

Give birth to the end of Hep B

Hepatitis B: What Hospitals Need to Do to Protect Newborns

How to prevent perinatal HBV transmission

Immunization Action Coalition (IAC)

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Acknowledgment

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Background on hepatitis B

- Hepatitis B is a liver disease caused by the hepatitis B virus (HBV).
- HBV is found in the blood and other body fluids of infected people (e.g., serum, semen, saliva, and vaginal secretions).
- An infant can acquire HBV from:
 - An infected mother (transmitted at birth)
 - A chronically infected member of the household

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Natural history of hepatitis B virus (HBV) infection

HBV can cause acute or chronic infection.

Chronic HBV infection can lead to liver failure and liver cancer.

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    graph TD
      A[Acute HBV infection  
(may be symptomatic or asymptomatic)] --> B[Chronic HBV infection]
      A --> C[Resolved and immune]
      B --> D[Resolved and immune  
(over years)]
      B --> E[Liver cirrhosis and cancer]
    
```

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Risk of developing chronic hepatitis B by age at infection

Age at Infection	Risk of Developing Chronic HBV
Infant	90%
1-5 Years	30%
> 5 years	<5%

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Why a birth dose?

- The primary goal of administering hepatitis B vaccine at birth is to protect babies from chronic HBV infection, which can lead to liver failure and liver cancer.
 - Most morbidity and mortality from HBV-related liver failure and liver cancer occurs in people with chronic HBV infection.
 - Treatment can decrease liver damage and the chance of liver cancer, but there is no cure.
 - Many people with chronic HBV are not aware of their infection and can unknowingly spread the infection.


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Effectiveness of hepatitis B vaccine starting at birth?

- Post-exposure prophylaxis of infants born to infected mothers is 85–95% effective when started within 12 hours of birth.
 - Post-exposure prophylaxis: hepatitis B vaccine + hepatitis B immune globulin (HBIG) at birth, completion of hepatitis B vaccine series, post-vaccination testing for outcomes.
 - Timing of the birth dose is critical to achieve the highest rates of protection.
- Hepatitis B vaccination starting at birth even without HBIG will prevent transmission of the infection in 70–95% of infants born to chronically infected mothers.




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The Opportunity

- Hospitals have an opportunity to protect the future health of infants born in their facilities.
 - Each year in the U.S., more than 24,000 infants are born to mothers who are infected with HBV, and not all of their infants receive post-exposure prophylaxis.
 - Some infants are first exposed shortly after birth to HBV by household members or caretakers who have chronic HBV infection.
- Most infants can be protected if hospitals routinely provide a birth dose of hepatitis B vaccine to all newborn infants.




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Smith EA. Pediatrics 2012;129:609-616; MMWR 2005;57(RR-8):1-20
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The Problem

- Many infants in the United States are not receiving the birth dose of hepatitis B vaccine.
 - Only 74.2% of U.S. infants received hepatitis B vaccine within 3 days of birth.*
 - States' coverage rates varied between 44.8% and 88.0%.*
- There is room for improvement in protecting newborn infants in every state.



*Reference: Data from 2013 National Immunization Survey, at www.cdc.gov/mmwr/preview/mmwrhtml/mm6334a1.htm


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Why should we give hepatitis B vaccine to all newborns?

- **Prevents mother-to-infant transmission:** Prevents 70–95% of infection among infants born to HBsAg-positive women
- **Prevents household transmission:** Protects infants from infected family members and other caregivers
- **Protects when medical errors occur:** Provides a safety net to prevent perinatal HBV infection when medical errors occur




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Why is a safety net needed?



Because medical errors happen!




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Types of medical errors reported

- Ordering the wrong hepatitis B screening test
- Misinterpreting or mistranscribing the hepatitis B test results
- Failing to communicate the HBsAg test results to or within the hospital
- Not giving hepatitis B vaccine to infants born to mothers of unknown HBsAg status within 12 hours of birth
- Not giving prophylaxis to an infant even when the mother's HBsAg-positive status is documented




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Because of these types of errors, children are chronically infected with hepatitis B (HBV)

A universal hepatitis B vaccine birth dose policy helps to protect newborn infants from human error and resulting chronic HBV infection which can cause serious liver disease.




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All birthing hospitals should:

1. Implement policies and procedures to administer the recommended universal hepatitis B vaccine birth dose, ensuring that every newborn infant receives hepatitis B vaccine at birth, or no later than hospital discharge.
2. Implement standing orders for administration of hepatitis B vaccine as part of routine medical care of all medically stable infants weighing $\geq 2,000$ g at birth
3. Follow national recommendations for prophylaxis of all newborn infants born to women with HBsAg-positive test results, and all infants born to women whose HBsAg status is unknown



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Reference: MMWR 2005;54(RR-16) www.cdc.gov/mmwr/PDF/rr/rr5416.pdf


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All birthing hospitals should also:

4. Ensure that a copy of the original laboratory report from the mother's HBsAg screening test is placed in the infant's medical record
5. Educate staff and parents about the importance of administering the first dose of hepatitis B vaccine in the hospital or birthing facility, not delaying it until after discharge.

Only in rare circumstances, and on a case-by-case basis, should the first dose be delayed until after discharge. Such a delay should be considered only for an infant who weighs $\geq 2,000$ grams and whose mother is HBsAg negative during this pregnancy. If the first dose is delayed, then a physician's order to withhold the dose should be placed in the infant's medical record along with a copy of the mother's original laboratory report demonstrating that she was HBsAg negative during this pregnancy.



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Reference: MMWR 2005;54(RR-16) www.cdc.gov/mmwr/PDF/rr/rr5416.pdf

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Hepatitis B birth dose is recommended by ACIP, AAP, AAFP, and ACOG

“Administer monovalent Hep B vaccine to all newborns before hospital discharge.”



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Reference: MMWR Supplement, February 1, 2013, Vol. 62. Advisory Committee on Immunization Practices (ACIP) Recommended Immunization Schedules for Persons Aged 0 Through 18 Years and Adults Aged 19 Years and Older—United States, 2013. www.cdc.gov/mmwr/pdf/other/su6201.pdf

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Birth Dose Coverage: National Quality Forum (NQF) Measure 0475

- NQF measure 0475 endorsed on 4/2/2012
- Recommends that hospitals measure and report the “percent of live newborn infants that receive hepatitis B vaccination before discharge at each single hospital / birthing facility during given time period (one year),” excluding infants whose parents refuse vaccination.



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Summary

Birthing facilities play a critical role in preventing chronic hepatitis B infections through timely initiation of post-exposure prophylaxis, and by creating a birth dose safety net for eliminating perinatal hepatitis B transmission.

The most important steps for birthing facilities to take are:

- Implement a universal birth dose policy
- Ensure universal review of the original maternal HBsAg test results
- Implement standard admission orders for timely administration of hepatitis B vaccine to all newborn infants
- Follow national recommendations for prophylaxis of newborn infants
 - Infants born to women with HBsAg-positive test results and
 - Infants born to women whose HBsAg status is unknown



Hepatitis B Complete 2005 ACIP Recommendations are available at www.cdc.gov/mmwr/PDF/rr/rr5416.pdf

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An IAC initiative to eliminate hepatitis B virus infection in the U.S. through the prevention of perinatal transmission

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Two Tools for Promoting the Hepatitis B Birth Dose

- “Hepatitis B: What Hospitals Need to Do to Protect Newborns” – a comprehensive guide
- Hepatitis B Birth Dose Honor Roll

www.immunize.org/protect-newborns

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Hepatitis B: What Hospitals Need to Do to Protect Newborns

Reviewed and endorsed by

- American Academy of Family Physicians
- American Academy of Pediatrics
- American College of Obstetricians and Gynecologists
- Centers for Disease Control and Prevention

www.immunize.org/protect-newborns/guide/endorsements.pdf

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Birth Dose Guidebook Sections

1. Preventing Hepatitis B in Newborns: What's Needed
2. Reducing Medical Errors: Case Reports
3. Addressing the Problem: Practical Tools
4. Obtaining Support: Helpful Contacts
5. Appendix: Authoritative Resources

www.immunize.org/protect-newborns/guide

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Chapter 1. Preventing Hepatitis B in Newborns: What's Needed

1. Executive Summary – What Hospitals Need to Do to Protect Newborns
2. National Quality Forum (NQF) has established newborn hepatitis B vaccination as a national standard for measurement by healthcare settings

www.immunize.org/protect-newborns/guide/chapter1/whats-needed.pdf

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Chapter 2. Reducing Medical Errors: Case Reports


1. States Reports Hundreds of Medical Errors in Perinatal Hepatitis B Prevention
2. Unprotected Infant Dies of Fulminant Hepatitis B
3. Medical Errors Put Infants at Risk for Chronic Hepatitis B Virus Infection—Six Case Reports
4. Two More Infants Chronically Infected with Hepatitis B Virus. . . the Medical Errors Continue
5. Give the Birth Dose. . .Hepatitis B Vaccine at Birth Saves Lives!

www.immunize.org/protect-newborns/guide/chapter2/case-reports.pdf

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Chapter 3. Addressing the Problem: Practical Tools for Hospitals

- Guidance for Developing Admission Orders in Labor & Delivery and Newborn Units to Prevent Hepatitis B Virus Transmission
- Sample Text for Developing Admission Orders in Newborn Units for the Hepatitis B Vaccine Birth Dose




www.immunize.org/protect-newborns/guide/chapter3/practical-tools.pdf

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Sample Text for Developing Admission Orders in Newborn Units for the Hepatitis B Vaccine Birth Dose



www.immunize.org/protect-newborns/guide/chapter3/admission-orders.pdf


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Chapter 3. Addressing the Problem: Practical Tools for Parents

- About Hepatitis B Vaccine Information Statements
- English-language Hepatitis B VIS
- Spanish-language Hepatitis B VIS
- *Hepatitis B Shots Are Recommended for All New Babies*
- Childhood Immunization Records Cards



www.immunize.org/protect-newborns/guide/chapter3/practical-tools.pdf

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Hepatitis B Shots Are Recommended for All New Babies



www.immunize.org/protect-newborns/guide/chapter3/parent-handout.pdf


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Chapter 4. Obtaining Support: Helpful Contacts

1. Your State or Local Perinatal Hepatitis B Coordinator Can Help Implement the Hepatitis B Birth Dose
2. How the Vaccines For Children (VFC) Program Can Help Your Hospital



www.immunize.org/protect-newborns/guide/chapter4/helpful-contacts.pdf


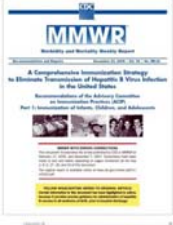
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Appendix. Authoritative Resources

- CDC Recommendations: A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States, *MMWR*, December 23, 2005, Vol. 54(RR16)
- Gaps in Hospital Policies and Practices to Prevent Perinatal Transmission – *Pediatrics*, April 2010, Vol. 125 (4)
- Additional Resources

www.immunize.org/protect-newborns/guide/appendix/authoritative-resources.pdf

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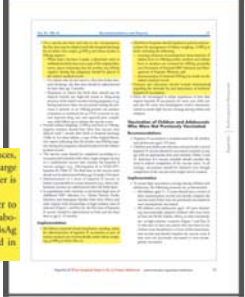
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CDC Hepatitis B Recommendations with Highlighting

The guidebook includes a reprint of the official CDC recommendations with highlighting of crucial points about the birth dose

On a case-by-case basis and only in rare circumstances, the first dose may be delayed until after hospital discharge for an infant who weighs >2,000 g and whose mother is HBsAg negative.

— When such a decision is made, a physician's order to withhold the birth dose and a copy of the original laboratory report indicating that the mother was HBsAg negative during this pregnancy should be placed in the infant's medical record.



www.immunize.org/protect-newborns/guide/appendix/acip-recommendations.pdf

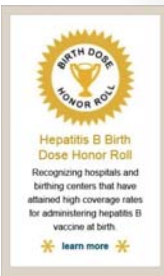
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IAC's Hepatitis B Birth Dose Honor Roll

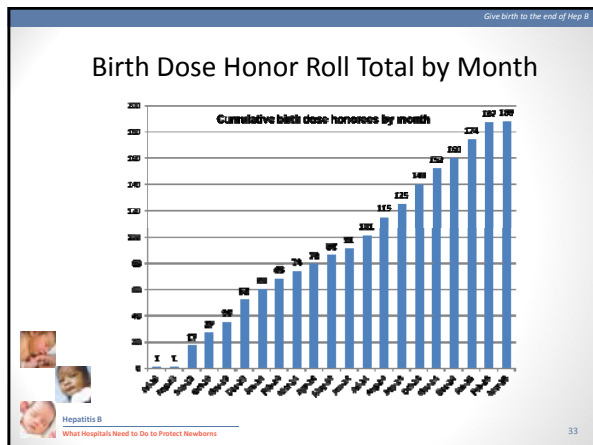
Recognizes hospitals and birthing centers that have attained 90% or greater coverage rates for administering hepatitis B vaccine at birth.



www.immunize.org/honor-roll/birthdose

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Criteria for Birth Dose Honor Roll

- At least 90% of babies (regardless of weight) born during a 12-month period receive hepatitis B vaccine prior to discharge (including those infants whose parents refuse).
- Written policies, procedures, and protocols for implementing the universal hepatitis B vaccine birth dose are in place and include the following:
 - Parents are informed about the importance of the hepatitis B vaccine birth dose and that it is recommended for all newborns.
 - All infants routinely receive hepatitis B vaccine before hospital discharge.

Note: The following criteria are generally required, but exceptions may be made.




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Criteria for Birth Dose Honor Roll – cont.

- Staff review the mother's chart to make sure the correct test, HBsAg, was ordered during this pregnancy. The result is also reviewed. **Note:** It is recommended to review a copy of the original test report, if at all possible.
- If HBsAg test result is not on mother's chart, it is ordered ASAP.
- Infants born to HBsAg-positive mothers receive hepatitis B vaccine and hepatitis B immune globulin (HBIG) within 12 hours of birth.
- Infants born to mothers whose HBsAg status is unknown receive hepatitis B vaccine within 12 hours of birth, and also receive HBIG within 12 hours of birth if they weigh less than 2,000 grams.
- Newborn admission orders include a standing order to administer hepatitis B vaccine to all infants prior to discharge.
- Notification of the state or local health department's perinatal hepatitis B prevention program is done prior to discharge (or as soon as known, if after discharge) for all mothers whose HBsAg test result is positive.



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Enrollment into the Honor Roll

- Applications at www.immunize.org/honor-roll/birthdose/apply.aspx
- Review by IAC
- Notification of acceptance
- Certificate of enrollment
- Placement on Birth Dose Honor Roll web page
- Recognition in *IAC Express* www.immunize.org/express
- To subscribe to *IAC Express* www.immunize.org/subscribe



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Birth Dose Honor Roll Certificate

Immunization Action Coalition
recognizes the exceptional achievement of
Albany Medical Center
ALBANY, NEW YORK
and enrolls the hospital into its
Hepatitis B Birth Dose Honor Roll


For its noteworthy dedication to patient safety by establishing a policy to administer the first dose of hepatitis B vaccine to newborns prior to hospital discharge, and achieving a coverage rate of 99 percent.

The birth dose of hepatitis B vaccine is critical to safeguarding all infants from hepatitis B virus infection which can lead to chronic liver disease.

We applaud your dedication to protecting patients.

Donald S. Teitelbaum
President, Immunization Action Coalition

November 14, 2011



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Promoting the Hepatitis B Birth Dose Honor Roll to Birthing Facilities

Do you qualify for the Hepatitis B Birth Dose Honor Roll?
If so, apply today.

Do you qualify for the Hepatitis B Birth Dose Honor Roll?
If so, apply today.

www.immunize.org/catg.d/p2205.pdf
www.immunize.org/protect-newborns



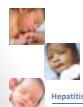
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More about the Birth Dose Honor Roll

- Hepatitis B Birth Dose Honor Roll home page, including the criteria for inclusion:
www.immunize.org/honor-roll/birthdose
- Listing of hospitals on the Birth Dose Honor Roll:
www.immunize.org/honor-roll/birthdose/honorees.asp
- Application for enrollment into the Honor Roll
www.immunize.org/honor-roll/birthdose/apply.aspx
- Do You Qualify for the Birth Dose Honor Roll?
www.immunize.org/catg.d/p2205.pdf (color)
www.immunize.org/catg.d/p2206.pdf (B&W)



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Promoting the Birth Dose

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www.immunize.org/catg.d/p2201.pdf
www.immunize.org/protect-newborns



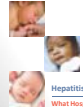
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What You Can Do

- Download the guidebook, *Hepatitis B: What Hospitals Need to Do to Protect Newborns* www.immunize.org/protect-newborns
- Share the guide with hospitals and birthing centers to help them improve birth dose coverage rates
- Distribute the handout "Give birth to the end of Hep B," to educate others about the importance of the hepatitis B birth dose
- Distribute the handout "Do you qualify for the Hepatitis B Honor Roll? If so apply today." to birthing facilities
- If you are a birthing facility and have met the criteria, apply for enrollment into the Birth Dose Honor Roll www.immunize.org/honor-roll/birthdose/apply.aspx



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Safety Net



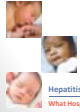
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Thank You!

For more information, please visit:
www.immunize.org/protect-newborns

Questions about *Give birth to the end of Hep B*?
Email birthdose@immunize.org



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