



The Vaccinator

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Perinatal Hepatitis B Prevention

Reducing Medical Errors Treating Perinatal Hepatitis B

Without postexposure immunoprophylaxis, approximately 40% of infants born to HBV-infected mothers in the United States will develop chronic HBV infection, approximately one-fourth of whom will eventually die from chronic liver disease. This is why healthcare providers are so critical to protecting newborns.

Unfortunately, medical errors can and do happen. The most common mistakes made that can have tragic results for newborns include:

- Infants born to HBsAg-positive mothers did not receive both hepatitis B vaccine and HBIG within 12 hours of birth.
- Infants born to mothers of unknown HBsAg status were not properly prophylaxed.
- Screening test results were misordered, misinterpreted, mistranscribed, or miscommunicated.
- Pregnant women were screened using the incorrect hepatitis B test.

These errors can be prevented by looking at each stage of care for both the pregnant woman and newborn.

How Healthcare Providers Protect Newborns

If you provide prenatal care:

- Test every pregnant woman during each pregnancy for HBsAg, regardless of her hepatitis B vaccination status.
- Send a copy of the original lab report along with other prenatal records to the hospital where the woman will deliver.
- Notify the local or state health department* of any positive HBsAg test result.
- Counsel the pregnant woman about the implications of her positive HBsAg test result (e.g., the need for her to receive ongoing medical evaluation and the need for household and sexual contacts to be tested and vaccinated).
- Communicate the woman's positive HBsAg status to the clinician who will provide pediatric care to the newborn.
- Follow the new Screening and Referral Algorithm for Hepatitis B Virus (HBV) Infection among Pregnant Women (page 3).



If you work in a hospital labor & delivery unit or newborn nursery

- Know the HBsAg status of every woman giving birth in your facility. A copy of the original lab report should be part of the prenatal record.
- Don't let any infant slip through the cracks. Administer the first dose of hepatitis B vaccine in the hospital to all newborns.
- Develop hospital policies to assure that all mothers are screened for HBsAg and all newborns are appropriately managed to prevent HBV infection.

If you provide pediatric care to newborns

- Know the who is most at risk
- know the HBsAg status of mothers of all infants for whom you provide care.
- Help assure that no babies are infected due to a medical error.
- Make sure that all newborns under your care receive the first dose of hepatitis B vaccine at birth, before hospital discharge.

The New Recommendations in Treatments to Prevent Perinatal Hepatitis B

Mother-to-child transmission is responsible for more than one third of chronic hepatitis B infections worldwide. The CDC has outlined two recommendations:

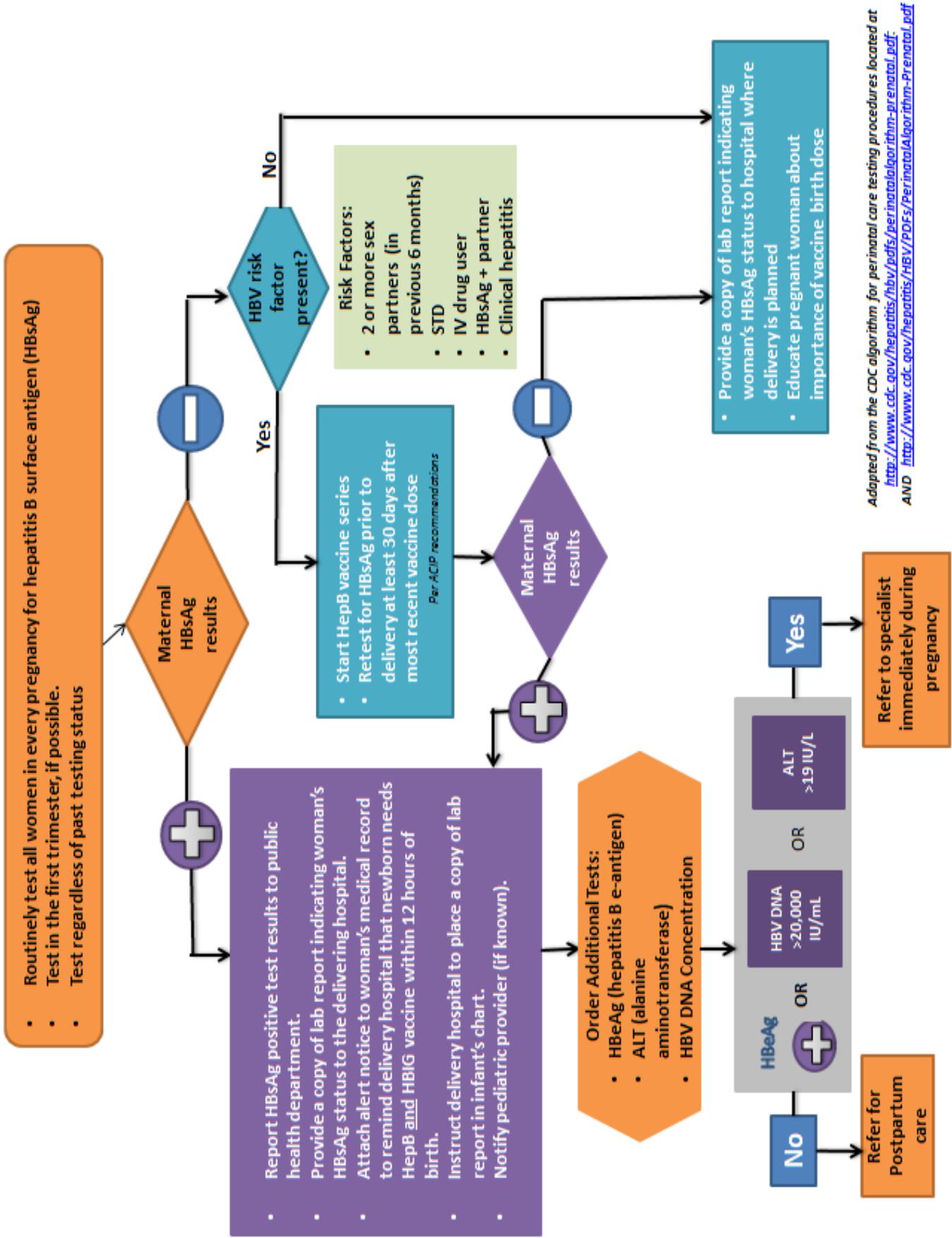
1) Retest High Risk Pregnant Women for HBsAg

Women who test negative for HBsAg in the first trimester, and engage in high-risk behavior (e.g., having multiple sexual partners, having had a sexual partner positive for HBsAg, recent or current injection-drug use, evaluation or treatment for a sexually transmitted disease, chronic liver disease, or other factors) during pregnancy should be retested in the third trimester or at delivery. When hepatitis B is acquired during pregnancy, third trimester infections carry the highest risk for mother-to-child transmission. At the time of admission for delivery, perform the HBsAg testing as soon as possible on women who do not have a documented HBsAg test result; or were at risk for hepatitis B infection during pregnancy, and were not retested in the third trimester. Any pregnant woman who tests negative for hepatitis B, and is not immune to hepatitis B and has risk factors for infection should be given the hepatitis B adult vaccine series.² (refer to algorithm on page 3)

2) Treatment to Lower Risk of Perinatal hepatitis B transmission

Selective treatment in the third trimester of pregnancy may lower 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 (> 200,000 IU/mL). Treatment may be considered in the third trimester in mothers with high viremia. If therapy is administered only for prevention of mother-to-child transmission, it may be discontinued within the first 3 months after delivery.² (refer to algorithm on page 3)

Screening and Referral Algorithm for Hepatitis B Virus (HBV) Infection among Pregnant Women



Other Important Vaccines for Pregnant Woman

Flu Vaccine

It is safe, and very important, for a pregnant woman to receive the inactivated flu vaccine. A pregnant woman who gets the flu is at risk for serious complications and hospitalization.

Tdap Vaccine

Women should get adult tetanus, diphtheria and acellular pertussis vaccine (Tdap) during each pregnancy. Ideally, the vaccine should be given between 27 and 36 weeks of pregnancy.

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 1.26 nursing Continuing Education (CE) contact hours.

Interested learners can access the course at Columbus Public Health's CE website: <http://cphsystems.org/ce/>. Nursing contact hours can be obtained from this course through September 30, 2017.

**Mom to Baby:
Preventing
Hepatitis B**

Perinatal Hepatitis B Prevention Program
Columbus Public Health

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

Resources:

¹ Prevention of Perinatal Hepatitis B Virus Transmission. Noele P. Nelson, Denise J. Jamieson, and Trudy V. Murphy. *J Ped Infect Dis* (2014) 3 (suppl 1): S7-S12. doi: 10.1093/jpids/piu064

² Hepatitis B Management in Special Populations. Tram T. Tran MD. *inPractice Resources*, LLC, a subsidiary of Clinical Care Options

Hepatitis B: A strategy for evaluation and management. Hesham M. Elgouhari MD, Tarek I. Abu-Rajab Tamimi MD, and William Carey MD. *Cleveland Clinic Journal of Medicine* January 1, 2009 CCJM 2009 1;76(1):19-35.

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.

Antiviral Therapy for Chronic Hepatitis B in Pregnancy. Pan, Calvin MD, and Lee, Hannah MD. *Semin Liver Dis*. 2013;33(2):138-146 Found at: http://www.medscape.com/viewarticle/807416_print

HBV Perinatal Transmission among Mothers with High Viral Loads. Wiseman E, Fraser MA, Holden S, et al. Perinatal transmission of hepatitis B virus: an Australian experience. *Med J Aust*. 2009; 190(9): 489-492.

Questions?

Virginia Brendemuehl, RN BSN BS
Regional Perinatal Hepatitis B Coordinator
Project L.O.V.E. at Columbus Public Health
614-645-7597 / VABrendemuehl@columbus.gov

