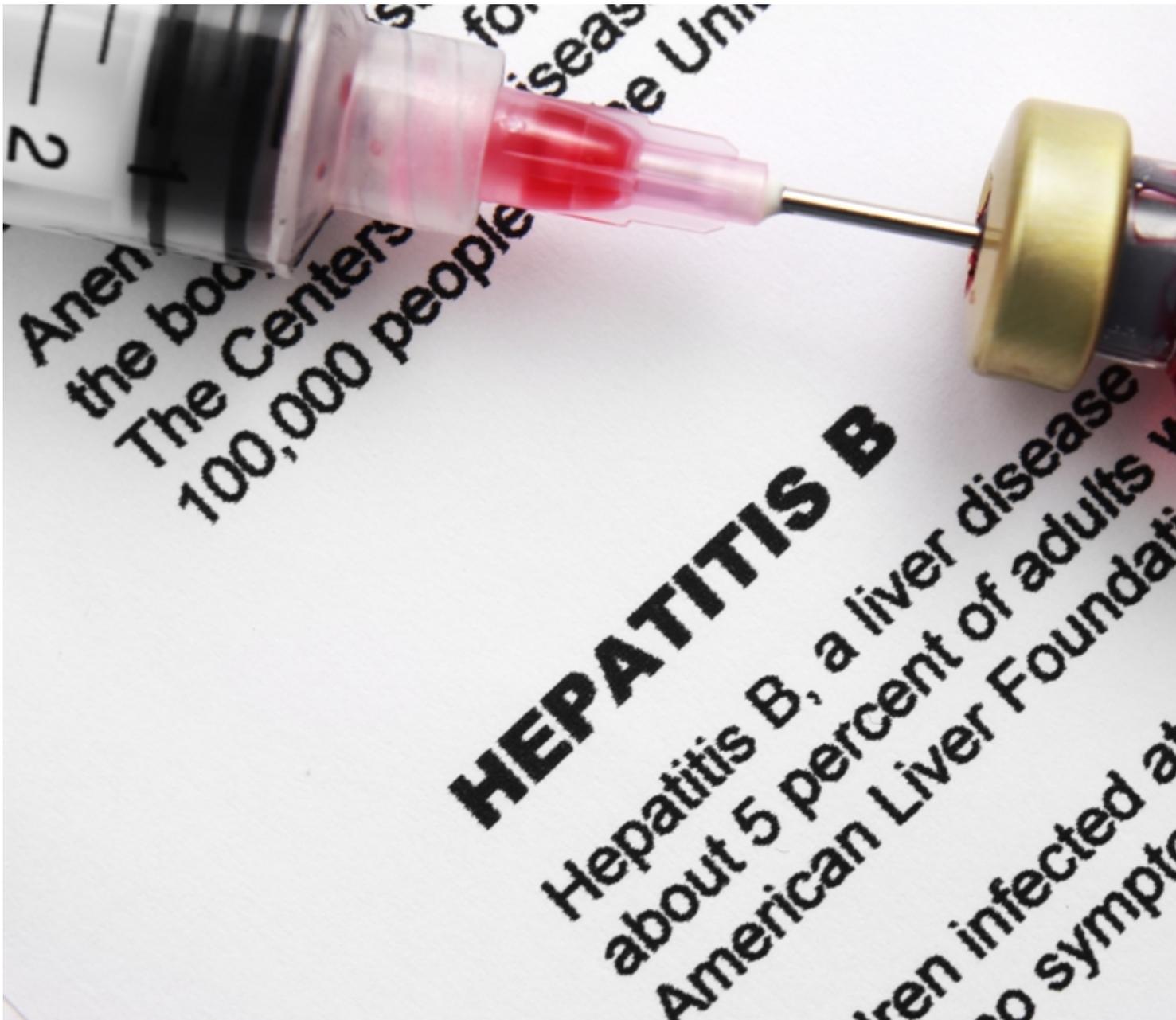


## Hepatitis B <sup>[1]</sup>

Submitted on May 29, 2017



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## What Is Hepatitis B?

Hepatitis is an inflammation, or swelling, of the liver. Alcohol, drugs (including prescription medications), poisons, and some viruses can all cause hepatitis. Hepatitis B is a liver disease caused by the hepatitis B virus (HBV).

Worldwide, approximately 240 million people are chronically infected with HBV, and one in ten of these are also infected with HIV. In the US, an estimated one million people are infected with HBV. Among people living with HIV (HIV+) in the US, about one in ten are also living with HBV (co-infected).

Most people, about nine out of every ten healthy adults, fight off the hepatitis B infection themselves and usually recover within a few months. While they will never get HBV again, their blood test will always show that they have been infected.

The remaining ten percent of people ? those who do not fight off the infection themselves ? develop chronic hepatitis B. Chronic hepatitis B is a long-term illness that happens when HBV stays in the body longer than six months. Fifteen to 25 percent of people with chronic HBV develop serious complications including [liver damage](#) [2] (cirrhosis or scarring) or [liver cancer](#) [3], usually after many years. In the most serious cases, a person may need a liver transplant. People with chronic HBV infection also become carriers of the infection and can pass the virus on to others.

Although people with both HIV and HBV have less inflammation in the liver, they have higher rates of HBV-associated liver disease. Several studies have also shown that HBV infection could increase the risk of liver damage for people taking HIV medications.

## How Is HBV Spread?

HBV is more contagious than HIV. It is spread through infected bodily fluids, including blood, semen, vaginal secretions, and breast milk. HBV can be spread through:

- Unprotected sexual contact with exchange of genital fluids
- Sharing injection needles or 'works'
- Sharing needles that are used to apply tattoos
- Sharing toothbrushes or razors with an infected person
- Receiving a transfusion of blood, blood products, or organs before 1975
- Open sores
- Mother-to-child transmission (during birth)

[Pregnant women](#) [4] who have HBV can pass HBV on to their babies fairly easily (up to nine

times out of ten). Similarly, up to nine out of every ten infants who become infected with HBV will develop chronic HBV (unlike adults, in whom nine out of ten people infected clear the virus naturally). The good news is that infants can be given immune treatments at birth to greatly reduce the chances that they will become chronically infected or suffer any liver damage.

## Prevention of HBV

Fortunately, if you have never had HBV, it can be prevented. Getting vaccinated for HBV is the best protection against the virus. In order to be fully protected, three shots are required over the course of six months. There is also a combined vaccine that will protect you from both HBV and hepatitis A (HAV) [5]. It is important to follow through and get all your shots in order to be fully protected.

HBV vaccination is recommended for all infants (first dose at birth), all children younger than 19 years who have not been vaccinated, and all sexually active persons who are not in a long-term monogamous relationship with someone who does not have hepatitis B. It is also recommended for people living with HIV (HIV+), men who have sex with men, people with multiple sex partners or a diagnosis of a sexually transmitted disease, injecting and non-injecting drug users, people who have close household contact with an HBV-infected person, and health care workers.

The HBV vaccine is recommended for people living with HIV. However, HIV infection can reduce the response to the HBV vaccine. People living with HIV who are vaccinated should be tested for HBV antibodies one to two months after the third vaccine dose to make sure their bodies are fully protected against HBV. Revaccination or higher doses of vaccine may be necessary for people who do not respond to the first three regular doses.

People who do not respond to additional doses may remain susceptible to HBV infection and should consider taking additional action to prevent infection with HBV. Examples of such preventive action include: using latex barriers during sex (see The Well Project's article on Safer Sex [6]), not sharing needles or drug equipment, and making sure that tattoo artists use sterile needles and sterile inkwells. If you inject drugs and do not have access to sterile needles and other drug equipment, see our fact sheet on Cleaning Works [7].

Babies born to women carrying HBV are at high risk of getting HBV immediately after delivery. The risk is increased in women who are co-infected with HIV. It is now recommended that all pregnant women be tested during the first three months of pregnancy for HBV. The HBV vaccine is safe during pregnancy and is recommended for the infant if the mother tests positive during pregnancy. Babies born to HBV-positive mothers get the first shot of HBV vaccine at birth as well as one shot of HBIG (Hepatitis B Immune Globulin), which helps them fight off HBV infection.

## Diagnosis and Treatment

The US Centers for Disease Control and Prevention (CDC) recommends that people infected with HIV be tested for HBV, because people who are infected with both viruses may need to have special treatment with specific drugs (see below) and be checked more often by a health professional.

HBV may cause no symptoms at all. A blood test for the Hepatitis B Surface Antigen (HBsAg)

is the only way to be certain if someone is infected. A diagnosis of chronic (long-term) hepatitis B infection is made if the HBsAg test is positive for longer than six months.

Signs and symptoms of HBV may include:

- Jaundice (yellowing of the skin or eyes)
- Dark-colored urine
- Stool that appears pale and clay like
- Weight loss
- Extreme fatigue (tiredness) that can last weeks or months
- Loss of appetite
- Joint pain
- Itchy red patches on the skin
- Nausea
- Diarrhea [8]
- Fever and chills

If you have HBV, your health care provider may run other tests such as:

- HBV viral load [9]: to measure the amount of HBV in the blood
- Blood tests that check liver function and inflammation
- Liver biopsy (possibly) to detect liver damage

FibroSure, also known as FibroTest, is a blood test that measures the degree of liver damage. FibroSure is sometimes used instead of a liver biopsy. Unfortunately, this test is not widely available outside the United States, and there are challenges with availability in some facilities within the U.S.

There is also a test called FibroScan™ that takes only ten minutes and may be as useful as liver biopsy in diagnosing HBV. It is a non-invasive and painless test that involves having a dull probe pressed gently against your skin. This test is also not very widely available.

There is no treatment for acute, or initial, hepatitis B. During this short-term infection, health care providers recommend rest, proper food and fluids, and avoidance of alcohol. Many people with chronic HBV who have low HBV viral loads, normal liver enzyme levels, and little liver damage may not need treatment, but they should be checked regularly. For those who do require treatment, the following drugs are currently approved in the US to treat chronic HBV:

- Pegasys (pegylated interferon)
- Intron A (interferon alpha)
- Hepsera (adefovir)
- Baraclude (entecavir)
- Tyzeka, Sebivo (telbivudine)
- Viread (tenofovir disoproxil fumarate; TDF)
- Epivir (lamivudine)
- Vemlidy (tenofovir alafenamide; TAF)

Therapy with two drugs that are active against HBV is now the standard of care for treating this virus. Epivir and Viread are drugs that are approved for the treatment of HIV and also have activity against HBV. Similarly, Descovy and Genvoya contain tenofovir alafenamide

(new brand name Vemlidy for the treatment of hepatitis B). If you are living with both HBV and HIV and you are being treated for your HIV with Epivir, Viread, Descovy, or Genvoya, your HBV infection could get worse if you stop taking the drug.

Any of the drugs used to treat HBV infection may cause side effects [10]. Talk to your health care provider about managing side effects and tell him or her if your symptoms get worse. Also talk to your provider if you are pregnant [4] or planning on becoming pregnant [11], as some of these drugs should be avoided by pregnant women or women who are breastfeeding.

Talk with your health care provider about treatment options and continue to get checked on a regular basis to prevent or minimize liver damage. In addition to medical treatment, you can improve the health of your liver by:

- Avoiding alcohol
- Eating a healthy diet [12]
- Getting moderate exercise [13]
- Reducing stress [14]
- Being cautious about using drugs, including prescription, over-the-counter, and street drugs. Even drugs containing Tylenol (acetaminophen) should be used under your health care provider's supervision as they may cause liver damage.

## **HIV Treatment for People Who Are also Infected with HBV (Co-Infected)**

The US Department of Health and Human Services updated its guidelines [15] for the treatment of people co-infected with HIV and HBV in July 2016. These guidelines recommend that all people with HIV/HBV co-infection, including pregnant women, who need HBV treatment or are starting HIV drugs be put on a drug regimen that is active against both HIV and HBV. The World Health Organization (WHO)'s guidelines from March 2015 also recommend that all people co-infected with HIV and HBV receive HIV drugs.

Since Epivir, Viread, Vemlidy, as well as the HIV drug Emtriva (emtricitabine; FTC) all have activity against both HIV and HBV, people living with both HIV and HBV are recommended to start treatment with the single-pill combination of Viread and Emtriva (also known as Truvada), or TAF and Emtriva (also known as Descovy), or the individual drug combination of Viread and Epivir, as the backbone of their drug regimen.

It is best to talk to your health care provider about treatment options when you are infected with both HIV and HBV. The risk of developing abnormal liver function tests while you are receiving HIV drugs is higher if you are also living with HBV.

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## Additional Resources

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[Vaccinations and HIV \(AIDS InfoNet\)](#) [33]

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[Hepatitis B \(Hepatitis B Foundation; info available in English, en español, and in many other languages\)](#) [35]

[Pregnancy and HBV \(Hepatitis B Foundation\)](#) [36]

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[FDA Approves Vemlidy for Treatment of Chronic Hepatitis B in Adults \(Pharmacy Times\)](#) [40]

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**Links:**

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- [15] <https://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-arv-guidelines/25/hiv-hbv>
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- [32] <http://www.cdc.gov/hepatitis/hbv/index.htm>
- [33] [http://www.aidsinfonet.org/fact\\_sheets/view/207](http://www.aidsinfonet.org/fact_sheets/view/207)
- [34] <http://www.liverfoundation.org/abouttheliver/info/hepatitisb/>
- [35] <http://www.hepb.org/hepatitisbcd/xplain.html>
- [36] <http://www.hepb.org/treatment-and-management/pregnancy-and-hbv/>
- [37] <http://www.plannedparenthood.org/learn/stds-hiv-safer-sex/hepatitis-b>
- [38] [http://www.thebody.com/index/treat/hepatit\\_b.html](http://www.thebody.com/index/treat/hepatit_b.html)
- [39] <http://www.aidsmap.com/Hepatitis-B/page/1506084/>
- [40] <http://www.pharmacytimes.com/product-news/fda-approves-vemlidy-for-treatment-of-chronic-hepatitis-b-in-adults>