

UTAH DEPARTMENT OF HEALTH
IMMUNIZATION PROGRAM
PERINATAL HEPATITIS B PREVENTION PROGRAM



PROGRAM GUIDELINES

June 2011

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UTAH DEPARTMENT OF HEALTH PERINATAL HEPATITIS B PREVENTION PROGRAM

INTRODUCTION

In 2005, about 24,000 infants were born to hepatitis B infected mothers across the United States. Without immunoprophylaxis (vaccine and hepatitis B immune globulin [HBIG]), approximately 9,000 of these infants would be chronically infected, and approximately 2,300 would die from chronic liver disease (CDC 2008). Thanks to the dedicated efforts of public health professionals in Utah, immunoprophylaxis has increased. In 2007, approximately 78% of infants born to mothers infected with hepatitis B received hepatitis B vaccine within three days of birth compared to approximately 58% in 2003 (CDC 2008).

MISSION

The mission of the Perinatal Hepatitis B Prevention Program is to increase identification and case management of hepatitis B surface antigen (HBsAg) positive women, their infants, and sexual and household contacts.

PURPOSE

The purpose of Perinatal Hepatitis B Prevention Program is to prevent transmission of the hepatitis B virus (HBV) from infected mothers to their infants.

PERINATAL HEPATITIS B PROGRAM GOALS

Ensure the following:

- All pregnant women are screened for HBsAg status during an early prenatal visit in each pregnancy.
- Infants born to HBsAg positive women receive the first dose of hepatitis B vaccine and hepatitis B immune globulin (HBIG) at birth.
- Infants born to HBsAg positive mothers receive the remaining 2 doses of hepatitis B vaccine by 6-8 months of age.
- Infants born to HBsAg positive mothers receive post vaccination serological testing 3-9 months after last dose of hepatitis B vaccine.
- Identification and vaccination of household contacts.
- Timely reporting of cases by local health department case managers.
- Increase awareness of Perinatal Hepatitis B Prevention Program to both public and private providers.

IDENTIFICATION AND MANAGEMENT OF HBsAg POSITIVE PREGNANT WOMEN

A. TESTING

Since 1988, the American College of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), and the Advisory Committee on Immunization Practices (ACIP) have recommended that all pregnant women be serologically screened for HBV infection.

1. **All** pregnant women should be routinely tested for HBsAg at the same time that other routine prenatal screening tests are ordered. This should be done in **each** pregnancy.
2. In special situations (e.g., when acute hepatitis is suspected, when a history of exposure to hepatitis has been reported, or when the mother has high-risk behaviors, such as injectable drug use or sexually transmitted disease), an additional HBsAg test should be ordered before delivery.
3. Every delivery hospital should have a written policy requiring that women admitted for delivery whose HBsAg status is unknown have blood drawn for STAT testing.

B. REPORTING

Communicable Disease Rule (R386-702) requires that cases of viral hepatitis be reported to the local health department or Utah Department of Health, Office of Epidemiology (801-538-6191 or 1-888-EPI-UTAH). Reporting is required for both acute and chronic cases.

Reports may come from a variety of sources including: labs, provider offices, and hospitals.

1. A Utah Confidential Morbidity Report Card should be submitted to the state or local health department
2. Local health departments are required to submit a Viral Hepatitis Case Report to the Office of Epidemiology.
3. Upon notification of a positive HBsAg in a pregnant woman, the local health department perinatal case manager is required to submit a "Perinatal Hepatitis B Prevention Program Case Report Form." The form can be faxed to (801) 538-9440 or mailed to Perinatal Hepatitis B Prevention Program, PO Box 142001, SLC, UT 84114-2001.
4. Information that a pregnant woman is HBsAg positive must be transferred among all providers (e.g. lab, prenatal provider, delivery hospital, pediatric provider). When these linkages are weak or nonexistent, information can be lost or misinterpreted and high-risk infants left untreated.

C. EDUCATION

Educational materials are available from the Utah Department of Health Immunization Program for both patients and providers. Mothers should be provided with both verbal instruction and written materials regarding:

1. The importance of having her infant complete the hepatitis B vaccination schedule on time
2. The importance of post-vaccination testing for the infant to assure immunity.
3. The importance of testing household members for hepatitis B and vaccinating as necessary.
4. The mother's need for ongoing medical follow-up for her chronic hepatitis B virus infection.

Perinatal Hepatitis B Prevention

MANAGEMENT OF INFANTS BORN TO HBsAg POSITIVE WOMEN**A. TREATMENT**

1. Infants born to HBsAg positive mothers should be immunized according to the following schedule:

Infants Born to HBsAg Positive Women		
Biologic	Dose	Age of Infant
HBIG	0.5 ml	Within 12 hours of birth*
Hepatitis B Vaccine - dose 1	0.5 ml	Within 12 hours of birth*
Hepatitis B Vaccine - dose 2	0.5 ml	1 month
Hepatitis B Vaccine - dose 3	0.5 ml	6 months

*The first dose of vaccine should be given at the same time as HBIG but at a separate site. The preferred sites are the anterolateral thighs. If necessary, HBIG can be administered up to seven days post-partum.

2. Approximately 1 month prior to the mother's due date, the perinatal case manager should contact the Perinatal Hepatitis B Prevention Program to assure that HBIG is available at the delivery hospital.
3. Case managers should notify the delivery hospital in advance of the infant's due date to ensure prompt administration of hepatitis B vaccine and HBIG.
4. Case managers should notify the infant's healthcare provider to ensure timely administration of second and third doses of hepatitis B vaccine.
5. Case managers should send reminders of the second and third doses of hepatitis B vaccine to the parents.
6. Mothers who are HBsAg positive may breast-feed their infants.
7. For infants weighing less than 2 kg, administer hepatitis B vaccine and HBIG within 12 hours of birth. Do not count this dose as the first dose. Initiate the 3 dose hepatitis B vaccine series at 1 month of age.
8. The Utah Department of Health Immunization Program, Perinatal Hepatitis B Prevention Program will provide HBIG for the infant free of charge.

B. POST VACCINATION TESTING

1. Infants should receive post-vaccination serological testing 3-9 months after their final dose of hepatitis B vaccine (9-15 months of age). This testing should include both HBsAg and HBsAb (also called anti-HBs).
2. Infants are considered to be protected when the HBsAg is negative and the anti-HBs is positive.
3. Infants are considered to be susceptible if the HBsAg and anti-HBs is negative. If this is the case, three additional doses of hepatitis B vaccine must be administered and post vaccination serological testing repeated 1-2 months after the last dose.
4. The Utah Department of Health Immunization Program, Perinatal Hepatitis B Prevention Program will provide testing for the infant free of charge if done at the State Lab.

MANAGEMENT OF HOUSEHOLD AND SEXUAL CONTACTS

A. TESTING AND TREATMENT

Case managers are responsible for working in conjunction with healthcare providers to identify and vaccinate the household and/or sexual contacts of the identified woman that are in his or her care.

1. Household contacts and sexual partners of hepatitis B carriers should be assessed for immunity, susceptibility, or carrier status of hepatitis B virus and vaccinated as necessary.

Interpretation of the Hepatitis B Blood Test Results

Tests	Results	Interpretation
HBsAg anti-HBs	Negative Negative	Susceptible – Give hepatitis B series
HBsAg anti-HBs	Negative Positive	Immune – No vaccination necessary
HBsAg anti-HBs	Positive Negative	Infected – No vaccination necessary

2. Post-vaccination testing (HBsAg and anti-HBs) is necessary for sexual contacts to confirm adequate response to vaccination. This should be done 1-2 months after the third dose of vaccine.
3. The Utah Department of Health Immunization Program, Perinatal Hepatitis B Prevention Program will provide hepatitis B vaccine for contacts free of charge.
4. The Utah Department of Health Immunization Program, Perinatal Hepatitis B Prevention Program will provide testing for contacts free of charge if done at the State Lab.

RESPONSIBILITIES OF CASE MANAGERS

Perinatal hepatitis B case managers will be identified within each local health district. Each local health department will identify perinatal hepatitis B case managers and forward their contact information to the state Perinatal Hepatitis B Coordinator. Case managers are responsible for tracking reported HBsAg positive pregnant women, testing and immunization (if necessary) of household and sexual contacts, and vaccination and post vaccination serological testing of infants.

The average time required to complete a perinatal hepatitis B case is 18-24 months. This length of time presents unique challenges. The local health department perinatal hepatitis B case manager will have long periods of time between contacts with the patient. To manage this lengthy and complicated case management, it is important to establish a tracking system which will enable you to develop a schedule for subsequent telephone or letter contacts to remind the mother to have her infant vaccinated or to remind the healthcare provider that the infant needs vaccination or testing.

Case managers must complete the Perinatal Hepatitis B Prevention Program Case Report Form **within 2 weeks** of receiving the case. The form can be faxed to (801) 538-9440 or mailed to the Perinatal Hepatitis B Prevention Program, PO Box 142001, SLC, UT 84114-2001.

Every effort should be made to fill out the form completely. Required information for case report form includes:

Index Case Info	Contact Info	Infant Info
First and Last Name	First and Last Name	First and Last Name
Address and Phone	Relationship to Index Case	Gender
Date of Birth	Date of Birth	Date of Birth
Race and Ethnicity	Screening Date and Results	HBIG and Vaccination Dates
HBsAg Test Date	Vaccination Dates	Post-vaccination Test Results
Expected Delivery Date	Post-vaccination Test Results	
Expected Delivery Hospital		
Name of Case Manager		

Please mail or fax any updated information by the **30th of each month** using either a revised version of the case report form, a spreadsheet, or line list. *A monthly report should be submitted even if no activity has occurred.* A form has been included for a no activity report. Information from these reports is used to compile reports required by the CDC.

Pages 5 and 6 in this manual contain detailed instructions regarding management of infants and contacts.

All case managers should work with hospitals in their area to promote birth dose hepatitis B vaccine and to encourage hospitals to have written policies for testing.

COMPLETION OF PERINATAL HEPATITIS B CASES

Every attempt must be made to follow-up on all infants and contacts reported. A case should not be closed until all means of finding them is exhausted. This should include letters, phone calls, home visits, calls to providers, etc. If the family has moved, find out their new location and inform the Perinatal Hepatitis B Coordinator so appropriate follow-up can continue.

Mothers are complete with the following dispositions:

- Delivered
- Pregnancy terminated
- Lost to follow-up (must make multiple attempts to contact)
- Other (e.g. stillborn)

Infants are complete with the following dispositions:

- Complete (Infant has received 3 doses of hepatitis B vaccine and post-vaccination serologic screening)
- Lost to follow-up (must make multiple attempts to contact)
- Other (explain)

Contacts are complete with the following dispositions:

- Complete (contacts screened and immunized, if necessary)
- Lost to follow-up (must make multiple attempts to contact)
- Other (explain)

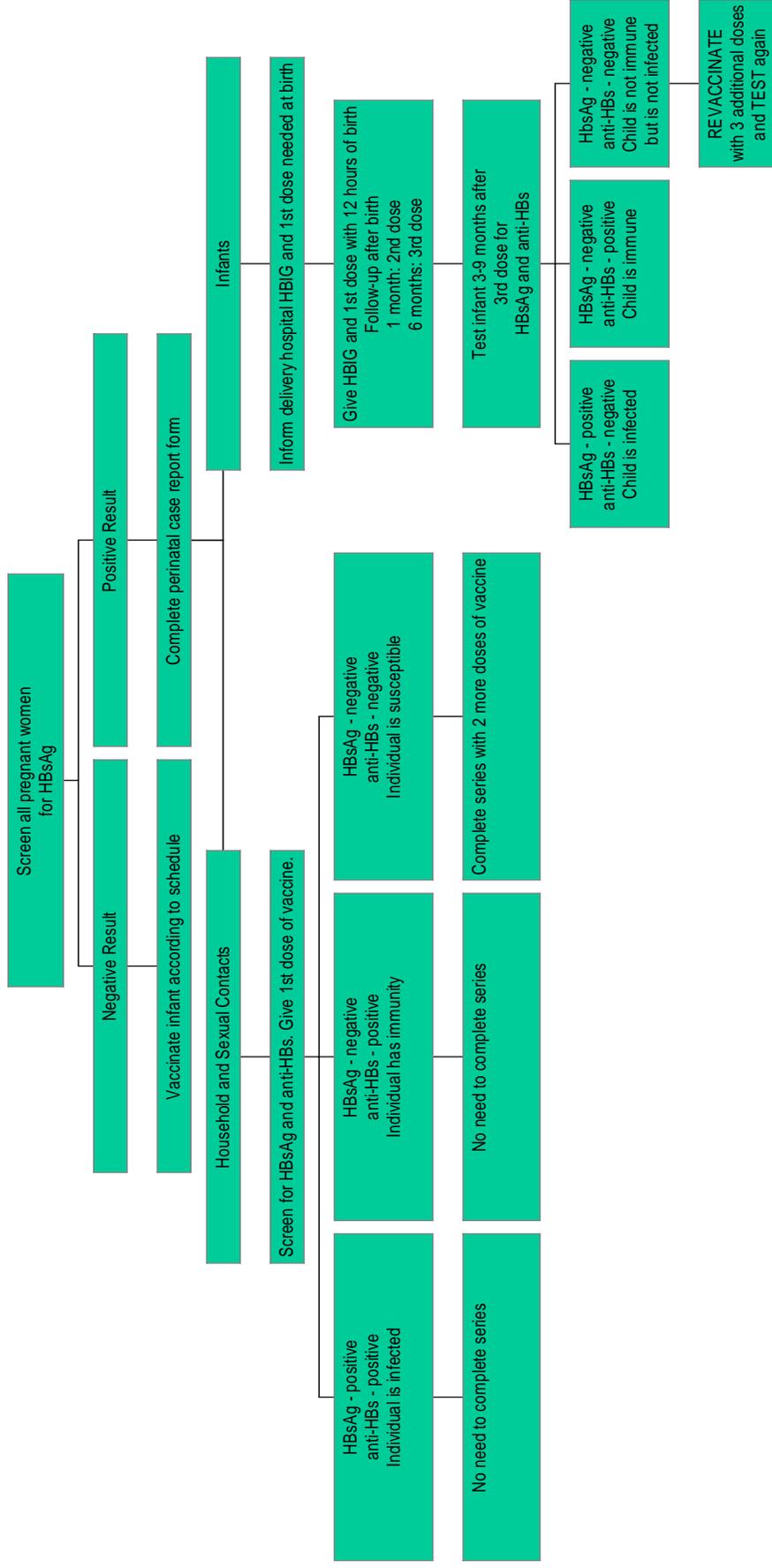
INCENTIVE FUNDS

The Utah Department of Health, Immunization Program provides each local health district with funds that are to be used specifically for Perinatal Hepatitis B Prevention activities. Such activities may include but are not limited to:

- Training (including conferences) for hepatitis B case managers
- Incentive awards for clients
- Incentive awards for staff
- Payment for blood draws
- Development of educational materials
- Development and implementation of computerized tracking systems
- Hiring specific personnel for case management

Activities conducted each year need to be reported to the Immunization Program in the health district annual report due in June. Any questions regarding acceptable activities may be directed to the Perinatal Hepatitis B Coordinator.

FLOWCHART for PERINATAL HEPATITIS B CASES



CLINICAL FEATURES AND EPIDEMIOLOGY

Signs and Symptoms

Clinical signs and symptoms occur more often in adults than in infants or children, who usually have an asymptomatic acute course. However, approximately 50% of adults who have acute infections are asymptomatic. When symptoms occur in acute hepatitis B virus infection, they may occur in the following patterns.

- The *preicteric* or *prodromal phase* from initial symptoms to onset of jaundice usually lasts from 3 to 10 days. It is characterized by insidious onset of malaise, anorexia, nausea, vomiting, right upper quadrant abdominal pain, fever, headache, myalgias, skin rashes, arthralgia and arthritis, and dark urine, beginning 1 to 2 days before the onset of jaundice.
- The *icteric phase* is variable, but usually lasts from 1 to 3 weeks, and is characterized by jaundice, light or gray stools, hepatic tenderness and hepatomegaly. Splenomegaly is less common.
- During *convalescence*, malaise and fatigue may persist for weeks or months, while jaundice, anorexia, and other symptoms disappear.

Modes of Transmission

Hepatitis B virus is found in blood and blood products, semen, vaginal secretions, and saliva. The virus is transmitted through one or more of the following modes.

- *Percutaneous Transmission* – Inoculation of infected blood or blood products, such as needle-stick injury, shared IV/IM needle use, ear or body piercing, tattooing, inadequate sterilization of medical equipment (contaminated needles and other sharps, such as broken glass contaminated with blood) and splashes to eyes, nose, or mouth.
- *Sexual Transmission* – Absorption of HBV into mucosal surfaces (sexual activity).
- *Perinatal Transmission* – Acquiring HBV from mother to infant.
- *Horizontal Transmission* – Occurs in such situations and settings as shared toothbrushes, razors and combs or passed child-to-child by biting

Incubation Period

Six weeks to six months, with an average of 120 days.

Period of Communicability

All persons who are HBsAg positive are considered to be infectious. The HBsAg may be present several weeks before the onset of illness and last for several weeks or years. If the chronic carrier state develops, patients will most likely remain HBsAg positive for their lifetime.

LABORATORY WORK

HBsAg – most commonly used test for detecting carriers or diagnosing hepatitis B virus infections. HBsAg can be detected as early as one or two weeks.

Anti-HBc (Total) – includes both IgG and IgM, which indicates either current or past HBV infection at some undetermined time.

IgM anti-HBc – indicates recent infection with HBV; circulates for four or six months after infection. A negative test for IgM anti-HBc, together with a positive test for HBsAg in a single blood sample, identifies a probable chronic HBV infection.

HBeAg – useful marker for contagiousness. The presence of HBeAg correlates strongly with the number of infective HBV particles in the serum and is associated with a high risk of infectivity.

Anti-HBs – associated with long-term immunity. Using radioimmunoassay (RIA), a minimum of 10 sample ratio units should be used to designate immunity. Using enzyme immunoassay (ELISA), the manufacturer's recommended positive should be considered as appropriate measure of immunity. The level on anti-HBs may also be expressed in milli-International Units/ml (mIU/ml). Ten mIU/ml is considered to indicate a protective level of immunity. The presence of anti-HBs indicates recovery and immunity from reinfection. Anti-HBs can be acquired as an immune response to hepatitis B vaccine or passively transferred by the administration of HBIG.

FOLLOW-UP LABORATORY WORK

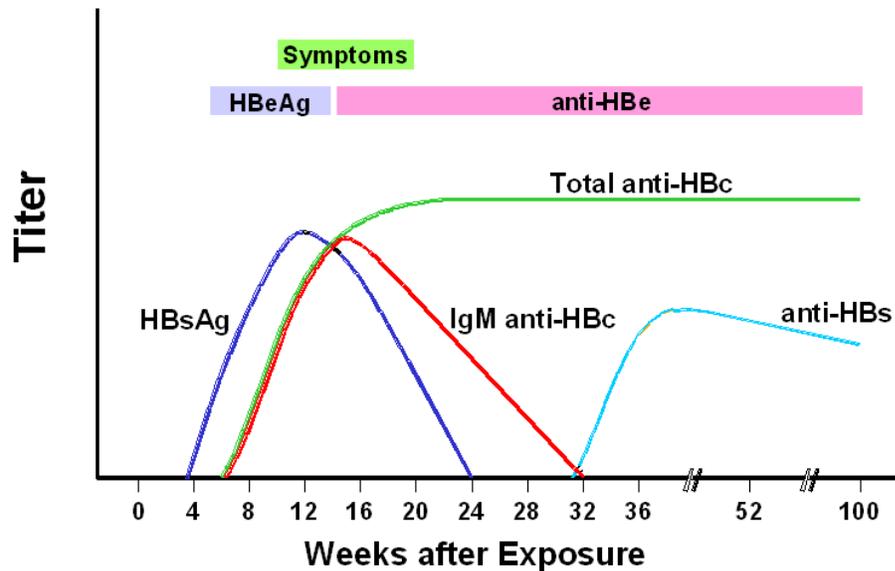
Repeat HBsAg testing six months after initial testing to determine confirmed carrier status, then annually for two years thereafter if they remain infected and when necessary to determine appropriate control measures for persons exposed.

CHARACTERISTIC PATTERN OF SPECIFIC ANTIGEN AND ANTIBODIES

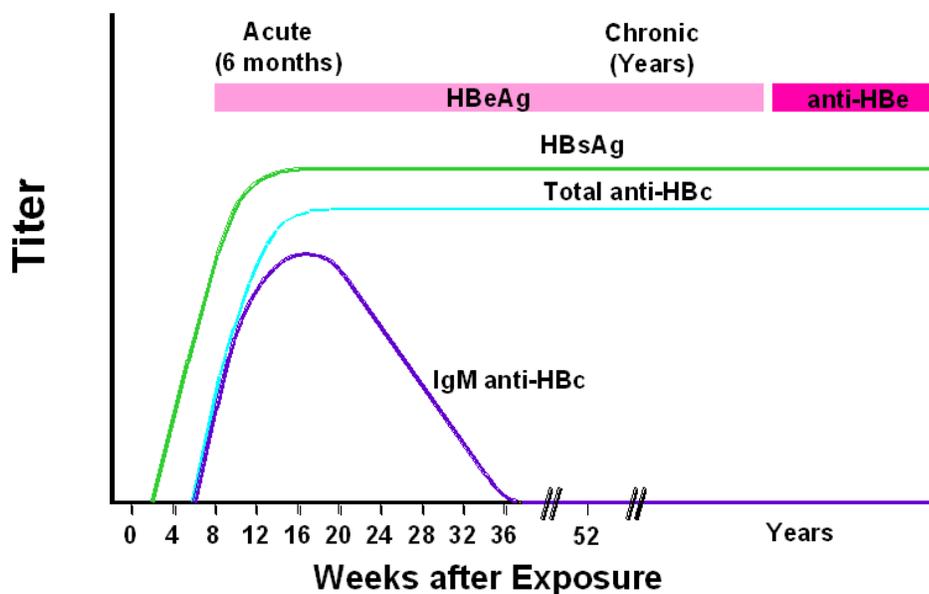
First the HBsAg and HBeAg become positive, about one to three weeks after exposure and four to five weeks before jaundice appears. The ALT levels increase about one to two weeks before jaundice. These elevations persist for one to three months and decrease as clinical improvement progresses. The appearance of anti-HBc and anti-HBe is a favorable prognostic sign. HbcAg, although present, is not detectable by any currently available practical test. However, anti-HBc is detectable at onset of jaundice, initially as IgM, indicating acute or early convalescent hepatitis B infection. Both anti-HBs and anti-HBc persist for many years. With chronic infection, HBsAg persists for many years and possibly a lifetime. HbeAg may persist as well; more likely if the infection was symptomatic. Chronic infection is more likely in cases symptoms were mild or absent than in cases with significant clinical disease.

TIME SEQUENCE OF SEROLOGIC MARKERS

Acute Hepatitis B Virus Infection with Recovery
Typical Serologic Course



Progression to Chronic Hepatitis B Virus Infection
Typical Serologic Course



FREQUENTLY ASKED QUESTIONS

What is hepatitis B infection?

Hepatitis B infection is a serious public health problem that affects people of all ages in the United States and around the world. In 2001, an estimated 78,000 people contracted hepatitis B virus in the United States. Hepatitis B infection is caused by a highly infectious virus that attacks the liver and can lead to severe illness, liver damage, and in some cases, death. The best way to be protected from hepatitis B infection is to be vaccinated with hepatitis B vaccine, a vaccine used in the U.S. for more than two decades and proven safe and effective.

Who is at risk for HBV infection?

About 5% of people in the U.S. will get infected with HBV sometime during their lives. If you engage in certain behaviors, your risk may be much higher. You may be at risk if you:

- have a job that exposes you to human blood
- share a household with someone who has lifelong HBV infection
- inject drugs
- have sex with a person infected with HBV
- have sex with more than one partner during a six-month period
- received blood transfusions in the past before excellent blood testing was available (1975)
- are a person whose parents were born in Asia, Africa, the Amazon Basin in South America, the Pacific Islands, Eastern Europe, or the Middle East
- were born in an area listed above
- were adopted from an area listed above
- are an Alaska native
- have hemophilia
- are a patient or worker in an institution for the developmentally disabled
- are an inmate of a long-term correctional facility
- travel internationally to areas with a high prevalence of hepatitis B

The largest outbreak of HBV in the U.S. occurred in 1942 in military personnel who were given vaccine to protect them from yellow fever. It was unknown at the time that this vaccine contained a human blood component that was contaminated with HBV. The outbreak caused 28,585 cases of hepatitis B with jaundice.

How is HBV spread?

HBV is found in blood and certain body fluids—such as serum, semen, and vaginal secretions—of people infected with HBV. HBV is *not* found in sweat, tears, urine, or respiratory secretions. Contact with even small amounts of infected blood can cause infection.

HBV can be spread by:

- unprotected sex
- injecting drug use
- an infected mother to her child during birth

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- contact with the blood or open sores of an infected person
- human bites
- sharing a household with a chronically infected person
- sharing items such as razors, toothbrushes, or washcloths
- pre-chewing food for babies or sharing chewing gum
- using unsterilized needles in ear or body piercing, tattooing, or acupuncture
- using the same immunization needle on more than one person

HBV IS NOT spread by:

- casual contact like holding hands
- eating food prepared by an infected person
- kissing or hugging
- sharing silverware, plates, or cups
- visiting an infected person's home
- sneezing or coughing

What are the symptoms of HBV infection?

Most people who get HBV infection as babies or children don't look or feel sick at all. Similarly, almost half of adults who get infected don't have any symptoms or signs of the disease. If people do have signs or symptoms, they may experience any or all of the following:

- loss of appetite
- yellowing of skin and eyes (jaundice)
- nausea, vomiting
- fever
- weakness, tiredness, inability to work for weeks or months
- abdominal pain and/or joint pain
- dark urine

I'm not in a risk group. How did I get HBV infection?

Many people don't know when or how they acquired the infection. When they get the blood test results indicating they've been infected with HBV, they are taken by surprise. Studies have demonstrated that 30-40% of people who acquire HBV infection are unable to identify their own risk factors explaining why they have the disease.

Do people usually recover from HBV infection?

Nearly 95% of adults recover after several months. They clear the infection from their bodies and become *immune*. This means they won't get infected with HBV again. They are no longer contagious and cannot pass HBV on to others. Unfortunately, of those who become newly infected with HBV, about 5% of adults and up to 90% of children under age 5 years are unable to clear the infection from their bodies and they become chronically infected.

What does it mean if my blood bank said I tested positive for HBV and can no longer donate blood?

If the blood bank told you your test was "positive," it is important to find out *which* test was positive. If the "HBsAg" was positive, this means that you are either *chronically infected* with HBV or were recently infected. If *only* the "anti-HBc" was positive, it is most likely that you either had a "false-positive" test or are *immune* to hepatitis B. It is important that you understand the full meaning of your test results. If you are not sure how to interpret these test results, call your blood bank for an explanation or have the blood bank send the test results to your physician. You may need to provide written permission for the blood bank to release these results to your physician. Your physician may want to repeat the blood tests or perform additional tests such as an "anti-HBs." Bring this information sheet along with you to your doctor visit. And remember, you cannot contract HBV from donating blood because the equipment used during blood donation is sterile.

What does it mean to be chronically infected with HBV?

People who do not recover from HBV infection are chronically infected, and there are over one million chronically infected people in the United States today. A chronically infected person is someone who has had HBV in her/his blood for more than six months. While approximately 5% of adults who acquire HBV infection become chronically infected, children less than five years of age have a greater risk. The younger the child is at the time of infection, the greater the risk that the child will have a lifelong infection. Many babies born to chronically infected mothers will also become chronically infected with HBV unless the babies are given two shots in the hospital and at least two more during the 6 months after birth to protect them from the infection. A chronically infected person usually has no signs or symptoms of HBV infection but remains infected for years or for a lifetime and is capable of passing HBV on to others. Sometimes chronically infected people will spontaneously clear the infection from their bodies, but most will not. Although most chronically infected people have no serious problems with hepatitis B and lead normal, healthy lives, some develop liver problems later. Chronically infected people are at significantly higher risk than the general population for liver failure or liver cancer.

How can I take care of myself if I am chronically infected with HBV?

A person with HBV infection should see a physician knowledgeable about the management of liver disease every 6-12 months. The physician will do blood tests to check the health of the liver as well as test for evidence of liver cancer. It is best for chronically infected people to avoid alcohol because alcohol can injure the liver. Additionally, your physician should know about all the medicines you are taking, even over-the-counter drugs, because some medicines can damage the liver. If there are any liver test abnormalities, consultation with a liver specialist regarding your need for further testing and treatment is important.

What can I do if my liver disease has progressed?

If your physician tells you your liver disease has progressed, here are some extra precautions you should take:

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- Get a yearly influenza vaccination. Patients with severe liver disease (cirrhosis) should also receive pneumococcal vaccine.
- Get vaccinated against hepatitis A. Hepatitis A can further damage your liver.
- Don't eat raw oysters. They may carry the bacteria *Vibrio vulnificus*, which can cause serious blood infections in people with liver disease. Approximately 40% of people with this blood infection die.

What can I do to protect others from HBV infection?

People with HBV infection might feel healthy but are still capable of passing the infection on to other people. To protect others from getting HBV infection, it is important to protect them from contact with your infected blood and other infectious body fluids, including semen and vaginal secretions. Sweat, tears, urine, and respiratory secretions do not contain hepatitis B virus. Hepatitis B virus transmission via saliva has only been documented through biting.

DO:

- Cover all cuts and open sores with a bandage.
- Discard used items such as band-aids and menstrual pads carefully so no one is accidentally exposed to your blood.
- Wash your hands well after touching your blood or infectious body fluids.
- Clean up blood spills. Then reclean the area with a bleach solution (one part household chlorine bleach to 10 parts water).
- Tell your sex partner(s) you have hepatitis B so they can be tested and vaccinated (if not already infected). Partners should be tested after the three doses are completed to be sure the vaccine worked.
- Use condoms (rubbers) during sex unless your sex partner has had hepatitis B infection or has been immunized and has had a blood test demonstrating immunity. (Condoms may also protect you from other sexually transmitted diseases.)
- Tell household members to see their doctor for testing and vaccination for hepatitis B.
- Tell your doctor that you are chronically infected with HBV.
- See your doctor every 6-12 months to check your liver for abnormalities including cancer.
- If you are pregnant, tell your doctor that you have HBV infection. It is critical that your baby is started on the hepatitis B shots within a few hours of birth.

DON'T:

- Share chewing gum, toothbrushes, razors, washcloths, needles for ear or body piercing, or anything that may have come in contact with your blood or infectious body fluids
- Pre-chew food for babies
- Share syringes and needles
- Donate blood, plasma, body organs, tissue, or sperm

What are the long-term effects of HBV infection?

Each year, approximately 5,000 people in the U.S. die of HBV-related liver failure and another 1,500 die from HBV-related liver cancer. HBV infection is the most common cause of liver cancer worldwide and ranks second only to cigarettes as the world's leading cause of cancer.

Is there a cure for HBV infection?

As of this writing, there are three FDA-approved medications (Interferon, Lamivudine, and Adefovir) that can help a person who is already infected with HBV. Their use is reserved for people who have certain blood test abnormalities. Be sure to ask your doctor if you are a candidate for treatment or if you might benefit from enrolling in a clinical trial. Researchers continue to seek additional cures for hepatitis B.

Why is hepatitis B so serious in pregnant women?

Pregnant women who are infected with HBV can transmit the disease to their babies. Many of these babies develop lifelong HBV infections, and up to 25% will develop liver failure or liver cancer later in life. All pregnant women should be tested early in pregnancy to determine if they are infected with HBV. If the blood test is positive, the baby should be vaccinated at birth with two shots, one of hepatitis B immune globulin (HBIG) and one of hepatitis B vaccine. The infant will need at least two additional doses of hepatitis B vaccine by 6 months of age.

How can hepatitis B be prevented?

The vaccine can provide protection in 90–95% of healthy young adults. The vaccine can be given safely to infants, children, and adults usually in three doses over an approximate 6-month period. Even pregnant women can be safely given this vaccination if their risk factors warrant it. The hepatitis B vaccine is safe, and side effects are rare. Hepatitis B vaccine is our first vaccine that prevents cancer—liver cancer.

At what age are hepatitis B shots routinely given?

In the U.S., hepatitis B vaccine is routinely recommended for all children 0–18 years of age. For babies, the first dose of hepatitis B vaccine is recommended at birth and is given in the hospital. Older children and teens should be vaccinated at the earliest opportunity. Any adult who is at risk for HBV infection should start the vaccine series immediately.

Where can I get hepatitis B vaccine?

Check with your health care clinic first. Children's health insurance often covers the cost of this vaccine since it is routinely recommended for all U.S. children. If your child is uninsured, ask your local health department for assistance. For adults, contact your health provider first to find out if the vaccine is covered under your health plan. If you are uninsured, call your local health department for advice.

How many doses of the hepatitis vaccine are needed?

Usually three doses are needed for the best protection against HBV, but some protection is provided from receiving as little as one dose. The shots are usually given

on a schedule of 0, 1, and 6 months, but there is great flexibility in the timing of these injections. As with all other vaccines, if you fall behind on the schedule, you just continue from where you left off. Hepatitis B vaccine will not help or cure a person who is already infected with the hepatitis B virus.

What should I do if I'm in a risk group?

If you are in a risk group for hepatitis B, get vaccinated! All people in risk groups should protect themselves from HBV infection. Every day you delay getting vaccinated increases your chances of getting this highly contagious liver disease. The problems caused by hepatitis B—liver cancer and liver failure—are too great. See your doctor or visit your health department.

How does hepatitis B differ from hepatitis A and C?

Hepatitis A, B, and C are all viruses that attack and injure the liver, and all can cause similar symptoms. Usually, people get hepatitis A from household or sexual contact with a person who has hepatitis A. Hepatitis C, formerly known as hepatitis non-A non-B, is caused by the hepatitis C virus and is spread in much the same way as HBV. Both hepatitis B and C can cause lifelong liver problems while hepatitis A does not. Vaccines to prevent hepatitis A are now available. There is no vaccine available for hepatitis C, however there are steps you can take to prevent infection. Information is available from the Hepatitis C Prevention Coordinator at the Utah State Department of Health. If you've had hepatitis A or C in the past, it is still possible to get hepatitis B.

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The following pages are sample letters that may be used to communicate with parents, healthcare providers, and labor and delivery units. These letters should be modified by adding your county letterhead, your name and title, phone number, etc. Another idea is to add tear off section that the provider would send back to you in a self addressed stamped envelope. These are only examples; each case manager should modify them for their own use.

Also included is a sample hepatitis B policy for Labor/Delivery and Nursery Units.

SAMPLE

Date

Dear Labor and Delivery Unit Nurse Manager,

The Utah Department of Health, Hepatitis B Prevention Program has identified the following patient as a hepatitis B surface antigen positive pregnant woman who is expected to deliver at your hospital.

Patient's Name _____

Patient's Provider _____

Patient's DOB _____

Patient's EDC _____

In order to prevent transmission of hepatitis B from this mother to her infant, it is vitally important that her infant receive 0.5 ml of hepatitis B immune globulin (HBIG) *and* hepatitis B vaccine within 12 hours of birth. HBIG is provided free of charge for all patient's enrolled in the Hepatitis B Prevention Program. HBIG will be delivered to the hospital pharmacy approximately one month before the patient's estimated due date.

Please feel free to me at (____) ____ - ____ if you have any questions. Thank you for your cooperation.

Sincerely,

11/08 – Hosp

SAMPLE

Date

Dear Dr.

The Utah Department of Health, Hepatitis B Prevention Program has identified the following patient as an infant who was born to a hepatitis B surface antigen positive mother. Our records indicate that this patient has received HBIG and the first dose hepatitis B vaccine in the hospital.

Patient's Name _____

Patient's Provider _____

Patient's DOB _____

2nd dose of hepatitis B vaccine due _____

3rd dose of hepatitis B vaccine due _____

It is imperative that this infant receives subsequent doses of hepatitis B vaccine at one month and six months of age. This child will also need to have post vaccination serologic testing 3-9 months after the final dose of hepatitis B vaccine (9-15 months of age). This testing should include both HBsAg and anti-HBs.

Please feel free to me at (____) ____-____ if you have any questions. Thank you for your cooperation.

Sincerely,

SAMPLE

Date

Dear

We have been informed that a recent blood test shows that you are infected with the hepatitis B virus. The virus can be passed to your baby at birth. The Utah Department of Health, Hepatitis B Prevention Program would like to help you protect your baby from getting hepatitis B infection. Your baby will need two shots within 12 hours of birth, hepatitis B vaccine and hepatitis B immune globulin (HBIG). Your baby will also need to have hepatitis B vaccine at one month and six months of age.

I will work with you and your baby's healthcare provider to make sure that your baby gets all doses of vaccine needed to prevent infection and that your baby's blood gets tested after the shots to make sure your baby is protected.

We can also help protect your household members against hepatitis B virus. We can test them and immunize them, if necessary. This service is provided free of charge to you.

Please feel free to call me at (____) ____ - ____ if you have any questions.

Sincerely,

Labor & Delivery and Nursery Unit Guidelines For Prevention of Hepatitis B Virus Transmission

Sample Policy

Procedures must be in place to:

- Review the hepatitis B surface antigen (HBsAg) test results of all pregnant women at the time of hospital admission
- Give immunoprophylaxis within 12 hours after birth to infants of HBsAg positive mothers and infants of mothers who do not have documentation of HBsAg test results on record.
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CDC's Advisory Committee on Immunization Practices, the American Academy of Pediatrics, the American Academy of Family Physicians, and the American College of Obstetricians and Gynecologists recommends administration of hepatitis B vaccine at birth to **all** infants.

Labor & Delivery Guidelines

1. Review the HBsAg lab report and copy the test results onto the labor and delivery record and the infant's delivery record. It is essential to examine a copy of the *original* lab report instead of relying on a handwritten prenatal record or verbal confirmation due to the possibility of transcription error, misinterpretation of test results, or misordering of the test.
2. If the HBsAg result is not available, order the test STAT. Instruct the lab to call the nursery with the result ASAP.
3. Alert the nursery if the mother is HBsAg positive or if the mother's HBsAg result is unknown.

Nursery Unit Guidelines

Infants born to HBsAg negative mothers

1. Give hepatitis B vaccine (0.5ml, IM) before discharge from the nursery.
2. Give the mother an immunization record card with the hepatitis B vaccination date. Remind the mother to bring the immunization card with her each time she brings her infant to the primary care provider.
3. Instruct the mother about the importance of completing the entire hepatitis B vaccination series.
4. Make sure that the infant's hospital record clearly indicates the date of hepatitis B vaccine administration and the hospital record is *always* forwarded to the infant's primary care provider.

Infants born to mothers with unknown HBsAg status

1. Give hepatitis B vaccine (0.5ml, IM) within 12 hours of birth. *Do not wait for test results before giving vaccine.*

Perinatal Hepatitis B Prevention

2. Give the mother an immunization record card with the hepatitis B vaccination date. Remind the mother to bring the immunization card with her each time she brings her infant to the primary care provider.
3. Instruct the mother about the importance of completing the entire hepatitis B vaccination series
4. Confirm that the lab has drawn a serum specimen from the mother for an HBsAg test and that it will be run and reported to the nursery STAT. Verify with the lab when the test results should be available. If you do not receive the report when expected, call the lab for the result.
 1. If the mother's HBsAg report comes back positive:
 - a. Give HBIG (0.5 ml, IM) to the baby ASAP and alert the mother's and infant's provider of the test result. There is little benefit in giving HBIG if more than 7 days have elapsed since birth.
 - b. Follow instructions in the section "***Infants born to HBsAg positive mothers.***"
 2. If the baby is discharged before the mother's HBsAg result is known:
 - a. Clearly document how to reach the mother (address, phone, emergency contacts) as well as the infant's primary care provider, in case further treatment is needed.
 - b. Notify the mother's and infant's provider that the HBsAg result is pending.
5. For babies weighing less than 2 kg, administer hepatitis B vaccine *and* HBIG within 12 hours of birth. Do not count this dose as the first dose. Initiate the three dose hepatitis B vaccine series at 1 month of age.

Infants born to HBsAg positive mothers

1. Give HBIG (0.5ml, IM) and hepatitis B vaccine (0.5ml, IM) at separate sites within 12 hours of birth.
2. Give the mother an immunization record card with the HBIG and hepatitis B vaccination date. Remind the mother to bring the immunization card with her each time she brings her infant to the primary care provider.
3. Instruct the mother about the importance of completing the entire hepatitis B vaccination series.
4. Breastfeeding is ***not*** contraindicated, including immediately after delivery, even if the infant has not yet been vaccinated.
5. Report the HBsAg positive result to the local health department.
6. Notify your local health department's perinatal program that the infant has been born and has received post exposure prophylaxis. Include the date HBIG and hepatitis B vaccine was given.
7. Obtain the name, address, and phone number of the infant's primary care provider. Notify them of the infant's birth and receipt of post exposure prophylaxis.
8. For infants weighing less than 2 kg, administer hepatitis B vaccine *and* HBIG within 12 hours of birth. Do not count this dose as the first dose. Initiate the three dose hepatitis B vaccine series at 1 month of age.

Forms

The following pages include forms to be used for case management. Attached are the following:

- Perinatal Hepatitis B Prevention Program Case Report Form (version 10/08)
- Perinatal Hepatitis B No Activity Report (version 06/10)
- Adult Contacts Hepatitis B Vaccine Order Form (version 10/08)