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Chronic Hepatitis B

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Chronic hepatitis B is a potentially serious infection of the liver caused by the hepatitis B virus (HBV). Chronic hepatitis B infection occurs when your immune system is unable to fight off the virus. Chronic hepatitis B infection is often lifelong, possibly leading to serious illnesses such as liver scarring, called cirrhosis, liver failure and liver cancer.

Most infants infected with HBV at birth and many children infected between 1 and 5 years of age become chronically infected. Chronic infection may go undetected for decades until a person becomes seriously ill from liver disease.

The virus is passed from person to person through blood, semen or other body fluids. Symptoms and how the disease progresses vary.

Often, chronic hepatitis B is “inactive,” that is, it does not cause liver damage. People with inactive chronic hepatitis B usually do not develop serious health problems and do not need treatment.

In other people, the virus is “active,” that is, the disease causes liver damage. It is possible for the virus to be active, become inactive, then become active again.

If you have *active* chronic hepatitis B, you need treatment to prevent complications. It is very important that you take your medications regularly as you have been told as well as attend regular follow-up appointments.

Read this information to help you understand chronic hepatitis B, and how it is diagnosed and treated. Talk to your health care provider if you have questions or concerns.

Your liver

To understand chronic hepatitis B, it helps to understand how your liver works normally.

The liver is the largest solid organ in your body. It is in the upper right part of your abdomen under your ribs. The liver makes substances you need to live and it inactivates harmful ones.

Liver functions include:

- Making proteins.
- Processing drugs.
- Filtering harmful chemicals.
- Removing waste products.
- Helping digest food, especially fats.

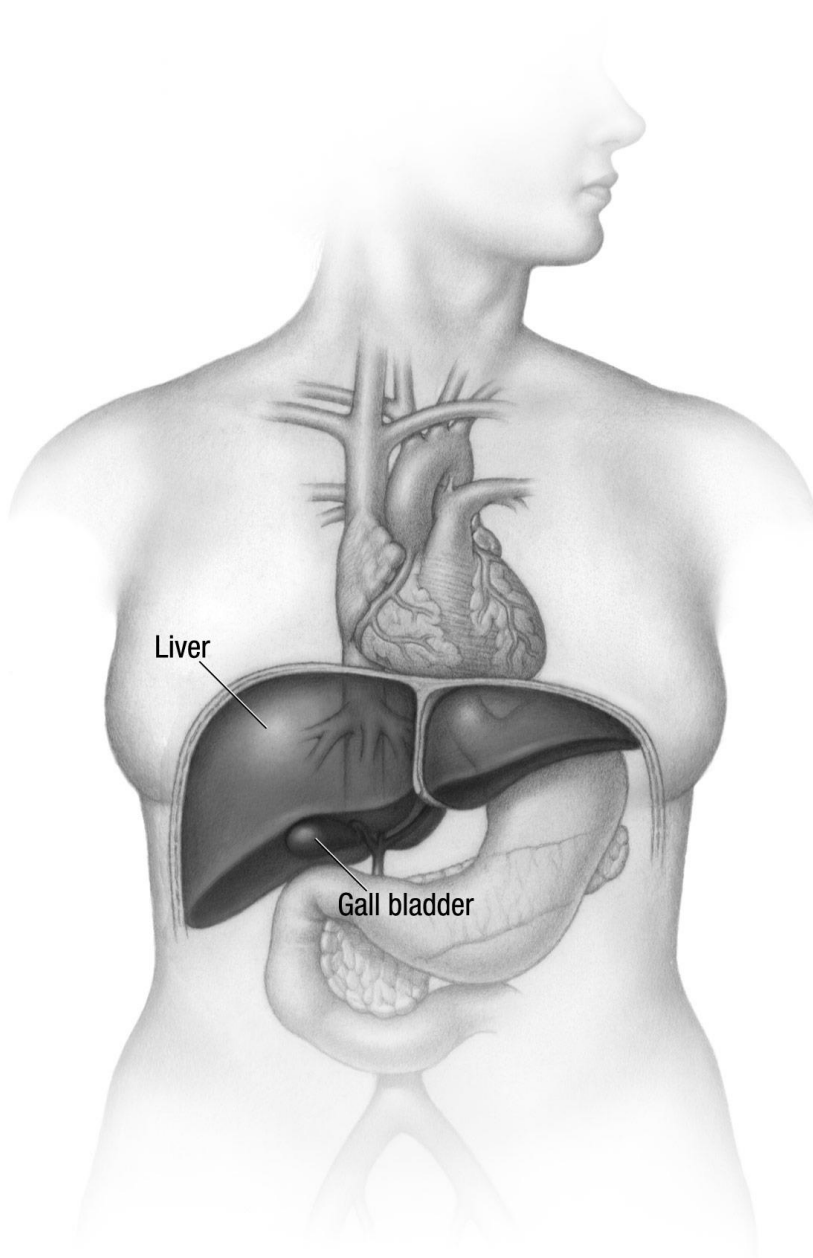


Figure 1. The liver

A healthy liver is needed for normal function including digestion and nutrition, muscle building, blood clotting and storage of nutrients. Much of what you eat, drink, breathe and absorb through your skin eventually reaches your liver. For you to be healthy, you need a healthy liver.

When the hepatitis virus enters your liver, it invades the liver cells and begins to multiply. This causes inflammation in the liver and leads to the signs and symptoms of hepatitis B infection.

Symptoms of Hepatitis B

Most people who have chronic hepatitis B have no symptoms. Most infants and children with hepatitis B never develop symptoms. If you have active hepatitis B, your symptoms may include:

- Feeling very tired.
- Yellowing of your skin and the whites of your eyes, called jaundice.
- Dark urine.
- Loss of appetite.
- Body aches.

If you know you have chronic hepatitis B and develop these symptoms, see your health care provider right away.

Complications of Hepatitis B

Scarring of the liver, called cirrhosis. Hepatitis B infection may cause inflammation that leads to extensive scarring which may impair your liver's ability to function.

Liver failure. If liver cells are depleted as a result of continued damage, your liver may lose its ability to function.

Liver cancer. People with chronic hepatitis B infection have an increased risk of liver cancer.

Diagnosis of Hepatitis B

Tests used to diagnosis hepatitis B

A test to determine whether you have had or currently have a hepatitis B infection. The hepatitis B surface antigen (HBsAg) test identifies people who have an HBV infection. If you test positive for HBsAg, you may have a chronic infection that you can transmit to others. On the other hand, if you have antibodies against HBsAg (anti-HBs), you are immune to hepatitis B infection. Another antibody test (anti-HBc) detects current or past infection.

Liver biochemistry tests. These are a group of blood tests that help your health care provider find out how well your liver is working. The most frequently used test in people with chronic hepatitis B is one that tests for an enzyme called Alanine Aminotransferase (ALT). This is an enzyme that is released from liver cells into the bloodstream when the liver is damaged. An ALT

level above normal may mean you have liver inflammation. This test can also be useful in deciding whether you would benefit from treatment or to evaluate how well a current treatment is working.

If your blood tests for hepatitis B are positive, your health care provider may order an ultrasound or CT scan of your liver.

Ultrasound is an imaging technique that uses sound waves above the hearing range to “see” organs. An ultrasound is used to look at the size, shape, texture and blood supply of the liver.

CT scans (computed tomography) are a type of X-ray that takes cross-sectional pictures of the body. A CT scan is done if your provider believes you may have a tumor in your liver.

MRI (magnetic resonance imaging) scans use the special properties of magnetic fields and the atoms inside your body to create images.

MRE (magnetic resonance elastography) tests the elasticity of the liver using magnetic resonance imaging and low-frequency mechanical vibration.

Treatment of Hepatitis B

Although no cure exists for chronic hepatitis B, it can be treated. The goal of treatment is to make the virus inactive so that it does not cause liver damage.

If you have been diagnosed with chronic hepatitis B infection, your health care provider may recommend:

Interferon injections. Interferon is a protein that occurs naturally in your body and it helps to stimulate a response to infection as well as to kill viruses. You inject interferon under your skin once a week. You will be taught how to give yourself the injections.

Antiviral oral medications. Antiviral medications help fight the virus and slow its ability to damage your liver. Several medications are available. Examples are tenofovir and entecavir. You take antiviral medications by mouth once a day. Your health care provider can suggest which medications may be best for you. These medications can prevent liver scarring and may reduce your chance of getting liver cancer.

Talk to your provider about the side effects of these medications and what you can do to manage the side effects.

About liver transplants

If hepatitis B is diagnosed before severe liver damage occurs, the likelihood that you will have liver failure is very small. However, if hepatitis B severely damages your liver, your health care provider will assess your symptoms and test results to determine whether a liver transplant may be needed. If you need a liver transplant, it is important that your health care provider makes a

timely referral because people who need transplants may be on the waiting list for one to two years before a liver becomes available.

During a liver transplant, a surgeon removes your damaged liver and replaces it with a healthy liver. Most transplanted livers come from deceased donors, though a small number come from living donors.

Signs and symptoms that you have end-stage liver disease and may need a liver transplant include:

- Accumulation of fluid in the abdomen (ascites).
- Changes in mental function.
- Gastrointestinal bleeding.
- Jaundice.
- Severe weakness.
- Loss of muscle mass.

Contact your health care provider if you have symptoms of liver failure that are not controlled by medication.

Follow-up

How often you visit your health care provider depends on whether you are being treated for hepatitis B, have cirrhosis or are on the transplant list.

The Spread of Hepatitis B

Common ways HBV is spread

Mother to child. Pregnant women infected with HBV can pass the virus to their babies during childbirth.

Child to child. Infected children can pass it to other children, for example, through saliva.

Sexual contact. You may become infected if you have unprotected sexual contact with an infected partner whose blood, saliva, semen or vaginal secretions enter your body.

Sharing of needles. HBV is easily transmitted through needles and syringes contaminated with infected blood. Sharing injection drug paraphernalia puts you at high risk of hepatitis B.

Accidental needle sticks. Hepatitis B is a concern for health care workers and anyone else who comes in contact with human blood.

If you have hepatitis B, to prevent the spread of the disease:

- Do not donate blood, tissue, body organs or semen.
- Do not get body piercings and tattoos.

- Do not share needles.
- If you have multiple sexual partners, use condoms.
- Tell your sexual partners that they should be tested for hepatitis B.
- Do not share toothbrushes, nail clippers, razors or manicure scissors with others.
- Cover open sores or any breaks in the skin until completely healed.

Ask your health care provider:

- If you have questions about hepatitis B and your sexual relationship.
- If you are thinking about becoming pregnant.

If you do not have hepatitis B, consider getting vaccinated. Adults who get the hepatitis B vaccine get three doses with the second dose given four weeks after the first and the third dose five months after the second. Ask your health care about whether you should get the vaccine and about the dosing schedule that may be right for you.

Babies born to a mother with hepatitis B need to be vaccinated within 12 hours of birth to prevent the baby from getting the disease.

If you have questions about a specific activity or how hepatitis B is spread, ask your health care provider.

Living With Hepatitis B

After being diagnosed with hepatitis B, you can lead your life as you normally do, with a few exceptions. You can continue to interact with your family as you always have. You can continue to have close relationships.

It is not necessary to change your eating habits as long as you eat a healthy, well-balanced diet. Since drinking alcohol increases the risk of liver damage, talk to your health care provider about alcohol use.

Avoid medications that may damage your liver. Ask your health care provider about medications you take. If new medications are prescribed, tell your provider and pharmacist that you have hepatitis B. In general, small amounts of acetaminophen and other pain relievers are safe if you do not have advanced liver disease.

You can do your usual activities. Get regular exercise. Aerobic activity such as walking, jogging, biking and swimming can help you maintain a healthy weight and help you feel better. Whatever exercise you do, pace yourself and rest when you feel tired.

Talk to your health care provider about specific activities or concerns.

Conclusion

If you have been diagnosed with chronic hepatitis B, you may worry about what it means for your health. Remember, if you have the inactive disease, you may not need treatment. Even if you have active hepatitis B, highly effective medications are available to treat the infection.

Consider learning more about hepatitis B. This could help you understand what this infection means for your overall health. Ask your doctor about reliable sources of information you can turn to in order to learn more about hepatitis B. At any time, if you have questions or concerns, talk with your health care team.

This material is for your education and information only. This content does not replace medical advice, diagnosis or treatment. New medical research may change this information. If you have questions about a medical condition, always talk with your health care provider.

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MC2930-01rev1017