitis C is frequently declined for life insurance. To be considered for life insurance a client must be cured or have a “mild case.”



HCV infection is spread mainly by blood transmission. Many cases of Hepatitis C are due to intravenous drug use. Body piercing, tattooing, occupational needle sticks, hemodialysis, transfusion prior to 1992, and intranasal cocaine (small amount of blood on coke straw) are other blood borne risks. Sexual and perinatal transmission have been documented. The route of transmission is often unknown or not admitted.

Acute hepatitis C is usually a mild disease which is rarely clinically recognized. Infection persisting more than six months or of unknown duration is considered chronic hepatitis C.

Blood tests showing elevated transaminases, especially ALT (SGPT), are often the first laboratory sign of hepatitis C. The blood liver tests can fluctuate over time in the same individual.

Other blood tests include:

- Anti-HCV test – antibody test for hepatitis C virus
- Polymerase chain reaction (PCR) – measures genetic material of HCV

Non-invasive imaging tests include:

- CT scans – provide anatomic information such as size and shape
- Ultrasounds – provide similar information

Invasive testing includes:

- Liver biopsy – a piece of liver is examined for cell damage and scarring

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Any alcohol intake increases the rate of progression to fibrosis, cirrhosis, or cancer. Persons with hepatitis C plus another liver impairment are not usually insurable.

When antiviral drug treatment is indicated, Rebetrol (interferon alfa-2b and ribavirin) is the usual choice. Studies suggest a sustained response rate in many individuals with combination drug therapy. Relapse is unlikely if the person tests negative for virus beyond one year after treatment.

Underwriting action will depend on the likelihood of cure and the age of the client. If there is chronic hepatitis, attention is directed to the level of the viral load, the biopsy results, and noninvasive tests such as scans.

For example:

A client with (+) HCV antibody, but with normal LFTs and negative viral loads (minimum: two tests at least 3 months apart with at least one that is 1 year from end of treatment), would not be rated.

A client age 41 with (+) HCV antibody plus mildly elevated (that is, <2x normal) liver tests, viral load no more than 5 million, and no more than mild changes on liver biopsy would be rated Table E. There can be no ratable alcohol history and no evidence of current consumption.

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