

Perinatal Hepatitis B Prevention

“Transmission of hepatitis B virus from mother to infant during the perinatal period represents one of the most efficient modes of hepatitis B infection and often leads to severe long-term sequelae.”

MMWR June 10, 1988 / 37(22); 341-6,351

Background

- 16,000-18,000 children in the U.S. are born to mothers infected with hepatitis B every year. Without prevention programs, about 8,000 of these infants would become infected with the hepatitis B virus. However, 95% of the infections are preventable through appropriate maternal screening and infant care. (Healthy People 2010, Section 14-2, Immunization and Infectious Diseases)
- Preventing perinatal hepatitis B transmission is a critical part of the national strategy to eliminate hepatitis B infection in the U.S. It's important for health care providers to understand that hepatitis B in pregnant women poses a serious risk for chronic hepatitis B infection, liver failure and hepatocellular carcinoma in their infants. It is very important that providers follow national guidelines, including: the universal screening of pregnant women for hepatitis B during pregnancy; case management of mothers with hepatitis B and their infants; provision of timely immunoprophylaxis, consisting of hepatitis B vaccine and hepatitis B immune globulin (HBIG) for infants born to infected mothers; and, routine vaccination of all infants with the hepatitis B vaccine series with the first dose administered at less than 24 hours of age.



The Role of Local Health Care Providers

Test Patients for Hepatitis B

- Test all pregnant women for hepatitis B surface antigen (HBsAg) at an early prenatal visit **during each pregnancy** as recommended by the federal guidelines.
- **Repeat testing late in the pregnancy** for women who are HBsAg negative, but are at **high-risk of hepatitis B** infection. High risk includes multiple partners, HBsAg positive partner, IV drug use, or a recent sexually transmitted disease (STD) (<https://www.cdc.gov/mmwr/preview/mmwrhtml/00033405.htm>).
- Routinely conduct prenatal screening of all pregnant women for HBsAg. Risk factor-based prenatal screening protocols have been shown to detect 60% of women who are hepatitis B carriers.

Reporting Hepatitis B

To report or update a case, please call the IDRS: (614) 525-8888

Report all positive findings of Class B reportable diseases to the local health department where the client resides as required by Ohio Administrative Code OAC 3701-3-02. Tracking for infants and contacts is important to stop transmission of hepatitis B. Women who are hepatitis B positive also need to be **reported for every pregnancy, regardless of prior reporting.**

- As an infectious disease and a Class B reportable disease, public health is exempt from HIPAA requirements for patient consent. [per HIPAA 164.512 (2) (b) (1) (i) and (2) (d) (iv)]

Reporting Hepatitis B, continued

- It is the responsibility of the health care provider and laboratories to report cases of infectious disease to the local health department (OCA 3701-3). In Franklin County, you may report to the Infectious Disease Reporting System (IDRS) at 614-525-8888 or www.idrsinfo.org.
- The CDC recommends that laboratories which report electronically clearly indicate pregnancy status (when available) on all HBsAg positive test results reported. The CDC further recommends ordering clinicians to:
 1. Select a test designated as “prenatal” or indicate prenatal/obstetric panel when ordering an HBsAg screening test for a pregnant woman.
 2. Inform the laboratory of a woman’s pregnancy status.
 3. Include any and all ICD-9/10 diagnosis codes indicating current or recent pregnancy when ordering HBsAg tests. Complete guidance is available at <http://www.cdc.gov/hepatitis/hbv/>.

Educate Patients about Hepatitis B

1. **Always communicate HBsAg status and its importance to the client.** More than half of people in the U.S. who have chronic hepatitis B are unaware of their infection. Clients need education about the disease and a referral for follow up.
2. **Educate clients about general recommendations** that could help them maintain good health, irrespective of their clinical course.
 - Get a yearly check-up. Refer your client to a gastroenterologist, if needed.
 - Vaccinate all household members and educate about the importance of immunizations.
 - Educate patients about the importance of protecting friends and family by not sharing blood or body fluids without protection.
 - Stress the importance of maintaining personal health, eating healthy, getting enough rest, and using medication and alcohol responsibly.



Follow up for Hepatitis B Patients

Hepatitis B Positive Women

Despite recommended immunoprophylaxis (Hepatitis B birth dose and HBIG at birth), perinatal hepatitis B transmission still occurs in approximately 1% of vaccinated infants born to infected mothers. Infection occurs more commonly among infants born to mothers who are younger, Asian/Pacific Islander, hepatitis B e-antigen (HBeAg) positive or who have high viral loads. (<http://www.medscape.com/viewarticle/850040>)

- Selective treatment in the third trimester of pregnancy may lower the risk of perinatal hepatitis B transmission. Maternal viremia plays a significant role in perinatal transmission. Studies have reported increased risk of transmission to the neonate born to mothers with high levels of viremia (>200,000IU/mL). Treatment may be considered in the third trimester. (Hepatitis B Management in Special Populations. Tram T. Tran MD. in Practice Resources, LLC, a subsidiary of Clinical Care Options)
- Former carriers who cleared HBsAg should be followed with periodic surveillance. HBsAg seroclearance is a rare event in patients with chronic hepatitis B virus infection who acquire the disease early in life. Undetectable HBsAg in the serum is usually due to a decrease in viremia. When a person is infected as a child, he/she has a very high probability of becoming a carrier of HBsAg and having high levels of HBV DNA. In many of these persons, over time, their levels of HBV DNA decrease substantially, even to undetectable in some. Whereas, the majority of carriers of HBV are HBsAg positive for life, some carriers are eventually cleared of HBsAg. As recommended for HBsAg carriers, these former carriers should be followed with periodic surveillance. These persons may be able to transmit the hepatitis B virus. This was evidenced by studies demonstrating rare transmission of hepatitis B virus from persons who are HBsAg-negative but hepatitis B core antibody (anti-HBc)-positive to hepatitis B sero-negative persons. However, at low levels of HBsAg, the risk for perinatal transmission is low.

Sexual and Household Contacts

- One of the four overarching goals in the National Viral Hepatitis Action Plan is to improve testing and increase the proportion of persons who are aware of their hepatitis B infection. One way to achieve this goal is by testing and/or immunizing the sexual and household contacts of the hepatitis B positive woman. <https://www.hhs.gov/sites/default/files/National%20Viral%20Hepatitis%20Action%20Plan%202017-2020.pdf>
- Approximately 25% of the frequent sexual contacts of infected individuals will become infected. (ACOG Practice Bulletin, Oct 2007, p.2)
- The Perinatal Hepatitis B Prevention Program at Columbus Public Health provides testing at no cost to the sexual and household contacts of the mother (by appointment only). For more information or to schedule an appointment, call (614) 645-7597.

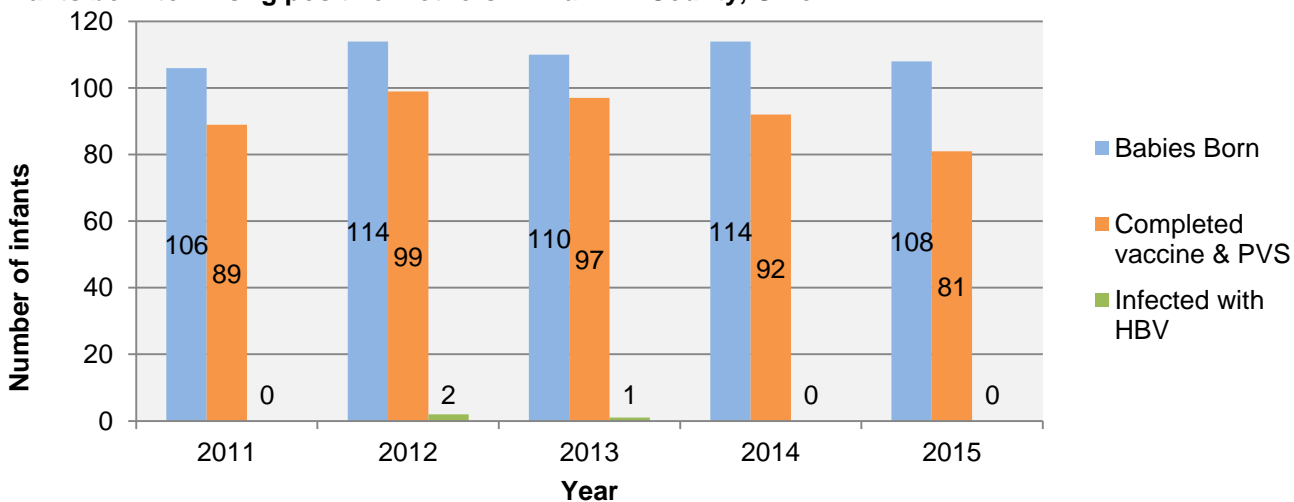
Hepatitis B “is the most prevalent chronic infectious disease in the world, a common cause of morbidity and mortality worldwide, and a major health problem in the United States ...One mode of transmission of HBV is perinatal transmission.”
 — NY state PHBPP program manual

Infants

- Vaccinate all newborns against hepatitis B at birth regardless of the mother’s status based on federal guidelines. If the mother is hepatitis B negative, the recommendation is the baby is immunized within 24 hours of birth. If the mother is hepatitis B positive, the baby needs HBIG and the birth dose of vaccine within 12 hours of birth. (Needle Tips from the Immunization Action Coalition, Volume 26- Number 4, Dec. 2016)
- Post vaccine serology (PVS) needs to be done at 9-12 months of age, or 1 month after the last vaccine (if over 9 months of age), to best capture the true status of the child.
- PVS consists of the hepatitis B surface antigen (HBsAg) and the antibody to the hepatitis B surface antigen (anti-HBs).
- Total hepatitis B core antibody (total anti-HBc) testing of infants or children is not recommended because passively acquired maternal anti-HBc might be detected up to age 24 months in children of hepatitis B infected mothers. (Immunize.org, Ask the Expert, Hepatitis B)
- Persons who develop anti-HBs titers of >10 IU/mL after primary vaccination series are virtually 100% protected against clinical illness and chronic infection. (Clinical Microbiology Reviews, April 1999)



Infants born to HBsAg positive mothers in Franklin County, Ohio



From Local Health Department (CPH) Data

There is no second chance to protect a newborn from a chronic hepatitis B infection.

Educational Opportunities:

Nurses who work with individuals at high-risk for hepatitis B infection or their babies can now take an online, self-study course on perinatal hepatitis B prevention for 1.03 nursing Continuing Education (CE) contact hours. Interested learners can access the course at Columbus Public Health's CE website: <http://cphsystems.org/ce/>.

Columbus Public Health is an approved provider of continuing nursing education by the Ohio Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation. (OBN-001-91) (OH -075, 6/1/2018)

Additional Resources:

CDC Perinatal Hepatitis B Transmission - <https://www.cdc.gov/hepatitis/hbv/perinatalexmtn.htm>

Immunization Action Coalition, Hepatitis B Birth Dose - <http://www.immunize.org/birthdose/>

A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP) part 1: immunization of infants, children, and adolescents. Mast, EE, Margolis, HS, et al MMWR Recomm Rep. 2006;54(RR- 16):1-31. - <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5516a1.htm>

Images from Public Health Image Library (PHIL) <https://phil.cdc.gov/phil/details.asp>

For more information:

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