

IN THIS ISSUE: PERINATAL HEPATITIS B TRANSMISSION

Pregnancy, Transmission Prevention, & Infant Vaccination

Introduction

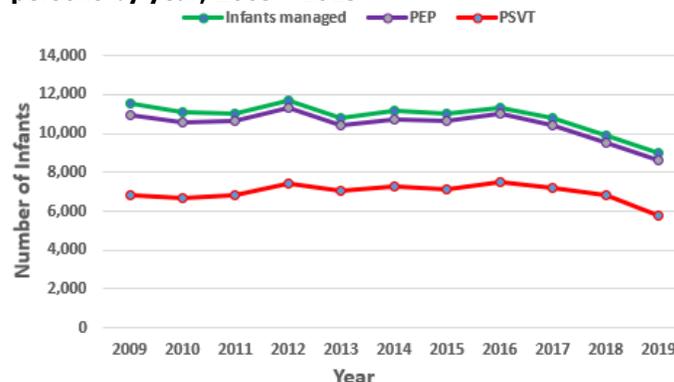
Hepatitis B is a vaccine preventable liver infection that is potentially life-threatening. It is caused by the hepatitis B virus (HBV) and is spread when blood, semen, or other body fluids from a person infected with the virus enters the body of someone who is not infected.¹ In a pregnant person, HBV infection poses a serious risk to the infant at birth, if vaccines are not administered in a timely manner at birth, the infant is at risk of infection. Washoe County Health District's Perinatal HBV Prevention program is housed in the Epidemiology and Public Health Preparedness Division, epidemiology staff follow up with pregnant persons who are chronically infected with HBV to ensure the infant receives proper prophylaxis following delivery to prevent transmission at birth.

Epidemiology

In the United States, an estimated 862,000 people were chronically infected with HBV in 2016, with approximately 3,000 cases of acute hepatitis reported per year.² In 2019, 3,192 cases of acute hepatitis B were reported; however, because of low case detection and reporting, the Centers for Disease Control and Prevention (CDC) estimates that there were 20,700 acute hepatitis B infections.² Without postexposure prophylaxis, approximately 40% of infants born to HBV-infected mothers in the United States will develop chronic HBV infection and approximately ¼ may die from chronic liver disease.¹

Hepatitis B virus (HBV) infection in a pregnant person poses a serious risk to the infant at birth. At the national level, the number of reported infants managed by the CDC Perinatal Hepatitis B Prevention Program has shown a slight overall decrease from 2009 to 2019. In 2019 the number of total infants managed was 8,995 of which 8,653 were reported to have received post exposure prophylaxis (PEP) and 5,753 were followed up with post vaccination serology testing (PVST). The percentage of infants managed who received PSVT has increased from 59% (6,792 of 11,551 infants managed) in 2009 to 64% (5,753 of 8,995 infants managed) in 2019 [Fig. 1].

Figure 1: Outcomes of infants born to hepatitis B infected persons by year, 2009 - 2019



Source: CDC, National Perinatal Hepatitis B Prevention Program. **PEP** (postexposure prophylaxis), number of infants who received PEP (hepatitis B immune globulin and 1st dose of hepatitis B vaccine) for hepatitis B infection; **PVST** (postvaccination serological testing), number of infants who received PVST after hepatitis B vaccine series completion.

* Includes 50 states, District of Columbia, and 5 cities. Excludes territories and freely associated island nations. <https://www.cdc.gov/hepatitis/statistics/2019surveillance/perinatal-hepb-report.htm>

Pregnancy

Pregnant persons should receive appropriate testing during pregnancy, and those who are HBsAg-positive should receive follow up HBV DNA testing. The American Association for the Study of Liver Diseases (AASLD) recommends that pregnant persons who test positive for HBsAg with DNA levels >200,000 IU/L be provided antiviral therapy to reduce perinatal transmission.³ Pregnant persons who are at high risk should be vaccinated and counseled. Risk factors for HBV include one or more of the following:⁴

- Household contacts or sexual partners of HBsAg-positive persons.
- Injection drug use.
- More than one sex partner in the last 6 months.
- HIV infection.
- International travel to regions with HBV prevalence of ≥2%

<https://wwwnc.cdc.gov/travel/yellowbook/2>

Persons who are positive for chronic HBV and pregnant or expecting to become pregnant should be reported to the Perinatal Hepatitis B Program at Washoe County Health District immediately for follow up

<http://tinyurl.com/WashoeDiseaseReporting>

Transmission Prevention (stages in utero, post-partum)

Preventing perinatal HBV transmission is an integral part of the national strategy to eliminate hepatitis B in the United States. National guidelines call for the following:¹

- Universal screening of pregnant persons for HBsAg during each pregnancy.
- HBV DNA testing for HBsAg-positive pregnant persons at 26-28 weeks to guide the use of maternal antiviral therapy during pregnancy. AASLD suggests maternal antiviral therapy when HBV DNA is >200,000 IU/mL.
- Case management of HBsAg-positive mothers and their infants.
- Delivery of immunoprophylaxis for infants born to infected mothers, including hepatitis B vaccine and hepatitis B immune globulin (HBIG) within 12 hours of birth.
- Routine vaccination of all infants with the hepatitis B vaccine series, with the first dose administered within 24 hours of birth.

Infant Vaccination

Vaccination is the most effective way to prevent HBV transmission and complications. Hepatitis B vaccine should be administered on a regular dosage schedule for infants born to non-infected mothers. For infants born to mothers with chronic HBV infections, HBIG is generally used as an adjunct to HBV vaccine which are to be administered at different injection sites within 12 hours of birth. For infants <2,000 grams, the birth dose should not be counted as part of the vaccine series because of the potentially reduced immunogenicity of HBV vaccine in these infants; 3 additional doses of vaccine (for a total of 4 doses) should be administered beginning when the infant reaches age 1 month. The final dose in the series should not be administered before age 24 weeks (164 days).⁴

Washoe County Perinatal HBV Program

The Epidemiology Program at WCHD operates the county's Perinatal HBV Prevention Program. The primary goal is to reduce the incidence of hepatitis B in infants born to women with hepatitis B. For more information on the program, please visit the Washoe County Health District Perinatal Hepatitis B Prevention Program at

<https://www.washoecounty.gov/health/programs-and-services/ephp/communicable-diseases-and-epidemiology/programs/perinatal-hepatitis-b-prevention-program.php>

Reporting

Hepatitis B in pregnant persons is a legally notifiable condition and should be reported within one working day to the health department. A HBsAg-positive lab result should be reported along with the complete Confidential Case Report Form to the confidential fax at (775) 328-3764.

The list of reportable communicable diseases and reporting forms can be found at:

<http://tinyurl.com/WashoeDiseaseReporting>

Report communicable diseases to the Washoe County Health District. To report a communicable disease, please call 775-328-2447 or fax your report to the WCHD at 775-328-3764.

Acknowledgement

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References

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