



**Hepatitis B Foundation**  
*Cause for a Cure*

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## I. About the Hepatitis B Foundation



# Hepatitis B Foundation

*Cause for a Cure*

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## About the Hepatitis B Foundation

*“Never doubt that a small group of committed citizens can change the world. Indeed, that is the only thing that ever has.” Margaret Meade*

### Mission

The Hepatitis B Foundation (HBF) is the only national non-profit organization dedicated to finding a cure and improving worldwide the quality of life for those affected by hepatitis B. Our commitment includes funding focused research, promoting disease awareness, supporting immunization and treatment initiatives and serving as the primary source of information for patients and their families, the medical and scientific community and the general public.

### Our Story

In 1991, Paul and Janine Witte along with research scientist Dr. Timothy Block and his wife Joan were deeply moved by the plight of a young family affected by hepatitis B. To their dismay, they discovered there were no resources for support nor was there any organization devoted to finding a cure for hepatitis B.

With the personal support of Dr. Baruch Blumberg, who won the Nobel Prize for his discovery of the hepatitis B virus, the Wittes and the Blocks responded to this unmet need by working tirelessly to establish the Hepatitis B Foundation.

Since inception, the HBF has grown from a grassroots effort into a professional organization with a global reach. Our goal is to improve the lives of those affected by hepatitis B through a comprehensive program of research, education, and patient advocacy.

### Our Programs

The Hepatitis B Foundation offices and labs are located in a state-of-the art research center in Bucks County, Pennsylvania. These facilities are dedicated to promoting excellent science rooted in human compassion. HBF scientists and outreach staff are working together in a unique partnership towards a common goal – finding a cure and improving worldwide the quality of life for those affected by hepatitis B.

The HBF reaches out to people across the nation and around the world through our award-winning website, free newsletter and educational materials, and our annual patient conference.

We bring hope through research by funding the HBF labs, hosting the annual Princeton Workshop, sponsoring the “Bruce Witte Fellowship”, and coordinating a summer student intern program.

With 400 million people worldwide suffering from chronic hepatitis B, there are 400 million reasons why we remain so committed to our mission.

## The Hepatitis B Foundation Makes a Difference

By phone, mail, and the internet, we are touching thousands of lives through our outreach services. As the only national non-profit organization solely dedicated to the problem of hepatitis B, we are a primary source of information and support to all those infected with and affected by this liver disease.

Comprehensive Website at [www.hepb.org](http://www.hepb.org)

Free Newsletters and Brochures (*B-Informed* and *B-connected*)

Telephone and Email Help Lines at 215-489-4900 and [info@hepb.org](mailto:info@hepb.org)

National Directory of Liver Specialists

Annual Patient Conference

Expert Legislative Testimony

Printed and Website Information in Chinese, Korean, Spanish, and Vietnamese

### Research for a Cure

Our research program is bringing hope through the work of Foundation scientists and the innovative activities that keep the scientific community focused on hepatitis B. Our ultimate goal is to find a cure for the 400 million worldwide living with chronic hepatitis B.

Hepatitis B Foundation Labs - a promising new compound that was discovered for hepatitis B is now being developed.

Annual Princeton Workshop - for the past 11 years, the nation's thought leaders have been invited by the HBF to a roundtable discussion of innovative hepatitis B treatments.

Bruce Witte Fellowship - a competitive research award established by co-founders Paul and Janine Witte to encourage a beginning scientist to study hepatitis B in the HBF labs.

Summer Internship Program - college students learn about hepatitis B and new research skills in the Foundation labs.

***Give a Gift Today. . . Your Donation Will Give Hope To Millions!***

The Hepatitis B Foundation is a 501(c)(3) tax-exempt charitable organization.

We need your help to continue our important work.

**Make a Secure On-Line Donation at [www.hepb.org](http://www.hepb.org) or mail your check to our office.**

Thank you for your donation!



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## II. Hepatitis B Fast Facts & General Information



## Hepatitis B Fast Facts

### Everything you need to know in 2 minutes or less!



Hepatitis B is the most common serious liver infection in the world. It is caused by the hepatitis B virus (HBV) that attacks liver cells and can lead to liver failure, cirrhosis (scarring) or cancer of the liver. The virus is transmitted through contact with blood and bodily fluids that contain blood.

Most people are able to fight off the hepatitis B infection and clear the virus from their blood. This may take up to six months. While the virus is present in their blood, infected people can pass the virus on to others.

Approximately 5-10% of adults, 30-50% of children, and 90% of babies will **not** get rid of the virus and will develop chronic infection. Chronically infected people can pass the virus on to others and are at increased risk for liver problems later in life.

The hepatitis B virus is 100 times more infectious than the AIDS virus. Yet, hepatitis B can be prevented with a safe and effective vaccine. For the 400 million people worldwide who are chronically infected with hepatitis B, the vaccine is of no use. However, there are promising new treatments for those who live with chronic hepatitis B.



#### In the World:

- This year alone, 10 to 30 million people will become infected with the hepatitis B virus (HBV).
- The World Health Organization estimates that 400 million people worldwide are already chronically infected with hepatitis B.
- HBV infection leads to over 1 million deaths each year.



#### In the US:

- This year alone, up to 100,000 new people will become infected with HBV.
- The Centers for Disease Control and Prevention (CDC) estimate that 1.25 million Americans are already chronically infected with hepatitis B.
- Between 5,000 and 6,000 Americans die of hepatitis B-related liver complications each year.

#### How is Hepatitis B Transmitted?

Hepatitis B is most efficiently transmitted through blood and infected bodily fluids. This can occur through direct blood-to-blood contact, unprotected sex, illicit drug use, and from an infected woman to her newborn during pregnancy or the delivery process.

## Hepatitis B can be spread by

- unprotected sex
- sharing IV drug needles
- living in a household with an infected person
- an infected mother to her newborn child at birth
- sharing earrings, razors, or toothbrushes with an infected person
- unsterilized needles, including tattoo or piercing needles
- human bites



## Hepatitis B is not spread by

- kissing on the cheek or lips
- coughing or sneezing
- casual contact such as hugging or holding hands
- eating food prepared by an infected individual



## People are most at risk for hepatitis B if they

- are born to mothers who are infected with HBV
- live in close household contact with a chronically infected individual
- adopt a child from a country where HBV is prevalent
- have unprotected sex or have more than one sexual partner in a six month period
- have ever been diagnosed with a sexually transmitted disease (STD)
- men who have sex with men
- share needles and syringes
- are a health care provider or emergency responder with possible contact with bodily fluids
- are a patient on kidney dialysis
- live or work in an institutional setting, such as a prison or group home

## Can hepatitis B be prevented?



YES! Ask your doctor about the safe and effective vaccine and protect yourself and your loved ones for a lifetime. The CDC and the American Academy of Pediatrics recommend that all infants, children and adolescents up to age 18 receive the HBV vaccine. The vaccine is also recommended for all adults who may be at high risk for infection.

The cost for the vaccine varies in the US, but most insurance plans cover infants and children to 18 years of age. Some people can receive the vaccine free of charge from their local public health clinic. High-risk adults may also be covered by their health insurance or can receive the vaccine through an STD or family planning clinic.

Remember, it only takes three shots to provide a lifetime of protection!



## Additional hepatitis B resources

Visit our website at [www.hepb.org](http://www.hepb.org)

Centers for Disease Control and Prevention (CDC) hepatitis branch at [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

American Liver Foundation at [www.liverfoundation.org](http://www.liverfoundation.org)

Immunization Action Coalition at [www.immunize.org](http://www.immunize.org)



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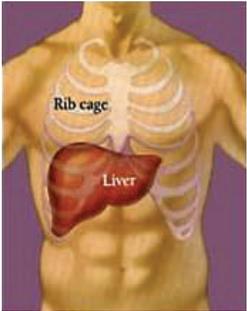
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### III. Your Liver & How it Works



## Your Liver and How It Works



### What does my liver look like?

The liver is the largest organ inside the body. In an adult, it is about the size of a football and weighs close to three pounds. It is located behind the ribs in the upper right-hand portion of the abdomen. Shaped like a triangle, the liver is dark reddish-brown and consists of two main lobes. There are over 300 billion specialized cells in the liver that are connected by a well organized system of bile ducts and blood vessels called the biliary system (see graphic below).

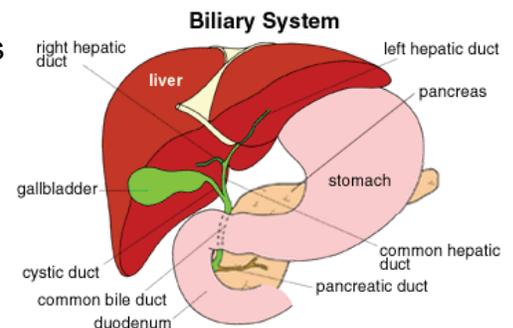
### How important is my liver?

The liver is such an important organ that we can survive only one or two days if it shuts down—if the liver fails, your body will fail, too. Fortunately, the liver can function even when up to 75% of it is diseased or removed. This is because it has the amazing ability to create new liver tissue (i.e. it can regenerate itself) from healthy liver cells that still exist.

### What does my liver do?

If your body was an automobile, your liver would be considered the engine. It does hundreds of vital things to make sure everything runs smoothly. Some of the most important functions of the liver include:

- Stores vitamins, sugar and iron to help give your body energy.
- Controls the production and removal of cholesterol.
- Clears your blood of waste products, drugs, and other poisonous substances.
- Makes clotting factors to stop excessive bleeding after cuts or injuries.
- Produces immune factors and removes bacteria from the bloodstream to combat infection.
- Releases a substance called “bile” to help digest food and absorb important nutrients.



### What is “hepatitis” and how does it affect my liver?

The medical term “hepatitis” literally means “inflammation of the liver.” Chronic inflammation of the liver may result in liver damage or failure if left untreated. “Hepatitis” can be caused by many different things - drinking too much alcohol, traumatic injury, autoimmune disorders, an adverse drug reaction, or a virus such as the hepatitis B virus.

## What is hepatitis B?

Hepatitis B is the most common serious liver infection in the world. It is caused by the **hepatitis B virus (HBV)**, which attacks liver cells and can lead to cirrhosis, liver cancer, or liver failure if it is not detected and managed. The virus is transmitted through contact with infected blood and bodily fluids that contain blood.

Approximately 10% of adults, 30-50% of children, and 90% of babies will not get rid of the virus and will develop a chronic HBV infection. Chronically infected people can pass the virus on to others and are at increased risk for liver problems later in life. HBV is 100 times more infectious than the AIDS virus. Yet, hepatitis B can be prevented with a safe and effective vaccine. For the 400 million people worldwide who are chronically infected with HBV, the vaccine is of no use. However, there are promising new treatments for those who live with chronic hepatitis B.

## How can the hepatitis B virus damage my liver?

A healthy liver is soft and flexible. With a chronic hepatitis B infection, however, the liver is constantly under attack by the virus and eventually it can become hardened over time. Some of the changes and liver damage that can occur are described below:

**Fibrosis:** After becoming inflamed, the liver tries to repair itself by forming tiny scars. This scarring, called "fibrosis," makes it difficult for the liver to do its job. As damage continues, many scars form and begin to join together, leading to the next stage, cirrhosis.

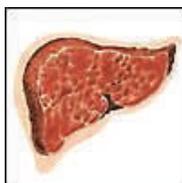
**Cirrhosis:** With a chronic HBV infection, large areas of the liver can become permanently scarred and nodules may form. Blood cannot flow freely through scarred liver tissue. This causes the liver to begin to shrink and become hard.

**Liver Failure:** If cirrhosis becomes very severe, liver failure can occur. This means the liver is unable to filter wastes, toxins, and drugs from the blood. It can no longer produce the clotting factors necessary to stop bleeding. Liver failure can lead to death.

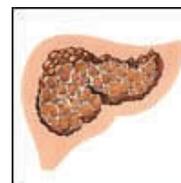
**Liver Cancer:** Cirrhosis can sometimes set the stage for liver cancer. One explanation for this is that damage to liver cells may alter the genes inside the cells in such a way that they can become cancerous. People living with chronic hepatitis B infections are at high risk for developing liver cancer and must be tested once or twice a year for early detection. Early detection will save lives!



**Normal Liver**



**Fibrosis**



**Cirrhosis**

## What should I do if I am chronically infected with hepatitis B?

Individuals who test positive for the hepatitis B virus for more than six months are diagnosed as being chronically infected. A chronic hepatitis B infection places you at greater risk for liver problems later in life, so you need to be seen by a good liver specialist or a doctor knowledgeable about hepatitis B on a regular basis (usually once or twice a year). To find a physician in your area who is familiar with hepatitis B, please check the **Hepatitis B Foundation's Liver Specialist Directory** on our website at [www.hepb.org/liverspecialist](http://www.hepb.org/liverspecialist), or visit the American Gastroenterological Association at [www.gastro.org](http://www.gastro.org), and click on "yellow pages".



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## IV. Understanding Blood Tests & Letters from the Blood Bank



## Understanding Hepatitis B Blood Tests



Understanding your hepatitis B blood test results can be confusing. It is important to discuss your test results with your health care provider so that you can clearly understand whether you have a new infection, chronic infection, or have recovered from an infection. You may want to take this sheet with you to your appointment as a reference guide. In addition, it is helpful if you request a written copy of your blood tests so that you can be sure you know which tests are positive or negative.

Before explaining the tests, there are two basic medical terms that you should be familiar with:

**Antigen:** A foreign substance in the body, such as the hepatitis B virus.

**Antibody:** A protein that your immune system makes in response to a foreign substance. Antibodies can be produced in response to a vaccine or to a natural infection. Antibodies usually protect you against future infections.

The test that is used to help you understand your hepatitis B status is called the **hepatitis B blood panel**. This is a simple 3-part blood test that your doctor can order. Your results can be returned within 7-10 days.

### The 3-part hepatitis B blood panel includes the following:

**1. Hepatitis B Surface Antigen (HBsAg):** The “surface antigen” is part of the hepatitis B virus that is found in the blood of someone who is infected. If this test is positive, then the hepatitis B virus is present.

**2. Hepatitis B Surface Antibody (HBsAb or anti-HBs):** The “surface antibody” is formed in response to the hepatitis B virus. Your body can make this antibody if you have been vaccinated, or if you have recovered from a hepatitis B infection. If this test is positive, then your immune system has successfully developed a protective antibody against the hepatitis B virus. This will provide long-term protection against future hepatitis B infection. Someone who is surface antibody positive is not infected, and cannot pass the virus on to others.

Tests	Results	Interpretation	Recommendation
HBsAg HBsAb HBcAb	Negative (-) Negative (-) Negative (-)	NOT IMMUNE– has not been infected but is still at risk for possible future infection – needs vaccine	Get the vaccine
HBsAg HBsAb HBcAb	Negative (-) Positive (+) Negative or positive (-/+)	IMMUNE – has been vaccinated or recovered from previous infection – cannot infect others	Vaccine is not needed
HBsAg HBsAb HBcAb	Positive (+) Negative (-) Negative or Positive (-/+)	ACUTE infection or CHRONIC infection – hepatitis B virus is present – can spread the virus to others	Find a knowledgeable doctor for further evaluation
HBsAg HBsAb HBcAb	Negative (-) Negative (-) Positive (+)	UNCLEAR – several interpretations are possible – all 3 tests should be repeated	Find a knowledgeable doctor for further evaluation

**What is hepatitis B?** Hepatitis B is the world's most common serious liver infection. It is caused by the hepatitis B virus (HBV) that attacks liver cells and can lead to liver failure, cirrhosis (scarring) or cancer of the liver later in life. Approximately 90% of healthy adults who are exposed to the hepatitis B virus (HBV) recover on their own and develop the protective surface antibody. However, 10% of infected adults, 50% of infected children and 90% of infected babies are unable to get rid of the virus and develop chronic infection. These people need further evaluation by a liver specialist or doctor knowledgeable about hepatitis B.



**Who should be tested?** HBV is transmitted through contact with blood or infected bodily fluids, through unprotected sex, unsterile needles, and from an infected mother to her newborn during the

delivery process. HBV is not transmitted casually, through the air, or from casual social contact (hugging, coughing, sneezing).

**The following groups are especially at high-risk for infection and should be tested:**

- Health care workers and emergency personnel
- Partners or individuals living in close household contact with someone who is infected
- Individuals who have had multiple sex partners or who have been diagnosed with an STD
- Injection drug users
- Men who have sex with men
- Individuals who received a blood transfusion prior to 1972
- Individuals who have tattoos or body piercings
- Individuals who travel to countries where hepatitis B is common (Asia, Africa, South America, the Pacific Islands, Eastern Europe, and the Middle East)
- Individuals emigrating from countries where hepatitis B is common, or who are born to parents who emigrated from these countries (see above)
- **ALL** pregnant women should be tested for hepatitis B infection



**Is there a vaccine for hepatitis B?** The good news is that there is a safe and effective vaccine for hepatitis B that lasts a lifetime. It is recommended in the U.S. and other countries for all infants and children up to age 18 and adults at high risk for infection.

#### **Additional Diagnostic Tests:**

Liver Function Tests (LFTs): These are a group of blood tests that help your doctor find out how well your liver is working. The most important test is the following:

Alanine Aminotransferase (ALT): This is an enzyme that is released from liver cells into the bloodstream when the liver is injured. An ALT level above normal may indicate liver damage. ALT levels are included in the regular monitoring of all chronic hepatitis B patients; this test can also be useful in deciding whether a patient would benefit from therapy, or for evaluating how well a current treatment is working.



Liver Biopsy: This involves the removal of a small piece of tissue from the liver using a special needle. The tissue is examined under a microscope to look for inflammation or liver damage.





## Getting a Letter from the Blood Bank What Does It Mean?



**What is hepatitis B?** Hepatitis B is the world's most common serious liver infection. It is caused by the hepatitis B virus (HBV) that attacks liver cells and can lead to liver failure, cirrhosis (scarring) or cancer of the liver later in life. Approximately 90% of healthy adults exposed to the hepatitis B virus (HBV) recover on their own and develop the protective surface antibody. However, 10% of infected adults, 50% of infected children and 90% of infected babies are unable to get rid of the virus and develop chronic infection. These people need further evaluation by a liver specialist or doctor knowledgeable about hepatitis B.

**What do the blood banks screen for?** All blood is screened for hepatitis B, as well as other blood-borne viruses such as HIV and hepatitis C. As a result, some people may receive a letter from the American Red Cross or another blood collection agency, notifying them that they may be infected with hepatitis B.

**What should I do if I receive a letter from the blood bank?** First, it is important that you do not panic. The letter does not necessarily mean you are infected with hepatitis B. Many blood banks use the "hepatitis B core antibody" test to screen donor blood for potential hepatitis B infection. This test is used to detect whether a person might have been exposed to the hepatitis B virus, but by itself, this blood test *doesn't tell whether the person is actually infected*. This is why it is very important to see your doctor for additional hepatitis B blood tests.



If you receive a letter that says your "hepatitis B core antibody" (HBcAb) blood test is positive, there could be several different interpretations:

- 1.) you could be infected with hepatitis B
- 2.) you could be recovering from an infection
- 3.) you could have already recovered from a past infection
- 4.) the result could be a false positive.



But you won't know why your test result is positive without further evaluation. So it is very important that you see your doctor for additional hepatitis B testing. Since blood collection agencies may use different screening tests for hepatitis B, it is important that your doctor order the complete panel of hepatitis B blood tests. This panel includes 3 basic tests, but only one sample of blood is needed.

**What is the 3-part hepatitis B blood panel?** The blood panel that your doctor will order includes the following tests:



- 1) Hepatitis B surface Antigen (HBsAg) - this tests directly for the presence of hepatitis B virus. If there is NO virus present, it should be negative.
- 2) Hepatitis B surface Antibody (HBsAb or anti-HBs) - this tests for the presence of protective antibodies against the hepatitis B virus. This blood test should be positive if the protective antibodies are produced in response to either vaccination or recovery from a natural infection.
- 3) Hepatitis B core Antibody (HBcAb or anti-HBc) - this antibody does not provide any protection, but only refers to a part of the virus itself. A positive test result may indicate whether a person has been exposed to the hepatitis B virus or not. This test can only be interpreted with the above 2 test results.

Tests	Results	Interpretation	Recommendation
HBsAg HBsAb HBcAb	Negative (-) Negative (-) Negative (-)	NOT IMMUNE– has not been infected but is still at risk for possible future infection – needs vaccine	Get the vaccine
HBsAg HBsAb HBcAb	Negative (-) Positive (+) Negative or positive (-/+)	IMMUNE – has been vaccinated or recovered from previous infection – cannot infect others	Vaccine is not needed
HBsAg HBsAb HBcAb	Positive (+) Negative (-) Negative or Positive (-/+)	ACUTE or CHRONIC INFECTION Hepatitis B virus is present – can spread the virus to others	Find a knowledgeable doctor for further evaluation
HBsAg HBsAb HBcAb	Negative (-) Negative (-) Positive (+)	UNCLEAR – several interpretations are possible – The 3-part hepatitis B blood panel should be repeated	Find a knowledgeable doctor for further evaluation

When you get the results of the 3-part hepatitis B blood panel, make sure you request a written copy so you fully understand what tests were ordered and the actual results of each. Also, be sure to have your doctor clearly explain the results to you so you fully understand your situation. Visit our website at [www.hepb.org/bloodtests](http://www.hepb.org/bloodtests) for more information about hepatitis B blood tests.

**What if my blood tests indicate that I am infected with hepatitis B?** If you are infected with hepatitis B, it is important to see a knowledgeable doctor or liver specialist (called a “hepatologist”) for follow-up evaluation. To find a specialist near you, please visit our website at [www.hepb.org/specialistdirectory](http://www.hepb.org/specialistdirectory)

**Can you tell me more about hepatitis B infection?** Hepatitis B is known as a "silent infection" and many people infected with the virus have no symptoms or only mild flu-like symptoms. It is transmitted through blood, unprotected sex, use of unsterile needles, and from an infected mother to her newborn during the delivery process. It is not transmitted casually through the air or superficial social contact. The best news, though, is that there is a safe and effective vaccine for everyone to protect themselves. Newborns, children, and adults can be protected from this potentially serious liver infection through vaccination!

**For more information, please visit the following websites:**

Hepatitis B Foundation website at [www.hepb.org](http://www.hepb.org)

HIV & Hepatitis Treatment Advocates at [www.hivandhepatitis.com/tests.html](http://www.hivandhepatitis.com/tests.html)

Centers for Disease Control and Prevention (CDC) hepatitis branch at [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

Immunization Action Coalition at [www.immunize.org](http://www.immunize.org)





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## V. Living with Hepatitis B



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## Living With Hepatitis B



**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. HBV is transmitted through blood and infected bodily fluids. This can occur through direct blood-to-blood contact, unprotected sex, unsterile needles, and from an infected woman to her newborn during pregnancy or delivery.

**What happens if I am infected?** Hepatitis B is known as a "silent infection" because most people do not have any symptoms when they are infected. Approximately 90% of healthy adults who are infected will get rid of the virus and develop protective antibodies against HBV – this can take up to six months. People who recover are no longer contagious to others **after** they recover and they cannot be infected by HBV again. However, 10% of infected adults for some reason are unable to get rid of the virus and develop chronic HBV infections – this means that they test positive for the virus in their blood for more than six months. These people need further evaluation by a liver specialist or doctor knowledgeable about HBV.

**How does one know if they have recovered or become chronically infected?** There is a simple blood test that a doctor can order to determine if one is "recovering" from a hepatitis B infection or has become chronically infected with hepatitis B. In order for one to have a clear picture of their hepatitis B status, they should request that their doctor order the 3-part hepatitis B blood panel. A copy of the written test results should also be requested. Please refer to our web-site at [www.hepb.org/bloodtests](http://www.hepb.org/bloodtests) for more information.



The 3-part Hepatitis B panel includes the following:

- 1. Hepatitis B Surface Antigen (HBsAg):** The "surface antigen" is part of the hepatitis B virus that is found in the blood of someone who is infected. If this test is positive, the hepatitis B virus is present.
- 2. Hepatitis B Surface Antibody (HBsAb or anti-HBs):** The "surface antibody" is formed in response to the hepatitis B virus. Your body can make this antibody if you have been vaccinated, or if you have recovered from a hepatitis B infection. If this test is positive, then your immune system has successfully developed a protective antibody against the hepatitis B virus. This will provide long-term protection against future hepatitis B infection. Someone who is surface antibody positive is not infected, and cannot pass the virus on to others.
- 3. Hepatitis B Core Antibody (HBcAb or anti-HBc):** This antibody *does not* provide any protection or immunity against the hepatitis B virus. A positive test only indicates that a person may have been exposed to the hepatitis B virus. This test is often used by blood banks to screen blood donations. However, all three blood test results must be available for the doctor to make an accurate diagnosis.



**How is a chronic infection diagnosed?** A person with a chronic infection is "diagnosed" when they test positive for the *hepatitis B surface antigen* (HBsAg+) for more than six months. This means that a person's immune system has not been able to get rid of the virus. It can stay in the liver for a long time, possibly even a lifetime. Although those with chronic hepatitis B infection live with an increased risk of developing liver disease later in life, many should expect to live long and healthy lives. Someone with chronic hepatitis B should be seen by a liver specialist every six months, or more often as needed.

**How can I prevent spreading hepatitis B to others?** If you are infected, you can pass the virus on to others and it is important to take certain precautions to prevent this from happening. Sexual partners and those living in close household contact should be tested for hepatitis B and receive the hepatitis B vaccine, which can protect them for a lifetime! Babies born to women who are infected with hepatitis B must be vaccinated in the delivery room or within the first 12 hours of life.



In addition, it is important to keep all cuts covered and avoid sharing any sharp instruments such as razors, toothbrushes or earrings, etc., since small amounts of blood can be exchanged through these items. Hepatitis B is not transmitted casually and it cannot be spread through sneezing, coughing, hugging or eating food prepared by someone who is infected with HBV.

**Is there any treatment for chronic hepatitis B?** The future looks very bright for those living with chronic hepatitis B. Although there is no complete cure for hepatitis B, there are promising new treatments that could be of benefit to some patients. Currently, there are six FDA approved drugs in the U.S. to treat chronic HBV: Hepsera (adefovir), Epivir HBV (lamivudine), Baraclude (entecavir), Tyzeka (telbivudine), Intron A (interferon) and Pegasys (peg-interferon). These drugs have been shown to help decrease the risk of liver damage from the hepatitis B virus. There are also many new drugs in development and in clinical trials. Please visit our Drug Watch chart at [www.hepb.org/drugwatch](http://www.hepb.org/drugwatch) for the latest information about drugs in development for hepatitis B, or visit the National Institutes of Health at [www.clinicaltrials.gov](http://www.clinicaltrials.gov) for additional clinical trial information.

**How can I live a healthy lifestyle as someone with chronic hepatitis B?** Fortunately, there are things people with chronic hepatitis B can do to help keep their liver healthy. The most important thing one can do is to have regular check-ups with either a liver specialist or a doctor knowledgeable about hepatitis B at least once or twice a year. Usually this includes blood tests, physical exam and ultrasound imaging of the liver to detect liver damage, cirrhosis or liver cancer. If the liver is being damaged by the hepatitis B virus, the doctor wants to detect it as early as possible in order to recommend possible treatment options.

Other things one can do to maintain a healthy liver is to strictly limit or avoid alcohol. Chronic hepatitis B and alcohol is a dangerous mixture. Studies have shown that even small amounts of alcohol can cause damage to an already weakened liver. Avoiding alcohol is one decision that will greatly reduce the risk of further liver disease.



Eating a balanced diet is another simple way to maintain a healthy liver. Although there is no diet specific for chronic hepatitis B, studies show that eating green and yellow vegetables is good for the liver. These tend to protect the liver against harsh chemicals. The American Cancer Society's diet, which includes low fat, low cholesterol, and high fiber foods is beneficial as well. Shellfish is not recommended for anyone with hepatitis B because of the risk of eating contaminated shellfish. Raw or undercooked shellfish can contain a bacteria called ***Vibrio vulnificus***, which is very toxic to the liver.

Talk to your doctor about getting the hepatitis A vaccine. A person with chronic hepatitis B is already infected with one liver virus, so it is important to protect against another hepatitis virus. Be sure your pharmacist and health care provider recommend medications that are not harmful to the liver. This includes both over-the-counter and prescribed medications and herbal supplements, since many of these are processed in the liver. Also, avoid inhaling fumes from paint, paint thinners, glue and household cleaning





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## VI. Hepatitis B Treatments & Clinical Trials



## Hepatitis B Treatment Information

### **The future looks bright for those who are chronically infected with the hepatitis B virus (HBV).**

Only 10 years ago, there were no options. Now, there are promising drugs that can slow down liver damage caused by the virus. This means that there will be less damage done to the liver, and less chance of developing serious liver disease later on. With all of the exciting new research, there is great hope that a complete cure is on the horizon for people living with chronic hepatitis B!



**What treatments are currently approved for HBV?** The good news is that there are several promising treatment options. Currently, there are six approved drugs for chronic HBV in the U.S.: (1) Interferon alpha (Intron A), an injection given several times a week, approved 1991; (2) Lamivudine (Epivir), a daily pill; approved in 1998; (3) Adefovir dipivoxil (Hepsera), a daily pill, approved 2002 (4) Pegylated interferon (Pegasys), an injection given once a week, approved 2005; (5) Entecavir (Baraclude), a daily pill, approved 2005; and (6) Telbivudine (Tyzeka) a daily pill, approved 2006.

You and your doctor will need to discuss the treatment options before deciding which one is best for you. For many patients, these medications will decrease or stop hepatitis B virus reproduction. This results in patients feeling better within a month or two because liver damage from the virus has slowed down, or even reversed in some cases. Although the FDA has approved these drugs for chronic hepatitis B, they do not provide a complete cure at this time. They do, however, significantly decrease the risk of progressive liver damage from the hepatitis B virus. To learn more about these approved drugs as well as the experimental drugs still being tested, visit the Hepatitis B Foundation's [HBV Drug Watch](#) at [www.hepb.org](http://www.hepb.org).



**Does every patient need to be treated?** It is important to know that not every patient with chronic HBV needs to be on medication. Patients with active signs of liver disease may benefit the most from treatment. However, all chronically infected patients should be seen by their doctor at least once a year (or more frequently) for regular medical follow-up care, whether they start treatment or not. Talk to your doctor about approved treatments or whether there are any clinical trials of new HBV drugs that you might be eligible for and could benefit from.

**What about clinical trials?** Clinical trials are carefully controlled studies that are used to determine whether new drugs, treatments, or medical products are safe and effective. People volunteer to participate in these trials as they can provide patients the opportunity to potentially benefit from the latest advances in medical science. There are many HBV treatments that are currently in clinical trial, and many new and promising treatments on the horizon. To help you learn more, the Hepatitis B Foundation maintains a list of hepatitis B clinical trials on its website at [www.hepb.org/clinicaltrials](http://www.hepb.org/clinicaltrials).

**How can I learn more about treatment for HBV?** First, talk to your doctor. If he or she is unfamiliar with the latest treatment advances, contact a liver specialist ("hepatologist"). Be sure to visit the Hepatitis B Foundation website at [www.hepb.org](http://www.hepb.org) for a national directory of liver specialists, an updated Drug Watch, and HBV clinical trial sites. Call us at 215-489-4900 or email us at [info@hepb.org](mailto:info@hepb.org) for more personalized information and referrals. You can also visit the National Institutes of Health (NIH) clinical trials site at [www.clinicaltrials.gov](http://www.clinicaltrials.gov) or Center Watch at [www.centerwatch.com](http://www.centerwatch.com).



**What is informed consent?** Anyone participating in a clinical trial is required to read and sign an informed consent form. This form provides detailed information about how the study will be conducted, what kind of medical care the patient can expect during and after the study, and the possible risks and benefits. A patient may choose to leave a study at any time.

**What should you know before you join a clinical trial?** Before you join a trial, you should know as much as possible about the study. It is important to fully understand the details of a clinical trial, the potential risks and benefits, and what will be expected of you during the study. You should be comfortable asking questions and having the medical staff answer them in a way that you can understand.



**Tips for learning about clinical trials:**

- Ask your primary care provider or specialist what clinical trials are available for you.
- Search reliable websites for information about existing clinical trials.
- Enlist your doctor to help you sift through all the information and review the pros and cons.
- Take a friend or family member with you when you meet the medical staff to discuss the study.

**Did You Know?**



The Hepatitis B Foundation maintains a list of HBV clinical trials on its website at [www.hepb.org/clinicaltrials](http://www.hepb.org/clinicaltrials) For more information about clinical trials in general,

visit the National Institutes of Health (NIH) clinical trials site at [www.clinicaltrials.gov](http://www.clinicaltrials.gov)

**Questions to ask your doctor about clinical trials:**

1. What clinical trials are available for HBV and which ones might be right for me?
2. How long will the trial last, where is it being conducted, and how often will I need to go there?
3. Why do researchers think the new drug will work better than other approved treatments?
4. Who is most likely to benefit from this drug and what criteria may be associated with success?
5. How many people have tested the drug and what has happened to them?
6. What will be expected of me throughout the trial (what tests or medical procedures will I need)?
7. What are the possible risks and side effects involved?
8. What are the possible long and short-term benefits?
9. Is taking the trial drug riskier than taking no treatment or continuing existing treatment?
10. Do I have to pay for any part of the trial or will my insurance pay for it?
11. What happens to my HBV when I stop taking the drug?
12. What is the medical follow-up care after the trial ends?
13. If this drug doesn't work for me, am I eligible to participate in another trial?



**How can I learn more about specific clinical trials for hepatitis B?** First, talk to your doctor. If he or she is unfamiliar with clinical trials for HBV, then find a liver specialist (or “hepatologist”) at the largest teaching



## Hepatitis B Clinical Trials What You Need To Know

There are several promising new drugs that are being tested for hepatitis B treatment in the U.S. and around the world. In the U.S., before any drug is approved for general use by the **Food and Drug Administration (FDA)**, the drug must go through three phases of testing that involve studies called **clinical trials**. People volunteer to participate in these trials and all potential study participants are carefully screened. Participants must meet strict criteria before being accepted into a study and must sign informed consent forms.

**Food and Drug Administration (FDA):** This is a federal organization charged with protecting the public's health. The FDA establishes safety and effectiveness guidelines for healthcare products such as the drugs that are used to treat hepatitis B.



### What is a clinical trial?

Clinical trials are carefully controlled studies that are used to determine whether new drugs, treatments, or medical products are safe and effective. Clinical trials can be funded through pharmaceutical companies, the National Institutes of Health (NIH), or other funding sources. Clinical trials are conducted at universities, doctors' offices and hospital clinics. All drugs in the U.S. undergo three phases of clinical trials before being approved for general use. Once a drug is approved and used by the general public, a Phase IV study examines possible long-term effects.

Phase I	Phase II	Phase III	Phase IV
Drugs are tested in a few volunteers (20-100) to evaluate safety, determine safe dosage levels, and identify side effects.	Drugs have passed phase I and are tested in more people (100-500) to further evaluate safety and effectiveness.	Drugs are tested in a large number of people (1000-5000) to confirm long-term effectiveness, monitor side effects & compare with commonly used treatments.	Performed after a drug has been approved to collect information about its effects in various populations, including possible long-term side effects.

### Why would someone choose to participate in a clinical trial?

There are several advantages to participating in clinical trials. Expensive blood work, treatment medications, and clinical monitoring may be provided free of charge. In some cases, there may be monetary compensation to patients who participate. Clinical trials provide patients the opportunity to potentially benefit from the very latest advances in medical science.

### How are volunteers who participate in clinical trials protected?

The government has strict guidelines to protect people who choose to participate in clinical trials. Each clinical trial is approved and monitored by an Institutional Review Board (IRB) of the organization conducting the clinical trial. The IRB includes physicians, ethicists, community health advocates and others to ensure that the risks are as low as possible and are worthy of the potential benefits.





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## VII. The Hepatitis B Vaccine



## **The Hepatitis B Vaccine**

### **Protect Yourself and Those You Love**

**What is hepatitis B?** Hepatitis B is the most common serious liver infection in the world. It is caused by the hepatitis B virus (HBV) that attacks liver cells and can lead to liver failure, cirrhosis (scarring) or cancer of the liver later in life. The virus is transmitted through contact with infected blood and bodily fluids.



**Is there a safe vaccine for hepatitis B?** YES! The good news is that there is a safe and effective vaccine for hepatitis B. More than 1 billion doses have been given around the world. The vaccine is a series of three shots given over a six-month period that will provide a lifetime of protection. You cannot get hepatitis B from the vaccine – there is no human blood or live virus in the vaccine.

**Who should be vaccinated against hepatitis B?** The American Academy of Pediatrics is now recommending the hepatitis B vaccine for all newborns and children up to 18 years of age, and all high-risk adults. All infants should receive the first dose of the vaccine at birth, or before leaving the hospital. In most states, children need the hepatitis B vaccine for school entry. We also recommend this vaccine for anyone who lives in close contact with, or is a sexual partner of an infected individual. In addition, the vaccine is recommended to anyone who is at risk of infection through their job, lifestyle choices, or other life circumstances.



Those at risk for contracting hepatitis B are:

- Health care workers and emergency personnel
- Infants born to mothers who are infected at the time of delivery
- Partners or individuals living in close household contact with someone who is infected
- Individuals who have had multiple sex partners, or who have been diagnosed with an STD
- Individuals who use illegal drugs
- Men who have sex with men
- Individuals who received a blood transfusion prior to 1992
- Individuals who get tattoos or body piercings
- Individuals who adopt children from or travel to countries where hepatitis B is common (Asia, Africa, South America, the Pacific Islands, Eastern Europe, and the Middle East)
- Individuals emigrating from countries where hepatitis B is common, or are born to parents who emigrated from these countries

**Where can I get the hepatitis B vaccine?** Talk to your doctor and check your local health department or health clinics to see if they have free or reduced-cost vaccine programs. Ask about the Vaccines for Children Program, which provides free hepatitis B vaccine for all children up to age 19. For more information on this program, contact the National Immunization Hotline at 1-800-232-2522 or [www.cdc.gov/nip/vfc/Default.htm](http://www.cdc.gov/nip/vfc/Default.htm).



**How can I tell if I am protected against hepatitis B?** If someone has received the hepatitis B vaccine, then a simple blood test can tell whether they are protected. If they have responded to the vaccine series, the blood test will show a positive result for the hepatitis B surface antibody (HBsAb+). It is recommended that all health care workers and household members or sexual partners of an infected individual have their antibody levels tested one month after completing the vaccine series.

**How soon will I be protected once I start the vaccine series?** After the 1st dose of HBV vaccine, there can be up to 50% protection. After the 2nd dose of HBV vaccine, there can be up to 80% protection. It is very important to receive the third shot to ensure 100%, long-term protection. If possible, ask your doctor to check your antibody level one month after completing the vaccine series.

**How can I protect myself until the vaccine series is complete?** For those people who are in close household contact with or are sexual partners of infected individuals, it is important to use precautions until the vaccination series is complete, and the antibody level blood test shows positive protection (HBsAb+). For example, it is important to not share toothbrushes, razors, or nail equipment. In addition, following safe sex practices is important since HBV can be transmitted sexually.

**Does the vaccine work for everyone?** Approximately 5% of people do not develop antibodies after the completion of the hepatitis B vaccine series. If a blood test is given four weeks following the completion of the series and the test shows no response to the vaccine, the general recommendation is to complete the series again. A person is considered to be a "non-responder" if they have completed two full vaccination series without producing protective antibodies. A non-responder should ask their doctor for a blood test to rule out the possibility that they are already infected with hepatitis B.



**What if I am exposed to hepatitis B?** If you have been vaccinated and a blood test shows positive antibodies (HBsAb+), you are protected against a hepatitis B infection. In the case of non-responders or unvaccinated individuals who are exposed to HBV, it is recommended that they receive the hepatitis B immunoglobulin (HBIG) as soon as possible. Unvaccinated individuals should also start the vaccine series at this time. Talk to your doctor if you think you might have been exposed to HBV.

**If I began the vaccine series and never completed it, do I have to start the entire series over again?** According to guidelines created by the Centers for Disease Control and Prevention (CDC) you do not have to restart the vaccine series if you received only one or two doses - even if it has been a few years since your last dose of the vaccine. You only need to complete the series by getting the remaining shot(s).

#### **DID YOU KNOW??**

The hepatitis B vaccine is the most widely used vaccine in the world, with over 1 billion doses given.

Since HBV accounts for 80% of all liver cancer worldwide, the hepatitis B vaccine is the first anti-cancer vaccine to be developed.

**For more information about the hepatitis B vaccine please visit:**

Hepatitis B Foundation at [www.hepb.org](http://www.hepb.org)

Vaccines for Children's Program at 1-800-232-2522, [www.cdc.gov/nip/vfc/Default.htm](http://www.cdc.gov/nip/vfc/Default.htm)

CDC Immunization Hotline at 1-800-232-2522 or [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

Immunization Action Coalition at: [www.immunize.org](http://www.immunize.org)

Children's Hospital of Philadelphia at <http://vaccine.chop.edu/>

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## VIII. Hepatitis B Guidelines for Pregnant Women



## Hepatitis B Guidelines for Pregnant Women

**What is hepatitis B?** Hepatitis B is the most common serious liver infection in the world. It is caused by the hepatitis B virus (HBV) that attacks liver cells and can lead to liver failure, cirrhosis (scarring) or cancer of the liver later in life. The virus is transmitted through contact with infected blood and bodily fluids.

**If I am pregnant, should I be tested for hepatitis B? Yes!** Pregnant women who are infected with hepatitis B can transmit the virus to their newborns during pregnancy or delivery. Almost 90% of these babies will become chronically infected with hepatitis B at birth if there is no prevention.



**ALL pregnant women should be tested for hepatitis B to prevent infection.**

**What if I test positive for hepatitis B while I am pregnant?** If a pregnant woman tests positive for hepatitis B, then she should be referred to a liver specialist for further evaluation. Although most women do not have any pregnancy complications as a result of HBV infection, it is still a good idea to be seen by a specialist.



**How can I protect my newborn from hepatitis B?** If a pregnant woman tests positive for hepatitis B, her newborn child must be given two shots in the delivery room - the first dose of hepatitis B vaccine and one dose of hepatitis B immune globulin (HBIG). If these two medications are given correctly within the first 12 hours of life, a newborn has a 95% chance of being protected against a lifelong hepatitis B infection. The infant will need additional doses of hepatitis B vaccine at one and six months of age to provide complete protection. If a woman knows that she is infected, it is important that she tell her doctor to have these two drugs available when she is ready to deliver. **If a baby does not receive these drugs in time, then there is a greater than 90% possibility that he or she will become chronically infected. There is no second chance!**

**It is vitally important that all newborns be vaccinated at birth against hepatitis B!**



**Can I breastfeed my baby if I am infected with hepatitis B?** According to the Center for Disease Control and Prevention (CDC) and the World Health Organization (WHO), it is safe for an infected woman to breastfeed her child. All women with hepatitis B are encouraged to breastfeed their babies since the benefits of breastfeeding outweigh the potential risk of transmitting the virus through breast milk. In addition, since all newborns should receive the hepatitis B vaccine at birth, the risk of transmission is reduced even further.

**How will I know if I am infected with hepatitis B?** The test that is used to help you understand your hepatitis B status is called the hepatitis B blood panel, a simple three-part blood test that your doctor can order. All pregnant women should be tested for hepatitis B.

**The 3-part hepatitis B blood panel includes the following:**

- 1. Hepatitis B Surface Antigen (HBsAg):** The “surface antigen” is part of the hepatitis B virus that is found in the blood of someone who is infected. If this test is positive, then the hepatitis B virus is present.
- 2. Hepatitis B Surface Antibody (HBsAb or anti-HBs):** The “surface antibody” is formed in response to the hepatitis B virus. Your body can make this antibody if you have been vaccinated, or if you have recovered from a hepatitis B infection. If this test is positive, then your immune system has successfully developed a protective antibody against the hepatitis B virus. This will provide long-term protection against future hepatitis B infection.
- 3. Hepatitis B Core Antibody (HBcAb or anti-HBc):** This antibody *does not* provide any protection or immunity against the hepatitis B virus. A positive test indicates that a person may have been exposed to the hepatitis B virus. This test is often used by blood banks to screen blood donations. However, all three test results are needed to make a diagnosis.

**How do I protect my child if another family member is infected with hepatitis B?** Babies and children can be exposed to HBV from an infected dad, sibling, or other family member living in the same household. This can occur through contact with infected blood and bodily fluids. Vaccination is the best prevention against spreading the hepatitis B virus!



**How can I prevent getting hepatitis B if someone in my household is infected?** We recommend that anyone living in a household with an infected family member should be vaccinated. This is especially important for babies and children since they are at greatest risk for developing a chronic infection if exposed to HBV at an early age. The vaccine is a series of three shots given over a six-month period that will provide a lifetime of protection.

Until your vaccine series is complete, it is important to avoid sharing any sharp instruments such as razors, toothbrushes, or earrings, etc. since small amounts of blood can be exchanged through these items. Also, infected individuals should be careful to keep all cuts properly covered. Blood spills should be cleaned with gloves and a 10% bleach/water solution. Hepatitis B is not transmitted casually and it cannot be spread through sneezing, coughing, hugging, or eating food prepared by someone who is infected with Hepatitis B.

**Remember that the best protection for you and your loved ones is the hepatitis B vaccine. Over 1 billion doses of the vaccine have been given worldwide, making it the most widely used vaccine in the world!**

**For more information, please visit:**

- Hepatitis B Foundation at [www.hepb.org](http://www.hepb.org)
- Centers for Disease Control at [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)
- National Immunization Program at [www.cdc.gov/nip](http://www.cdc.gov/nip)
- Immunization Action Coalition at [www.immunize.org](http://www.immunize.org)
- Parents Of Kids with Infectious Diseases (PKIDs) at [www.pkids.org](http://www.pkids.org)



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**IX. Hepatitis B and  
Health Care Providers**



## Hepatitis B and Health Care Providers What You Need To Know



**What is hepatitis B?** Hepatitis B is the world's most common serious liver infection. It is caused by the hepatitis B virus (HBV) that attacks liver cells and can lead to liver failure, cirrhosis (scarring) or cancer of the liver later in life. Hepatitis B is transmitted through blood, unprotected sex, use of unsterile needles, and from an infected mother to her newborn during the delivery process. It is not transmitted casually through the air or superficial social contact. Approximately 90% of healthy adults who are exposed to the hepatitis B virus (HBV) recover on their own and develop protective antibodies. However, 10% of infected adults, 50% of infected children, and 90% of infected babies are unable to get rid of the virus and develop chronic infection. These people need further evaluation by a liver specialist or doctor knowledgeable about hepatitis B.

**Am I at risk for a hepatitis B infection?** Health care workers who come into contact with human blood, blood products, or potentially infectious bodily fluids are at an increased risk for exposure to the hepatitis B virus.

**How can I protect myself as a health care worker?** The Centers for Disease Control and Prevention (CDC) recommends that all health care workers, emergency personnel, and other individuals who are exposed to blood or body fluids on the job, should be vaccinated against hepatitis B. The vaccine is safe and effective and can protect you for a lifetime. The vaccine is given in three doses over a 6 month period (0, 1, and 6 months). It is recommended that health care workers have their hepatitis B surface antibody (HBsAb) level tested 4-6 weeks after completion of the series, to make sure that they have built up protection against HBV. Once a blood test shows that a health care worker is protected, the CDC does not recommend routine antibody testing or vaccine boosters. However, each health care institution may have its own hepatitis B vaccine protocol. If a person does not develop the protective antibodies after completion of the vaccine series, then the entire series should be repeated (with antibody testing 4-6 weeks after completion of the additional second series).



**What if I am exposed to the virus?** For unvaccinated individuals who think they have been exposed to hepatitis B, it is recommended that they speak to their doctor about "post-exposure prophylaxis" as soon as possible. If the source of the exposure is known to be positive for hepatitis B, then the exposed person should receive the first dose of the vaccine and one dose of HBIG as soon as possible (within 24 hours if possible). After that, the remaining 2 doses of the vaccine can be given 1 and 6 months after the first dose. About one-two months after the vaccine series is completed, it is a good idea to get tested to determine whether the person developed protective antibodies. If the hepatitis B status of the source is unknown and the exposed person is unvaccinated, it is recommended that they begin the Hepatitis B vaccine series as soon as possible.

**How can I find out my hepatitis B status?** The test that is used to help you understand your hepatitis B status is called the 3-part hepatitis B blood panel. This is a simple 3-part blood test that your doctor can order. Only one sample of blood is needed. The 3-part panel contains the following information:

- 1) Hepatitis B surface Antigen (HBsAg) - this tests directly for the presence of hepatitis B virus. It should be negative if there is NO virus present.
- 2) Hepatitis B surface Antibody (HBsAb or anti-HBs) - this tests for the production of protective antibodies against the hepatitis B virus. This blood test should be positive if the protective antibodies are produced in response to either vaccination or recovery from a natural infection.
- 3) Hepatitis B core Antibody (HBcAb or anti-HBc) - this antibody does not provide any protection, but only refers to a part of the virus itself. A positive test result may indicate whether a person has been exposed to the hepatitis B virus or not. This test must be interpreted in relation to the above 2 test results.

Tests	Results	Interpretation	Recommendation
HBsAg HBsAb HBcAb	Negative (-) Negative (-) Negative (-)	NOT IMMUNE– has not been infected but is still at risk for possible future infection – needs vaccine	Get the vaccine
HBsAg HBsAb HBcAb	Negative (-) Positive (+) Negative or positive (-/+)	IMMUNE – has been vaccinated or recovered from previous infection – cannot infect others	Vaccine is not needed
HBsAg HBsAb HBcAb	Positive (+) Negative (-) Negative or Positive (-/+)	ACUTE infection or CHRONIC infection – hepatitis B virus is present – can spread the virus to others	Find a knowledgeable doctor for further evaluation
HBsAg HBsAb HBcAb	Negative (-) Negative (-) Positive (+)	UNCLEAR – several interpretations are possible – all 3 tests should be repeated	Find a knowledgeable doctor for further evaluation

When you get your test results, request a written copy so that you fully understand what tests were ordered and the actual results of each. Be sure to have your doctor clearly explain the results so that you fully understand your situation. Visit our website at [www.hepb.org/bloodtests](http://www.hepb.org/bloodtests) for more information.

**For additional information, please visit the following resources:**

**Vaccination procedures:**

“*Immunization of Health Care Workers,*” MMWR, 1997, volume 46, No. RR-18  
[www.cdc.gov/mmwr/preview/mmwrhtml/00050577.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/00050577.htm)

“*Guidelines for infection control in health care personnel,*” CDC, 1998  
[www.cdc.gov/ncidod/hip/guide/InfectControl98.pdf](http://www.cdc.gov/ncidod/hip/guide/InfectControl98.pdf)

“*Immunization and Health Care Workers,*” Immunization Action Coalition (IAC)  
[www.immunize.org/hcw/index.htm](http://www.immunize.org/hcw/index.htm)

**Exposure procedures:**

“*US Public Health Service Guidelines for the Management of Occupational Exposure to HBV, HCV, and HIV,*” MMWR, June 2001, volume 50(RR11)  
[www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm)

HBV-Infected Health Care Workers - “*Recommendations for Preventing Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Patients During Exposure-Prone Invasive Procedures,*” MMWR, July 12, 1991 / 40(RR08);1-9 [www.cdc.gov/mmwr/preview/mmwrhtml/00014845.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/00014845.htm)





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## X. Hepatitis B Resources



## Hepatitis B Resource Roundup Your Guide to Hepatitis Information and Support

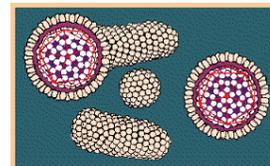
### Hepatitis B

**Hepatitis B Foundation** 215-489-4900  
www.hepb.org • info@hepb.org

**HBV Research Archive**  
[http://archive.mail-list.com/archives/hbv\\_research/](http://archive.mail-list.com/archives/hbv_research/)

**Asian Liver Center at Stanford University**  
<http://livercancer.stanford.edu>

**Immunization Action Coalition**  
www.immunize.com



Hepatitis B Virus

### Viral Hepatitis

**American Liver Foundation** 1-800-GO LIVER  
www.liverfoundation.org

**Centers for Disease Control, Hepatitis Branch** 1-800-443-7232  
www.cdc.gov/hepatitis

**Hep C Connection** 1-800-522-4372  
www.hepc-connection.org

**Hepatitis Foundation International** 1-800-891-0707  
www.hepfi.org

**Hepatitis Magazine** 1-800-310-7047  
www.hepatitismag.com

**HIV and Hepatitis Treatment Advocates**  
www.hivandhepatitis.com

### HBV Internet Support Groups

**Hepatitis B Information and Support List (HB-L)**  
www.hblist.org

**PKIDs Parent Support Email Community**  
www.pkids.org/listserv

**HBV Adoption Support Listserve**  
<http://health.groups.yahoo.com/group/hbv-adoption/>



### HBV Treatment and Clinical Trials

**Hepatitis B Foundation**  
www.hepb.org/clinicaltrials

**National Institutes of Health  
Clinical Trials**

www.clinicaltrials.gov



### Physician Locator

**Hepatitis B Foundation**  
www.hepb.org/specialistdirectory

**American Gastroenterological Association**  
www.gastro.org



### Transplant

**Transplant Recipient International  
Organization** 1-800-TRIO-386

www.trioweb.org

**United Network for Organ  
Sharing (UNOS)** 1-888-894-6361

www.unos.org



## **Vaccination**

**CDC Hepatitis Immunization Hotline** 1-800-232-2522 (English) • 1-800-232-0233 (Spanish)

[www.cdc.gov/nip](http://www.cdc.gov/nip)

**Immunization Action Coalition**

[www.immunize.org](http://www.immunize.org)

**Children's Hospital of Philadelphia**

[www.vaccine.chop.edu](http://www.vaccine.chop.edu)



**Children and HBV** 1-877-55-PKIDS (toll-free)

**Parents of Kids with Infectious Diseases (PKIDs)**

[www.pkids.org](http://www.pkids.org)

**PKIDs Research List and Archive**

<http://fleet.mail-list.com/archives/pkids>

**Comeunity** (Asian adoption information)

[www.comeunity.com](http://www.comeunity.com)



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## **Free Educational Materials Available from the Hepatitis B Foundation**

*To order, contact the HBF at 215-489-4900 or [info@hepb.org](mailto:info@hepb.org)*

- ◆ **Hepatitis B Foundation:** This brochure briefly summarizes the history, mission, and many programs of the HBF. It is a compact introduction for those who want to know more and become a part of this dynamic organization.
- ◆ **Someone You Know Has Hepatitis B:** This brochure provides an overview of hepatitis B, how it is transmitted, the importance of vaccination, and the HBF's urgent mission to find a cure.
- ◆ **Protect Yourself and Those You Love:** This brochure promotes the message that hepatitis B is a *vaccine-preventable disease*. It describes the problem of hepatitis B, who is at greatest risk, and the importance of vaccination.
- ◆ **Living With Chronic Hepatitis B:** This brochure is written specifically for those who have been diagnosed with chronic hepatitis B. It provides important guidance to help patients live a healthier life. Also available in Chinese.
- ◆ **The First Loving Act: Vaccination:** This brochure is a message to adoptive parents to reassure them that although hepatitis B is a concern, it is a *vaccine-preventable disease*. The HBF is a valuable resource for adoptive parents who need additional HBV information and support.
- ◆ **Meet OLiver:** The HBF Liver Mascot! This colorful brochure explains the difference between hepatitis A, B and C. It talks about the important functions of the liver and how to protect yourself from hepatitis A, B and C.
- ◆ **Hepatitis B: The Global Challenge:** A 24-minute documentary about the impact of chronic hepatitis B around the world. It is available in English, Mandarin, Cantonese, Korean, and Vietnamese. The video is produced by GlaxoSmithKline and is suitable for lay audiences. (\$25 donation is requested)

Also available are single-copy information packets for those living with chronic hepatitis B and their loved ones, health care providers, and the general public.

Contact the HBF for a free subscription to our *B Informed* newsletter, printed 3 times a year with an updated Drug Watch and the latest HBV news and happenings, and our *B Connected* patient newsletter..

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