THREE RIVERS
DISTRICT HEALTH DEPARTMENT
Dodge, Saunders & Washington Counties

General Information on Hepatitis B

What is hepatitis B?

Hepatitis B is caused by a virus that attacks the liver. The virus, which is called hepatitis B virus (HBV), can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death.

How do you know if you have hepatitis B?

Only a blood test can tell for sure.

How is HBV spread?

HBV is spread when blood from an infected person enters the body of a person who is not infected. For example, HBV is spread through having sex with an infected person without using a condom (the efficacy of latex condoms in preventing infection with HBV is unknown, but their proper use might reduce transmission), by sharing drugs, needles, or "works" when "shooting" drugs, through needlesticks or sharps exposures on the job, or from an infected mother to her baby during birth.

Hepatitis B is not spread through food or water, sharing eating utensils, breastfeeding, hugging, kissing, coughing, sneezing or by casual contact.

How long does it take for a blood test, such as HBsAg, to be positive after exposure to hepatitis B virus?

HBsAg will be detected in an infected person's blood on the average of 4 weeks (range 1-9 weeks) after exposure to the virus. About 1 out of 2 patients will no longer be infectious by 7 weeks after onset of symptoms and all patients, who do not remain chronically infected, will be HBsAg-negative by 15 weeks after onset of symptoms.

If a person has symptoms, how long does it take for symptoms to occur after exposure to hepatitis B virus?

If symptoms occur, they occur on the average of 12 weeks (range 9-21 weeks) after exposure to hepatitis B virus. Symptoms occur in about 70% of patients. Symptoms are more likely to occur in adults than in children.

What are the symptoms of hepatitis B?

Sometimes a person with HBV infection has no symptoms at all. The older you are, the more apt you are to have symptoms. You might be infected with HBV (and be spreading the virus) and not know it.

If you have symptoms, they might include:

- yellow skin or yellowing of the whites of your eyes (jaundice)
- tiredness
- loss of appetite
- nausea
- abdominal discomfort
- dark urine
- clay-colored bowel movements
- joint pain

What are the risk factors for hepatitis B?

You are at increased risk of HBV infection if you:

- have sex with someone infected with HBV
- have sex with more than one partner
- shoot drugs
- are a man and have sex with a man
- live in the same house with someone who has chronic (long-term) HBV infection
- have a job that involves contact with human blood
- are a client in a home for the developmentally disabled
- have hemophilia
- travel to areas where hepatitis B is common

One out of 20 people in the United States will get infected with HBV some time during their lives.

Your risk is higher if your parents were born in Southeast Asia, Africa, the Amazon Basin in South America, the Pacific Islands, or the Middle East.

Is there a cure for hepatitis B?

There are no medications available for recently acquired (acute) HBV infection. Hepatitis B vaccine is available for the prevention of HBV infection. There are antiviral drugs available for the treatment of chronic HBV infection.

How common is HBV infection in the U.S.?

In 2003, an estimated 73,000 people were infected with HBV. People of all ages get hepatitis B and about 5,000 die per year of sickness caused by HBV.

If you are pregnant, should you worry about hepatitis B?
Yes, you should get a blood test to check for HBV infection early in your pregnancy. This test is called hepatitis B surface antigen (HBsAg). If you test HBsAg-negative early in pregnancy, but continue behaviors that put you at risk for HBV infection (e.g., multiple sex partners, injection drug use), you should be retested for HBsAg close to delivery. If your HBsAg test is positive, this means you are infected with HBV and can give the virus to your baby. Babies who get HBV at birth might develop chronic HBV infection that can lead to cirrhosis of the liver or liver cancer.

If your blood test is positive, your baby should receive the first dose of hepatitis B vaccine, along with another shot, hepatitis B immune globulin (called HBIG), at birth. The second dose of vaccine should be given at aged 1-2 months and the third dose at aged 6 months (but not before aged 24 weeks).

Can I donate blood if I have had any type of viral hepatitis?
If you had any type of viral hepatitis since aged 11 years, you are not eligible to donate blood. In addition, if you ever tested positive for hepatitis B or hepatitis C, at any age, you are not eligible to donate, even if you were never sick or jaundiced from the infection.

How long can HBV survive outside the body?
HBV can survive outside the body at least 7 days and still be capable of causing infection.

What do you use to remove HBV from environmental surfaces?
You should clean up any blood spills - including dried blood, which can still be infectious - using 1:10 dilution of one part household bleach to 10 parts of water for disinfecting the area. Use gloves when cleaning up any blood spills.

Hepatitis B Vaccine Information

Who should get vaccinated?

- All babies, at birth
- All children 0-18 years of age who have not been vaccinated
- People of any age whose behavior or job puts them at high risk for HBV infection (see risk factors under general information)

What are the dosages and schedules for hepatitis B vaccines?
The vaccination schedule most often used for adults and children has been three intramuscular injections, the second and third administered 1 and 6

months after the first. Recombivax HB® has been approved as a two dose schedule for aged 11-15 years. Engerix-B® has also been approved as a four dose accelerated schedule.

Can you receive one dose of hepatitis B vaccine from one manufacturer and the other doses from another manufacturer?
Yes. The immune response when one or two doses of a vaccine produced by one manufacturer are followed by subsequent doses from a different manufacturer has been shown to be comparable with that resulting from a full course of vaccination from one manufacturer.

What should be done if there is an interruption between doses of hepatitis B vaccine?
If the vaccination series is interrupted after the first dose, the second dose should be administered as soon as possible. The second and third doses should be separated by an interval of at least 2 months. If only the third dose is delayed, it should be administered when convenient.

Can other vaccines be given at the same time that hepatitis B vaccine is given?
Yes. When hepatitis B vaccine has been administered at the same time as other vaccines, no interference with the antibody response of the other vaccines has been demonstrated.

Are hepatitis B vaccines safe?
Yes. Hepatitis B vaccines have been shown to be safe when administered to both adults and children. Over 4 million adults have been vaccinated in the U.S., and at least that many children have received hepatitis B vaccine worldwide.

Is it harmful to have an extra dose(s) of hepatitis A or hepatitis B vaccine or to repeat the entire hepatitis A or hepatitis B vaccine series if you have forgotten whether or not you had the vaccine or do not have written documentation that was requested?
No. If necessary, getting extra doses of hepatitis A or hepatitis B vaccine is not harmful.

How long does hepatitis B vaccine protect you?
Recent studies indicate that immunologic memory remains intact for at least 23 years and confers protection against clinical illness and chronic HBV infection, even though anti-HBs levels might become low or decline below detectable levels.

Can hepatitis B vaccine be given after exposure to HBV?
Yes. After a person has been exposed to HBV, appropriate treatment, given in an appropriate time frame, can effectively prevent infection. The mainstay of post exposure immunoprophylaxis is hepatitis B vaccine, but in some settings the addition of HBIG will provide some increase in protection.

Should pre-vaccination testing be done?
Pre-vaccination testing is not routinely recommended. The decision to do pre-vaccination testing is usually based on cost. To avoid vaccinating persons who have already had or have HBV infection, testing for prior infection should be considered for adults in risk groups with high rates of HBV infection (e.g., injecting drug users, men who have sex with men and household contacts of persons with chronic HBV infection).

Pre-vaccination testing is not indicated for immunization programs for children or adolescents because of the low rate of HBV infection and the relatively low cost of vaccine.

Who should get post-vaccination testing?
Testing for immunity is advised only for persons whose subsequent clinical management depends on knowledge of their immune status (e.g., infants born to HBsAg-positive mothers, immune compromised persons, healthcare workers, and sex partners of persons with chronic HBV infection).

When should post-vaccination testing be done?
When necessary, post-vaccination testing, using the anti-HBs test, should be performed 1 to 2 months after completion of the vaccine series – EXCEPT for post-vaccination testing of infants born to HBsAg-positive mothers. Testing of these infants should be performed 3 to 9 months after the completion of the vaccination series

Are booster doses of hepatitis B vaccine needed routinely?
No, booster doses of hepatitis B vaccine are not recommended routinely for persons who are not immune compromised. Data show that vaccine-induced anti-HBs levels might decline over time; however, immune memory remains intact indefinitely following immunization. Immune competent people with declining antibody levels are still protected against clinical illness and chronic disease.

Can hepatitis B vaccine be given during pregnancy or when breastfeeding?
Yes, neither pregnancy nor breastfeeding should be considered a contraindication to vaccination of women. On the basis of limited experience, there is no apparent risk of adverse effects to developing fetuses when hepatitis B vaccine is administered to pregnant women. The vaccine contains

noninfectious HBsAg particles and should cause no risk to the fetus. HBV infection affecting a pregnant woman might result in severe disease for the mother and chronic HBV infection for the newborn.

Can hepatitis B vaccine be given to immune compromised people? (e.g., people on hemodialysis or people with AIDS)

Yes, however larger vaccine doses or an increased number of doses are required to induce protective antibody in a high proportion of hemodialysis patients and might also be necessary for other immune compromised people (e.g., those who take immunosuppressive drugs or who have AIDS). For immune compromised people, it is important that post vaccination testing, using the anti-HBs test, be done 1-2 months after the last dose of vaccine to check that the vaccine worked. In addition, immune compromised people need periodic testing and possibly booster doses of hepatitis B vaccine to assure that anti-HBs is still adequate.

Who should not receive the vaccine?

A serious allergic reaction to a prior dose of hepatitis B vaccine or a vaccine component is a contraindication to further doses of hepatitis b vaccine. The recombinant vaccines that are licensed for use in the United States are synthesized by Saccharomyces cerevisiae (common bakers' yeast), into which a plasmid containing the gene for HBsAg has been inserted. Purified HBsAg is obtained by lysing the yeast cells and separating HBsAg from the yeast components by biochemical and biophysical techniques. Persons allergic to yeast should not be vaccinated with vaccines containing yeast.

Source: http://www.cdc.gov/ncidod/diseases/hepatitis/b/faqb.htm. CDC National Centers For HIV/AIDS, Viral Hepatitis, STD and TB Prevention. 2007