



**Welcome to the Chinese Chapter
of the
Hepatitis B Foundation Website!**

There are hundreds of millions of Chinese worldwide who have hepatitis B. Most people don't even know they are infected. But there are several important things you should know. Please share this information with your friends, family and others in your community.

- Hepatitis B is not inherited - it is caused by a virus.
- There is a safe vaccine.
- There is a simple blood test.
- There are treatment options.

The Hepatitis B Foundation is a national non-profit organization dedicated finding a cure and improving the quality of life of those affected worldwide through research, education, and patient advocacy. We are committed to raising disease awareness, promoting prevention, supporting those affected by hepatitis B, and funding a cure research program.

Disclaimer:

The information provided on this website is for educational purposes only. The Hepatitis B Foundation is not a medical organization. Please talk to your doctor or a qualified health care provider for personal medical care and advice.

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of the Hepatitis B Foundation Website**

www.hepb.org/c/

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GENERAL INFORMATION

What is hepatitis B?

Hepatitis B is the world's most common liver infection. It is caused by the hepatitis B virus (HBV), which can attack and injure the liver. Most adults are usually able to get rid of the hepatitis B virus and "recover" without any problems. But some adults, and unfortunately most infected babies and many children, will be unable to get rid of the virus. They are diagnosed as being "chronic carriers" of hepatitis B -- the virus can stay in their blood and liver for a long time. They can pass the virus on to other people.

The good news is that there is a vaccine to prevent hepatitis B and new drugs for "chronic carriers" with active signs of disease who could benefit from treatment.

How many people are affected?

Two billion people around the world (almost 1 out of 3 persons) have been infected with the hepatitis B virus. Many people recover and get rid of the virus, but 400 million people have been unable to get rid of the virus and remain "chronic carriers" of the virus. Hepatitis B is most common in Asia, Southeast Asia, India, parts of Africa and South America, Eastern Europe, and the Middle East. In the United States there are more than one million Americans who have chronic hepatitis B infections.

Why should Chinese people be concerned about hepatitis B?

Hepatitis B can infect any person of any age or race, but Asians are at much higher risk for getting infected. Worldwide, 75% of all "chronic carriers" of hepatitis B are of Asian descent. Although hepatitis B is very common in China, it is also a problem among Chinese-Americans. As Chinese people move to the United States, and other countries, the virus travels with them.

One of the myths among Asians is that hepatitis B can be "inherited" since several generations in one family may be infected. But this is not a "genetic disease" -- hepatitis B is caused by a virus. Chinese families can break the cycle of hepatitis B infection by getting tested, vaccinated and treated.

How can I get hepatitis B?

Hepatitis B is an "infectious disease" that is spread through blood. Bodily fluids that contain blood can also pass the virus. Hepatitis B is spread through direct blood contact, unprotected sex, shared needles, and from an infected mother to her newborn baby during delivery. You cannot get hepatitis B from the air, from hugging or touching, from toilet seats or doorknobs. Hepatitis B is not spread through casual contact.

Who is most likely to get infected with hepatitis B?

Although everyone is at some risk for getting hepatitis B, there are some people who are more likely to get infected. Your job, lifestyle, or just being born into a family with hepatitis B can increase your chances of being infected. Here are some of the most common "high risk" groups, but please remember that this is not a complete list:

- People of Asian descent, especially if their parents have emigrated to the U.S.A.
- People who are married to or live in close household contact with someone who has hepatitis B. This includes adults and children.
- People who live in or travel to countries where hepatitis B is very common (Asia, India, parts of Africa and South America, Eastern Europe, and the Middle East).
- People who have unprotected sex and/or have multiple sexual partners.
- Health care workers and others who are exposed to blood in their jobs.
- Patients who are on kidney dialysis or live in institutions.
- People who use illegal drugs.

Is there a vaccine to prevent hepatitis B?

Yes, all babies, children and adults can be vaccinated. The vaccine is very safe -- you cannot get hepatitis B from the vaccine. The best news is that it only takes two or three shots to protect yourself and your loved ones for a lifetime. Babies and children up to age 18 years can usually receive free vaccine from state health departments. Ask your doctor for the hepatitis B vaccine.

Should I get vaccinated?

In the United States, doctors recommend that all newborns and children up to age 18 years should be vaccinated. Adults are also at risk for hepatitis B, especially those of Asian descent. Talk to your doctor about getting the hepatitis B vaccine - protect yourself from a serious liver infection.

Is the hepatitis B vaccine safe?

Yes, medical and scientific studies have shown it to be one of the safest vaccines ever made. More than one billion doses have been given throughout the world. The vaccine is made in a laboratory -- you cannot get hepatitis B from the vaccine. The most common side effects are redness and soreness in the arm where the shot is given. Talk to your doctor about other possible side effects and whether you have any allergies before starting the vaccine series.

What else can I do to protect myself from hepatitis B?

Since hepatitis B is spread through blood, you should avoid sharing sharp objects such as razors, toothbrushes, earrings, and nail clippers. Make sure that sterile needles are used for acupuncture, tattoos and body piercing. Avoid touching blood by using gloves or paper towels to protect your hands. Use bleach to clean up blood spills. Use condoms with sexual partners. Avoid using illegal drugs. Always wash your hands thoroughly with soap and water after touching any blood. *Most importantly, make sure you get vaccinated.*

How will I know if I have been infected with hepatitis B?

Hepatitis B is a "silent infection. Most people do not have any symptoms when they are infected. So they can have hepatitis B without even knowing it. Your doctor or local health clinic can order a simple blood test. The blood test can show whether you have been infected or not.

How many people "recover" from or become "chronic carriers" of hepatitis B?

The answer depends on whether you are infected as an adult, a child, or a baby. Adults usually "recover" because their immune systems can get rid of the virus. If a healthy adult is infected, they have a 90% chance of getting rid of the virus and a 10% chance of becoming chronically infected. Babies and children, however, are more likely to develop a chronic infection. Their immune systems have more difficulty getting rid of the virus. If a baby is infected, there is only a 10% chance of getting rid of the virus and a 90% chance of developing a chronic infection. Young children have a 40% chance of recovering and a 60% chance of developing a chronic infection. But everyone can be protected against hepatitis B infections through vaccination.

Where can I go to be tested?

You can ask your family doctor, the local health department, or a liver specialist to order the simple hepatitis B blood test. This blood test can be done in any doctor's office.

You can also call **1-888-888-0981**, which is the GlaxoSmithKline HBV Information and Assistance telephone helpline. This is a free phone call. Information about HBV and physician referrals across the country are available in English, Mandarin, Cantonese, Korean, and Vietnamese.

Are there any treatments if I have chronic hepatitis B?

Currently, there are three approved drugs in the United States for people who have chronic hepatitis B infections. These drugs are also available in China:

Epivir-HBV or **Zeffix** (lamivudine) is a pill that is taken orally

Hepsera (adefovir dipivoxil) is a pill that is taken orally

Intron A (interferon alpha) is a drug given by injection

It is important to know, not every chronic hepatitis B patient needs to be on medication. Some patients only need to be monitored by their doctor on a regular basis (at least once a year, or more). Other patients with active signs of liver disease may benefit the most from treatment. Be sure to talk to your doctor about whether you could benefit from treatment and discuss the treatment options. In addition, there are promising new drugs in clinical trials and in the research pipeline.

However, it is vital that all people with chronic hepatitis B visit their doctor on a regular basis, whether they receive treatment or not!

HEPATITIS B AND THE CHINESE COMMUNITY

Why are the Chinese at greater risk than Westerners?

Because there are more Asian people already infected with hepatitis B than Westerners. Although hepatitis B is not an "Asian disease", it affects hundreds of millions of Asians. Since the Asian community starts with such a large number of infected people, there are more people who can pass the hepatitis B virus on to others. This increases the risk that you could get infected. Since there is a smaller number of Westerners who are infected, this group has a lower risk of infection. *For more information, please read the section entitled, " Dr. Tso Talks About Hepatitis B".*

How is hepatitis B spread differently among the Chinese?

Asians and Westerners can both get hepatitis B through contact with blood, unprotected sex, shared needles, and from an infected mother to newborn baby during delivery. Jobs and lifestyle choices can create an equal risk for both groups. However, hepatitis B is often spread differently among Asians. Asians are most commonly infected as newborns - from a mother who unknowingly passes the virus on during delivery. Young children are also at risk if they live in close daily contact with an infected family member. Babies and children are more likely to develop a chronic hepatitis B infection because their young immune systems have trouble getting rid of the virus. Westerners are most commonly infected as young adults through unprotected sex. As adults, their immune systems can usually get rid of the virus and they "recover" from an infection.

What does it mean to be a "chronic carrier" of hepatitis B?

People who are unable to get rid of the hepatitis B virus are diagnosed as being a "chronic carrier". The virus can stay in their blood and liver for a long time. They can unknowingly pass the virus on to other people. Chronic hepatitis B can also lead to serious liver diseases, such as cirrhosis or liver cancer. Not every chronic carrier will develop serious liver disease. However, they have a greater chance than someone who is not infected.

Why should Chinese people be worried about chronic hepatitis B infections?

Because chronic hepatitis B can lead to cirrhosis or liver cancer. It's important to get tested because early diagnosis can lead to early treatment, which can save your life. Also, chronic carriers can spread the virus to others. Since most chronic carriers don't know they are infected, they are unknowingly spreading it to many other people. If people are not tested, hepatitis B can pass through several generations in one family and throughout the community. How can I stop the spread of hepatitis B?

The good news is that you can break the cycle of infection in your family and in the Chinese community. Get tested for hepatitis B. Make sure everyone in your family is vaccinated against hepatitis B. Get the vaccine yourself. Look for good medical care. Discuss treatment options with your family doctor or a liver specialist if you already have chronic hepatitis B.

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However, it is vital that all people with chronic hepatitis B visit their doctor on a regular basis, whether they receive treatment or not!

Where can I get more information about testing, vaccination and treatment?

You can ask your family doctor, the local health department, or a liver specialist to order the simple hepatitis B blood test. This blood test can be done in any doctor's office.

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Feeling Good is No Guarantee of Good Health

Thousands of Asians in America of all ages may be victims of a potentially deadly disease. Chinese, in particular, may be passing this disease on to their children and not even realize it simply because they don't feel ill. There may be serious risks and consequences to hepatitis B for individuals, families and communities.

If we do not shine a light within our own community on this potentially devastating disease, hepatitis B will continue to cause unnecessary illness and death. Unfortunately, many people do not understand hepatitis B and confuse it for other forms of hepatitis, like A and C.

For those unfamiliar with this particular disease, hepatitis B is a disease of the liver caused by the hepatitis B virus. If not successfully managed, this dangerous infection may lead to cirrhosis (scarring of the liver) and liver cancer. Unfortunately, hepatitis B is very common among Chinese and Southeast Asian populations. Worldwide, 75 percent of all chronic hepatitis B cases are persons of Asian origin.

As Chinese and other Asians immigrate to the United States, the incidence of hepatitis B is increasing where it was previously less common. And in metropolitan areas where large concentrations of Asians tend to live, like Chinatown, Flushing, and Sunset Park here in New York City, the high-risk population is growing the fastest.

In a recent survey among 100 Chinese living in these neighborhoods, although 74 percent of participants were aware of hepatitis B, less than half viewed it as the serious, life-threatening disease that it is nor were they aware of the major modes of transmission. In the same survey that was conducted in Cantonese and Mandarin, fewer than one out of five, only 16 percent, of participants stated that they believed themselves or their immediate family members to be at risk for contracting the disease.

What is a special cause for concern is that approximately 90 percent of young children and 10 percent of adults who contract hepatitis B remain infected for life and become long-term carriers of the virus.

The hepatitis B virus cannot be caught by eating raw seafood like sashimi or shell fish. It is spread by infected mother to child usually during a baby's birth. Hepatitis B can also be spread by unprotected sexual contact with an infected person; unsterile instruments that may be used in acupuncture, ear and body piercing, or tattooing; illicit injection drug use; and by sharing personal items like toothbrushes or shaving razors with an infected person.

Around the world, hepatitis B is contracted very differently by Asians than by Westerners. Westerners more typically contract the disease during adolescence or as adults. At that stage, their bodies recognize the hepatitis B virus as something foreign and they are able to eliminate it before it develops into a long-lasting infection. This type of hepatitis B is acute, meaning that it peaks and lasts a short amount of time.

On the other hand, people from such areas of the world as China, Southeast Asia and parts of Africa are more likely to become long-term carriers of hepatitis B. In these regions, children more typically

acquire the hepatitis B virus very early in life either from their infected mothers at birth or in early childhood from close contact with infected family members. Children's bodies accept the virus more readily as a natural part of their system and therefore will not fight the virus. These early cases often develop into chronic hepatitis B, which means the virus remains present in the body for a longer time and therefore, there is a longer opportunity for it to be spread to others.

Some people believe that if they feel good they are in good health. This is not necessarily true.

The problem with chronic hepatitis B is that a person who is infected may not have any symptoms. And although some people infected with the virus may experience fatigue, nausea, poor appetite, weight loss or jaundice (yellowing of the eyes or skin), most people do not have symptoms clearly recognizable as signs of hepatitis B until the disease becomes advanced.

Even when typical symptoms do become apparent, they are not always recognized as being caused by the hepatitis B virus. Few people know that they may be carriers since being tested for the disease through a blood screening is not common.

Many immigrants, particularly in our Chinese community, do not fully understand the devastating effects this disease may have if it is not successfully managed. Therefore, many persons who are carriers of the hepatitis B virus do not realize it and do not receive medical attention for their disease. Accordingly, they may unknowingly expose others to the virus or experience a worsening of their condition. The best way to know whether or not you are infected with the hepatitis B virus is to get tested at a physician's office. Persons who are tested and are found not to have hepatitis B can get a vaccination and become protected against infection. Persons who are infected with the virus should promptly consult a physician for evaluation and proper management of their condition. Treatments are available.

We must stop the spread of hepatitis B by working together in our community to help encourage one another, and particularly newer immigrants, to get tested. People who do not have hepatitis B should get vaccinated. People who do test positive should receive proper medical care. It is not enough to feel good. We must all, regardless of our age or background, be in good health for as long as we live.

Alan Tso, M.D., is an Internal Medicine and Pediatrics Specialist. Dr. Tso is associate medical director of the Chinatown Health Clinic. This commentary is part of the hepatitis B education and outreach campaign sponsored in New York City by pharmaceutical company, Glaxo Wellcome Inc., in association with Chinese community-based organizations. Reprinted with permission by Dr. Tso.

ABOUT HEPATITIS B INFECTIONS

If I am first infected with hepatitis B, will I feel sick?

Hepatitis B is considered a "silent infection" because most people don't have symptoms when they are first infected. People can get hepatitis B without even knowing it. Some who are infected may have mild flu-like symptoms that are often ignored -- they think they just have a cold and then get better quickly. Others may go to a doctor because they feel more tired than usual, don't feel like eating, have an upset stomach, or complain about joint pain. Although severe symptoms are not common with a new hepatitis B infection, they could include a swollen stomach or eyes and skin turning yellow (this is called "jaundice"). See your doctor for any unusual symptoms or even if you just have questions.

What blood test should I ask my doctor to order?

Make sure that your doctor orders the hepatitis B blood tests. This is a simple test that can be done in a doctor's office. If you think you have been recently infected with hepatitis B, it will take 4 -6 weeks before a blood test will show positive for the virus. Ask for a written copy of your blood tests. Make sure your doctor clearly explains your blood test results so that you know whether you have hepatitis B or not. You need to know whether you have recovered or whether you have become chronically infected. Your doctor may check your blood several times to confirm your diagnosis.

Where can I go to be tested?

You can ask your family doctor, the local health department, or a liver specialist to order the simple hepatitis B blood test. This blood test can be done in any doctor's office.

You can also call **1-888-888-0981**, which is the GlaxoSmithKline HBV Information and Assistance telephone helpline. This is a free phone call. Information about HBV and physician referrals across the country are available in English, Mandarin, Cantonese, Korean, and Vietnamese.

What will happen if I get infected with hepatitis B?

After a person is first infected with hepatitis B, there are usually three things that can happen:

1. **Recovery** - 90% of healthy adults who are infected will "recover" and be completely rid of the virus within six months. When a blood test shows that the hepatitis B virus has gone and that "antibodies" have been made, a person is then considered to have recovered. They are no longer contagious to others. The "antibodies" protect them from any future hepatitis B infections. These people do not need the vaccine since they are already protected.
2. **Chronic Infections** - 10% of infected adults are unable to get rid of the virus after six months. They are diagnosed as being "chronic carriers" of hepatitis B. This means that the virus stays in their blood and liver. People who are "chronic carriers" of hepatitis B are able to pass the virus on to others through their blood. They may also develop serious liver disease later on.
3. **Acute Liver Failure** - Less than 1% of infected adults can have a severe reaction and die from liver failure within several weeks after being exposed to the hepatitis B virus. Liver failure is life-threatening and a person must get immediate medical care. This is a very rare reaction.

What do all these numbers really mean?

Imagine you are sitting in a room. There are 100 people in this room, including yourself. The door opens and the hepatitis B virus walks in and infects everyone. You all go home. Some people may feel sick a couple weeks later, most of you will not. Six months later everyone is asked to return to the room for a simple hepatitis B blood test. The good news is that 90 people will have gotten rid of the virus and "recovered". They can go home. But 10 people (maybe including you?) have been unable to get rid of the virus. These 10 people are then diagnosed as "chronic carriers". They are told to be careful to avoid infecting others, to test and vaccinate their loved ones, and to find a doctor who can provide good medical care. Although this is rare, one person may have an immediate severe reaction to the hepatitis B virus and die several weeks later from liver failure.

What happens to babies and children who are infected with hepatitis B?

Unfortunately, babies and children have a lot more trouble getting rid of the virus after being infected. Their immune systems are too young to fight off the virus. So they are at much greater risk for becoming "chronic carriers" of hepatitis B. The virus will stay in their blood and liver for a long time, which increases their risk for serious liver disease later on.

1. **Recovery** - Babies under one year have a 5-10% chance of getting rid of the virus and "recovering". Children have a 40% chance of getting rid of the virus (whereas, adults have a 90% chance of recovering).
2. **Chronic Infections** - 90% of infected babies will never get rid of the virus and will become "chronic carriers" of hepatitis B -- the virus will stay in their bodies for a very long time. Children have a 60% chance of becoming "chronic carriers" (whereas, adults have only a 10% chance of becoming chronically infected).

How will I know if I have "recovered" from a hepatitis B infection?

A person is considered to have "recovered" when blood tests show they have gotten rid of the virus. In addition, the test must show that their immune system has made a "surface antibody" against the virus. The "surface antibody" is what protects you from hepatitis B in the future. Until you recover, which can take up to six months, there is still a risk that you can spread the virus. Once you have recovered, then you can no longer infect others. Ask your doctor for this simple blood test.

Do I still need the hepatitis B vaccine after I have "recovered"?

You do not need the vaccine if your blood tests show that you have recovered. The "surface antibody" that your immune system makes will protect you against any future hepatitis B infection. It works just like chicken pox: when you get chicken pox and recover, your body has successfully made antibodies to protect you from getting chicken pox again.

What does it mean if my doctor tells me that I'm a "chronic carrier"?

This means that you have been unable to get rid of the hepatitis B virus. You have become a "chronic carrier" of the virus. For some reason your immune system just can't fight off the hepatitis B virus. It can stay in your blood and liver for a long time. As a result, you can pass the virus on to others. You also live with an increased risk for serious liver disease later in life.

Are there any treatments if I have chronic hepatitis B?

Currently, there are three approved drugs in the United States for people who have chronic hepatitis B infections. These drugs are also available in China:

Epivir-HBV or **Zeffix** (lamivudine) is a pill that is taken orally

Hepsera (adefovir dipivoxil) is a pill that is taken orally

Intron A (interferon alpha) is a drug given by injection

It is important to know, not every chronic hepatitis B patient needs to be on medication. Some patients only need to be monitored by their doctor on a regular basis (at least once a year, or more). Other patients with active signs of liver disease may benefit the most from treatment. Be sure to talk to your doctor about whether you could benefit from treatment and discuss the treatment options. In addition, there are promising new drugs in clinical trials and in the research pipeline.

However, it is vital that all people with chronic hepatitis B visit their doctor on a regular basis, whether they receive treatment or not!

Where can I get more information about testing and hepatitis B?

You can ask your family doctor, the local health department, or a liver specialist to order the simple hepatitis B blood test. This blood test can be done in any doctor's office.

You can also call **1-888-888-0981**, which is the GlaxoSmithKline HBV Information and Assistance telephone helpline. This is a free phone call. Information about HBV and physician referrals across the country are available in English, Mandarin, Cantonese, Korean, and Vietnamese. If you speak English, please contact the Hepatitis B Foundation at 215-489-4900 or email us at info@hepb.org.

What does it mean if my doctor tells me I'm a "chronic carrier" of hepatitis B?

Adults infected with hepatitis B for the first time are usually able to get rid of the virus after six months. If the virus remains in your blood after six months, then you can be diagnosed as a "chronic carrier" of hepatitis B. This means you can pass the virus on to others. You are also at greater risk for developing serious liver disease later in life. If you are a pregnant woman, you can also pass the virus on to your newborn baby. But this can be prevented. Please check *Pregnant Women and Hepatitis B* for more information.

If I don't feel sick, can I still be a "chronic carrier"?

Many chronic carriers of hepatitis B feel healthy and strong even though the virus is in their bodies. They can be infected for a long time and not even know it. That is why hepatitis B is called a "silent infection". With a chronic infection, the virus stays in your liver and continues to attack and injure your liver for a long period of time. By the time you feel sick enough to see a doctor, you could already have serious liver disease. So make sure you get tested before you feel sick.

Should I get the vaccine if I am a chronic carrier?

Unfortunately, the hepatitis B vaccine is too late for chronic carriers. It will not help you since you already have hepatitis B. But the vaccine can protect your loved ones. Make sure those who live in close contact with you, including babies and children are vaccinated.

If I am a "chronic carrier", does it mean that I won't live a long life?

People with chronic hepatitis B can live a long healthy life. Many chronic carriers can live with hepatitis B for years, even decades, without any symptoms. However every carrier lives with a greater risk of developing more serious liver disease. Chronic hepatitis B can injure your liver, whether you feel sick or not. This is why it is important to find a good doctor, get regular check-ups, and take good care of your liver. There are treatments that can help chronic hepatitis B carriers. You can also make simple lifestyle choices to protect the health of your liver as well.

What serious liver diseases can result from chronic hepatitis B?

Chronic hepatitis B can sometimes lead to "cirrhosis" or "liver cancer". These diseases occur due to liver damage from the hepatitis B virus and can be life-shortening. In "cirrhosis", the liver becomes hardened from fighting the virus. As the liver tries to repair itself from constant attacks by the virus, scar tissue is created. This scar tissue makes the liver hard which makes it unable to work normally. A healthy liver is soft and flexible. Liver cancer is less common but is more immediately life-threatening. Both cirrhosis and liver cancer require expert medical attention.

Early diagnosis of both diseases is very important. Treatment options for these serious liver diseases can include medications and sometimes even a liver transplant to help extend one's life.

Is there a cure for chronic hepatitis B?

The good news for chronic carriers is that there are several promising treatments. Ten years ago there were no options. Now, there are drugs that can slow down liver damage caused by the virus. Slowing down the virus is a good thing. If there is less virus, there is less damage done to the liver. This means there is less chance that you will develop serious liver disease later on. Sometimes these drugs can even get rid of the virus, although this is not common. With all of the exciting new research, there is greater hope that a complete cure will be found for chronic carriers.

What treatments are available for chronic hepatitis B?

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However, it is vital that all people with chronic hepatitis B visit their doctor on a regular basis, whether they receive treatment or not!

What other things can I do to keep myself healthy?

One of the most important things you can do is to help protect your liver. Even if you don't feel sick, the virus can still damage your liver. So take good care of your liver. We have included a short list of simple things you can do right now. But there are many other things you can do, so be sure to talk to your doctor about other ways you can help keep your liver healthy and strong!

- 1.** Make sure you find a good doctor who is knowledgeable about hepatitis B. A "liver specialist" is a doctor who specializes in liver disease. They usually have the most current information about hepatitis B testing and treatments. But a family doctor may be just as good.
- 2.** Get regular medical check-ups with your liver specialist or family doctor. Ask a lot of questions! You need the best information and medical care possible to avoid future problems.
- 3.** Avoid alcohol or strictly limit the amount of alcohol you drink. Medical studies show that alcohol is very damaging to the liver. Avoid smoking or Stop smoking because this is also very harmful to the liver.
- 4.** If you are a pregnant woman, tell your doctor that you have chronic hepatitis B. Make sure your doctor orders the hepatitis B vaccine in advance. Make sure your newborn baby is vaccinated in the delivery room. This is very important because your baby must get the first dose of hepatitis B vaccine within the first 12 hours of life to prevent a chronic infection.

5. Although there is no specific diet for chronic hepatitis B, try to eat lots of fresh fruits and vegetables, limit fat and junk foods, and drink plenty of water.
6. Be very careful about trying herbs, vitamins, or fad diets. Some herbs may be helpful, but some herbs or fad diets can hurt your liver. Sometimes they can even interfere with your medical treatments. Be sure to talk to your doctor about what herbs you want to try or what you are already taking to avoid any potential problems.
7. Have your loved ones tested for hepatitis B. Make sure they get vaccinated.
8. Avoid spreading your blood to others. Don't share sharp objects like razors, earrings, or toothbrushes. Use condoms and follow safe sex practices. Avoid illegal street drugs.

What does my future look like if I have chronic hepatitis B?

Fortunately, hepatitis B is a slow-growing virus. If problems arise, it can be later in life. This is good news because with better education, early testing, regular medical attention, and new treatment options, there is so much more to offer. Many chronic carriers can now expect to live long and healthy lives. In addition, researchers are making progress in finding a cure -- for the 400 million chronic carriers worldwide, the future looks very bright!

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HEPATITIS B TREATMENTS

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What are the approved drugs for chronic hepatitis B?

Currently, there are three approved drugs in the United States for people who have chronic hepatitis B infections. These drugs are also available in China.

Approved Hepatitis B Drugs in the United States

Interferon-alpha (Intron A) is given by injection several times a week for six months to a year, or sometimes longer. The drug can cause side effects such as flu-like symptoms, depression, and headaches. Approved in 1991 and available for both children and adults.

Lamivudine (Epivir-HBV, Zeffix, or Heptodin) is a pill that is taken once a day, with almost no side effects, for at least one year or longer. A primary concern is the possible development of hepatitis B virus mutants during and after treatment. Approved in 1998 and available for both children and adults.

Adefovir dipivoxil (Hepsera) is a pill taken once a day, with few side effects, for at least one year or longer. The primary concern is that kidney problems can occur while taking the drug. Approved September 2002 and available only for adults. Pediatric clinical trials are being planned scheduled.

It is important to know, not every chronic hepatitis B patient needs to be on medication. Some patients only need to be monitored by their doctor on a regular basis (at least once a year, or more). Other patients with active signs of liver disease may benefit the most from treatment. Be sure to talk to your doctor about whether you could benefit from treatment and discuss the treatment options. In addition, there are promising new drugs in clinical trials and in the research pipeline.

However, it is vital that all people with chronic hepatitis B visit their doctor on a regular basis, whether they receive treatment or not!

Are there any new drugs in the research pipeline?

There are several promising new drugs for hepatitis B in the experimental stage. Some are still being tested in the laboratory. Other drugs are being tested in small groups of people -- these tests are called "clinical trials". Doctors carefully select their patients to test new drugs. They keep close track of these patients while they are taking the drug. The goal is to make sure the drug is safe and that it works. Clinical trials must be done before any new drug can be approved for general use. This testing process can take a long time.

Visit the Hepatitis B Foundation's Drug Watch

The Hepatitis B Foundation maintains a list of both approved drugs and promising new treatments for chronic hepatitis B. We keep track of drugs that are in the research phase and also in clinical trials. This chart is written in English only because the information changes so frequently. Thank you for your patience and understanding. Please return to our website at www.hepb.org to view the Drug Watch_Chart.

PREGNANT WOMEN AND HEPATITIS B

Should I get tested for hepatitis B if I am pregnant?

ALL pregnant women should be tested by their doctors. But women of Asian descent must be sure to ask their doctor for the simple blood test since they are at much higher risk for hepatitis B infection.

If I am pregnant, should I get vaccinated?

Talk to your doctor about the hepatitis B vaccine. If your blood tests show that you do not have hepatitis B, then he or she may want to wait until after the baby is born. If your husband or sexual partner has hepatitis B, if you live in close contact with a family member who has hepatitis B, or you have a job that places you at high risk for infection, then your doctor may want to start the vaccine. But this is a decision you must make with your doctor.

If I have hepatitis B, will my unborn baby be affected?

Hepatitis B does not usually affect the health of your unborn baby. And most pregnant women with hepatitis B do not have any problems. But, it is important for the doctor to know whether you have hepatitis B so they can watch you closely throughout your pregnancy.

If I have hepatitis B, how can I infect my newborn baby?

You can pass the virus on to your newborn baby during delivery. When a woman goes into labor, there is a massive exchange of blood -- the virus is passed in the mother's blood to the newborn through the umbilical cord. The blood exchange occurs before delivery. Therefore, you cannot prevent infecting your newborn by choosing to have a C-section. The hepatitis B virus is passed whether you give birth naturally or through surgery.

Why is it so serious if my newborn is infected with hepatitis B?

Newborns who are exposed to hepatitis B have more than a 90% chance of becoming chronically infected. Their immune systems are not able to get rid of the virus, so they can become a "chronic carrier". This means the virus stays in their liver for a long time. They can pass the virus on to others. They will also live with a greater chance of developing serious liver disease later in life.

If I have hepatitis B, what can I do to protect my newborn?

The good news is that there is a vaccine to protect your newborn baby. But you have to make your newborn is vaccinated in the delivery room.

- 1.** Make sure to remind your doctor several weeks before you deliver to order the **hepatitis B vaccine** and if possible, one dose of **hepatitis B immunoglobulin (HBiG)**. Your doctor has many things on his mind, so he may forget to order these drugs. If the HBiG drug is not available, don't get upset. HBiG is a drug that can help increase the effectiveness of the vaccine, but it is not as important as the vaccine itself.
- 2.** Tell your doctor that you want the hepatitis B vaccine and HBiG to be given to your baby in the delivery room. This request is to make certain the doctor or nurse doesn't forget to give your new baby the two drugs right after delivery. Ask your partner or husband to make sure that these drugs are given since you may be too tired to ask.

Why should my baby be vaccinated in the delivery room?

To protect your baby from a chronic infection, **the vaccine must be given within the FIRST 12 HOURS OF LIFE**. This is a very small window of opportunity. You don't get a second chance! If the vaccine is given within the first 12 hours of life, then your baby has a greater than 90% chance of being protected from the hepatitis B virus. If the vaccine is not given correctly, then your baby will most likely become chronically infected with hepatitis B for a lifetime.

Where can I get more information about testing and hepatitis B?

You can ask your family doctor, the local health department, or a liver specialist to order the simple hepatitis B blood test. This blood test can be done in any doctor's office.

You can also call **1-888-888-0981**, which is the GlaxoSmithKline HBV Information and Assistance telephone helpline. This is a free phone call. Information about HBV and physician referrals across the country are available in English, Mandarin, Cantonese, Korean, and Vietnamese. If you speak English, please contact the Hepatitis B Foundation at 215-489-4900 or email us at info@hepb.org.

UNDERSTANDING HEPATITIS B BLOOD TESTS

Why should I get tested for hepatitis B?

If you are Chinese or of Asian descent, then you should be tested because you are at higher risk for having hepatitis B. It is a very simple blood test. The test can be done quickly in the doctor's office. Even if you feel well, there is a risk that you could be infected and not know it.

Why do I need to know whether I have hepatitis B or not?

Because you want to make good health decisions. If the blood test shows that you have not been infected, then you should protect yourself through vaccination. If you have "recovered" from an infection, then you don't need the vaccine because you are already protected. If you have a chronic hepatitis B infection, then you should find a doctor for good medical care, avoid spreading the virus to others, and make sure your loved ones are tested and vaccinated.

What kind of blood tests will my doctor order?

The hepatitis B blood test is very simple and can be done quickly in the doctor's office. There are 3 common tests that are done with the one sample of blood taken from you:

1. **Hepatitis B surface Antigen (HBsAg)** - this tests directly for the presence of virus. If it is positive, then you may have a hepatitis B infection. This test may have to be repeated to confirm whether you have a chronic infection.
2. **Hepatitis B surface Antibody (HBsAb or anti-HBs)** - this tests for the "surface antibody" that your immune system makes to fight off the virus. It will be positive if you have "recovered", but this can take up to six months. This "surface antibody" will protect you for life against any future hepatitis B infections. The test will also be positive if you have received the hepatitis B vaccine.
3. **Hepatitis B core Antibody (HBcAb or anti-HBc)** - this tests for a part of the virus called the "core antibody". It does not protect you. If this test is positive, then you may have been infected with the hepatitis B virus. But this test result can only be interpreted in relation to the above two tests.

What do the hepatitis B blood tests mean?

Make sure your doctor clearly tells you whether you have a positive hepatitis B "surface antibody", which means you have recovered from an infection. Or whether you have a positive hepatitis B "surface antigen", which means you may be infected with the virus. Remember that the hepatitis B "core antibody" only means that you may have been exposed to the hepatitis B virus. Your doctor should have all three test results in order to make a clear diagnosis.

A simple explanation of common test results is provided below. Take this chart to your doctor as a way of beginning a discussion about your test results. Remember, this chart is only a guideline. Your doctor must confirm your blood test results and your diagnosis. Be sure to ask for a written copy of your blood test results.

Where can I get more information about testing and hepatitis B?

You can ask your family doctor, the local health department, or a liver specialist to order the simple hepatitis B blood test. This blood test can be done in any doctor's office.

You can also call **1-888-888-0981**, which is the GlaxoSmithKline HBV Information and Assistance telephone helpline. This is a free phone call. Information about HBV and physician referrals across the country are available in English, Mandarin, Cantonese, Korean, and Vietnamese.

Hepatitis B Blood Test Chart

Take this chart to your doctor. Ask your doctor to clearly explain what your test results mean. Before you leave the office, make sure you get a copy of all your blood test results.

Understanding Your Hepatitis B Blood Test Results

Tests	Results	Interpretation	Recommendation
HBsAg	negative	Not immune - has not been infected, but is still at risk for possible future infection. Needs protection.	Get the vaccine.
HBsAb (anti-HBs)	negative		
HBcAb (anti-HBc)	negative		
HBsAg	negative	Immune - surface antibodies present. You may have been already vaccinated. Or you have recovered from a prior hepatitis B infection. You cannot infect others.	The vaccine is not needed.
HBsAb (anti-HBs)	positive		
HBcAb (anti-HBc)	negative or positive		
HBsAg	positive	New infection or a Chronic Carrier - positive surface antigen, which means hepatitis B virus is present. You can spread the virus to others.	Find a knowledgeable doctor for further evaluation.
HBsAb (anti-HBs)	negative		
HBcAb (anti-HBc)	negative or positive		
HBsAg	negative	*Unclear. Several different interpretations are possible. You may need to have these tests repeated. See below.	The vaccine may or may not be needed. Find a knowledgeable doctor for further evaluation.
HBsAb (anti-HBs)	negative		
HBcAb (anti-HBc)	positive		

*Unclear Blood Test Result is when the HBcAb (hepatitis B core antibody) is the only positive test. There could be several reasons for this positive test result:

1. You may be recovering from a new hepatitis B infection.
2. You may be immune, but the surface antibodies levels in the blood are too low to be detected by this test.
3. This may be a false positive, which means the test has to be repeated.
4. You may be a chronic carrier, but the surface antigens (e.g. virus levels) in the blood are too low to be detected. There are additional blood tests that are more sensitive and can be ordered by your doctor.

HEPATITIS B VACCINATION

What is the hepatitis B vaccine?

The hepatitis B vaccine is made in a chemistry lab. No human blood is used in the vaccine, so you cannot get hepatitis B from the vaccine. There are two brands of vaccine in the United States: Recombivax HB (Merck) and Engerix B (SmithKline Beecham). Although the vaccines are almost identical, doctors may order different brands. Both vaccines will protect you against the hepatitis B virus.

How is the vaccine given?

In general, the hepatitis B vaccine series includes two or three shots that are given over a six month period. Adults and children receive shots in their arm. Babies receive all shots in their leg. After the first dose of vaccine, you will start developing protection within several weeks. So it's never too late to start. It is very important to complete the entire series of the vaccine. The vaccine can be given in your doctor's office or a local health clinic.

Who should be vaccinated?

All newborn babies should be vaccinated, especially if the mother is of Asian descent or if a woman knows she has hepatitis B. All children up to age 18 years should be vaccinated as well. Most states now require the hepatitis B vaccine for school entry. Many colleges are requiring the vaccine for its students. Although everyone is at some risk, there are some who are at higher risks. This includes all children and adults of Asian descent. Hepatitis B can be easily prevented through vaccination -- it only take three shots to protect yourself and loved ones for a lifetime.

Is the vaccine safe?

Yes, the hepatitis B vaccine is considered one of the safest vaccines ever made. More than one billion doses have been given throughout the world. Medical and scientific studies have shown that it is very safe and effective. The vaccine is made in a laboratory. You cannot get hepatitis B from the vaccine.

What are the vaccine's side effects?

The most common side effects are redness and soreness in the arm where the shot is given. Make sure you discuss with your doctor any allergies you may have before getting the vaccine. Ask your doctor for information about other possible side effects of the vaccine.

FREE INFORMATION & REFERRALS

Where can I get tested and receive the hepatitis B vaccine?

You can ask your family doctor, the local health department, or a liver specialist to order the simple hepatitis B blood test. This blood test can be done in any doctor's office.

You can also call **1-888-888-0981**, which is the GlaxoSmithKline HBV Information and Assistance telephone helpline. This is a free phone call. Information about HBV and physician referrals across the country are available in English, Mandarin, Cantonese, Korean, and Vietnamese.

Where can I get more information about hepatitis B?

You can contact the Hepatitis B Foundation at **215-489-4900** or email **info@hepb.org** for more free information. You can also visit our main website at www.hepb.org and check for links to other organizations.

Articles and advertisements with information about hepatitis B have appeared in the most widely read Chinese newspapers in New York City. These include World Journal, Sing Tao, Ming Pao and The China Press. Radio coverage with information about hepatitis B has reached about 1 million Chinese listeners. Chinese doctors are also speaking at community seminars on hepatitis B.

ABOUT THE HEPATITIS B FOUNDATION

The Hepatitis B Foundation was started in 1991 in response to a personal story of a young family affected by hepatitis B by Paul and Jan Witte, and Dr. Timothy Block, a Professor at Jefferson Medical College (Philadelphia, PA). They were deeply moved by the plight of this family and searched together for an organization that could provide information and support for those affected by hepatitis B and discovered there was none. With the support of friends, family, and the New Hope community, the Wittes and Dr. Block formed the Hepatitis B Foundation with the mission of finding a cure and serving as a resource for those who need information and support about this serious liver disease.

We continue to be the only national voluntary nonprofit organization dedicated solely to the cause and cure of hepatitis B. We sponsor a comprehensive Community Outreach Program and fund a Cure Research Program which includes the Hepatitis B Foundation Laboratory at Jefferson Medical College. Each year we sponsor the annual Princeton HBV Workshop where the nation's leading scientists are invited to exchange information to advance cure research.

Support our *Cause for a Cure!*

Donations to the Hepatitis B Foundation are tax-deductible and we accept checks or credit cards. The Hepatitis B Foundation would like to continue to provide you with up-to-date information on hepatitis B and eventually find a cure for the disease, but we depend on your financial support to continue our efforts! They can be made in your name, your company's name, anonymously, or as a memorial contribution. Many businesses also have Matching Gift Programs for their employees, which will maximize your personal donation.

We thank all of those individuals, private foundations, and corporations who have joined our *Cause for a Cure*. With their generous support, the Hepatitis B Foundation is meeting the needs of thousands of people and moving forward in finding a cure for chronic hepatitis B!

**If you would like more information, please contact us:
Hepatitis B Foundation
700 East Butler Avenue, Doylestown, PA 18901
215-489-4900
info@hepb.org**

**We hope you can help support our *Cause for a Cure*.
Please return to the Hepatitis B Foundation website
Select "Support the Cause" to make a secure donation on-line.
Or mail your donation in today!
Thank you.**