

# Screening for Hepatitis B Virus Infection in Pregnancy: U.S. Preventive Services Task Force Reaffirmation Recommendation Statement

U.S. Preventive Services Task Force\*

**Description:** Reaffirmation of the 2004 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for hepatitis B virus infection in pregnancy.

**Methods:** The USPSTF performed a brief literature update, including a search for new and substantial evidence on the benefits and harms of screening pregnant women for hepatitis B virus infection.

**Finding:** The net benefit of screening continues to be well established.

**Recommendation:** Screen for hepatitis B virus infection in pregnant women at their first prenatal visit. (Grade A recommendation.)

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For author affiliation, see end of text.

\* For a list of the members of the USPSTF, see the **Appendix** (available at www.annals.org).

**T**he U.S. Preventive Services Task Force (USPSTF) makes recommendations about preventive care services for patients without recognized signs or symptoms of the target condition.

*It bases its recommendations on a systematic review of the evidence of the benefits and harms and an assessment of the net benefit of the service.*

*The USPSTF recognizes that clinical or policy decisions involve more considerations than this body of evidence alone. Clinicians and policymakers should understand the evidence but individualize decision making to the specific patient or situation.*

## SUMMARY OF RECOMMENDATION AND EVIDENCE

The USPSTF recommends screening for hepatitis B virus (HBV) infection in pregnant women at their first prenatal visit. (This is a grade A recommendation.)

See the **Figure** for a summary of the recommendation and suggestions for clinical practice.

**Table 1** describes the USPSTF grades, and **Table 2** describes the USPSTF classification of levels of certainty about net benefit. Both are also available at www.annals.org.

## RATIONALE

### Importance

An estimated 24 000 infants are born each year to women in the United States who are infected with HBV. Between 30% and 40% of all chronic HBV infections result from perinatal transmission. Chronic HBV infections increase long-term morbidity and mortality by predisposing infected persons to cirrhosis of the liver and liver cancer.

## Detection

The principal screening test for detecting maternal HBV infection is the serologic identification of hepatitis B surface antigen (HBsAg). Immunoassays for detecting HBsAg have a reported sensitivity and specificity greater than 98%.

## Benefits of Detection and Early Intervention

The USPSTF found convincing evidence that universal prenatal screening for HBV infection substantially reduces perinatal transmission of HBV and the subsequent development of chronic HBV infection. The current practice of vaccinating all infants against HBV infection and providing postexposure prophylaxis with hepatitis B immune globulin administered at birth to infants of mothers infected with HBV substantially reduces the risk for acquiring HBV infection.

## Harms of Detection and Early Intervention

The USPSTF found no published studies that describe harms of screening for HBV infection in pregnant women. The USPSTF concluded that the potential harms of screening are no greater than small.

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Appendix

CME quiz

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**USPSTF Assessment**

The USPSTF concludes that there is high certainty that the net benefit of screening pregnant women for HBV infection is substantial.

**CLINICAL CONSIDERATIONS****Patient Population Under Consideration**

This recommendation applies to all pregnant women.

**Screening Tests**

Screening for HBV infection by testing for HBsAg should be performed in each pregnancy, regardless of previous hepatitis B vaccination or previous negative HBsAg test results.

**Timing of Screening**

A test for HBsAg should be ordered at the first prenatal visit with other recommended screening tests. At the time of admission to a hospital, birth center, or other delivery setting, women with unknown HBsAg status or with new or continuing risk factors for HBV infection (such as injection drug use or evaluation or treatment for a sexually transmitted disease) should receive screening.

**Treatment**

Infants born to HBV-infected mothers should receive hepatitis B vaccine and hepatitis B immune globulin within 12 hours of birth. Infants born to mothers with unknown HBsAg status should receive hepatitis B vaccine within 12 hours of birth, followed by hepatitis B immune globulin as soon as possible (but not later than 7 days after birth) if the mother tests positive for HBsAg.

Pregnant women who test positive for HBsAg should be referred to an appropriate case-management program and should be provided with or referred for counseling and medical management of HBV infection. Counseling should include information about prevention of HBV transmission to sexual partners and household contacts and reassurance regarding the safety of breastfeeding in infants who receive appropriate prophylaxis.

**OTHER CONSIDERATIONS****Implementation**

Screening for HBV infection in pregnant women is necessary but not sufficient to prevent disease transmission to newborns. To realize the maximum benefit from screening, primary care clinicians and delivery settings must establish effective systems for the accurate and timely transfer of maternal HBsAg test results to the labor, delivery, and newborn medical records.

**RESEARCH NEEDS/GAPS**

Research is needed to assess the effect of long-standing universal childhood hepatitis B vaccination on the magnitude of benefit of screening for HBV infection in U.S.-born pregnant women. Research is also needed to deter-

mine the net health benefit to the mother and infant of treating pregnant women whose chronic HBV infections are identified by prenatal screening.

**DISCUSSION**

In 2004, the USPSTF reviewed the evidence for screening for HBV infection in pregnant women and found that the benefits of screening substantially outweighed the harms (1). In 2008, the USPSTF performed a brief literature update (2) and determined that the net benefit of screening pregnant women for hepatitis B continues to be well established. This update included a search for new and substantial evidence on the benefits and harms of screening. The USPSTF found no new substantial evidence that could change its recommendation and, therefore, reaffirms its recommendation to screen pregnant women for hepatitis B at their first prenatal visit. The previous recommendation statement (3) and evidence review, as well as the current summary of the updated literature search, can be found at [www.preventiveservices.ahrq.gov](http://www.preventiveservices.ahrq.gov).

**RECOMMENDATIONS OF OTHERS**

The American Academy of Family Physicians strongly recommends screening for HBV infection in pregnant women at their first prenatal visit (4). This recommendation is available at [www.aafp.org/online/en/home/clinical/exam.html](http://www.aafp.org/online/en/home/clinical/exam.html).

The American College of Obstetricians and Gynecologists recommends routine screening of all pregnant women with HBsAg (5).

The American Academy of Pediatrics recommends HBsAg testing for all pregnant adolescents "at the time a pregnancy is discovered, regardless of hepatitis B immunization history and previous results of tests for HBsAg and antibody to HBsAg" (6). This recommendation is available at <http://aapredbook.aappublications.org/cgi/content/full/2006/1/2.9.2>.

The Centers for Disease Control and Prevention recommends that all pregnant women be tested routinely for HBsAg during an early prenatal visit (for example, first trimester) in each pregnancy, even if they have been previously vaccinated or tested (7). This recommendation is available at [www.cdc.gov/mmwr/preview/mmwrhtml/rr5416a1.htm?s\\_cid=rr5416a1\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5416a1.htm?s_cid=rr5416a1_e).

From the U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, Maryland.

**Disclaimer:** Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

**Financial Support:** The USPSTF is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality support the operations of the USPSTF.

*Figure. Screening for hepatitis B virus infection in pregnancy: clinical summary of U.S. Preventive Services Task Force Recommendation.*

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**SCREENING FOR HEPATITIS B VIRUS (HBV) INFECTION IN PREGNANCY  
CLINICAL SUMMARY OF U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATION**

|  |  |
|--|--|
| <b>Population</b>                      | <b>All Pregnant Women</b>  |
| <b>Recommendation</b>                  | <b>Screen at the first prenatal visit</b><br><br><b>Grade: A</b>   |
| <b>Screening Tests</b>                 | Serologic identification of hepatitis B surface antigen (HBsAg).<br>Reported sensitivity and specificity are greater than 98%.   |
| <b>Timing of Screening</b>             | Order HBsAg testing at the first prenatal visit.<br>Rescreen women with unknown HBsAg status or new or continuing risk factors at admission to hospital, birth center, or other delivery setting.  |
| <b>Interventions</b>                   | Administer hepatitis B vaccine and hepatitis B immune globulin to HBV-exposed infants within 12 hours of birth.<br><br>Refer women who test positive for counseling and medical management.<br>Counseling should include information about how to prevent transmission to sexual partners and household contacts.<br>Reassure patients that breastfeeding is safe for infants who receive appropriate prophylaxis. |
| <b>Implementation</b>                  | Establish systems for timely transfer of maternal HBsAg test results to the labor and delivery and newborn medical records.  |
| <b>Relevant USPSTF Recommendations</b> | USPSTF recommendations on the screening of pregnant women for other infections, including asymptomatic bacteriuria, bacterial vaginosis, chlamydia, HIV, and syphilis, can be found at <a href="http://www.preventiveservices.ahrq.gov">www.preventiveservices.ahrq.gov</a> .  |

For a summary of the evidence systematically reviewed in making these recommendations, the full recommendation statement, and supporting documents, please go to [www.preventiveservices.ahrq.gov](http://www.preventiveservices.ahrq.gov).

**Table 1. What the USPSTF Grades Mean and Suggestions for Practice**

| Grade       | Definition   | Suggestions for Practice  |
|-------------|--|---|
| A           | The USPSTF recommends the service. There is high certainty that the net benefit is substantial.  | Offer/provide this service.   |
| B           | The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.  | Offer/provide this service.   |
| C           | The USPSTF recommends against routinely providing the service. There may be considerations that support providing the service in an individual patient. There is moderate or high certainty that the net benefit is small.                   | Offer/provide this service only if other considerations support offering or providing the service in an individual patient.   |
| D           | The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.  | Discourage the use of this service.   |
| I statement | The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined. | Read the clinical considerations section of the USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms. |

USPSTF = U.S. Preventive Services Task Force.

**Table 2. U.S. Preventive Services Task Force Levels of Certainty Regarding Net Benefit**

| Level of Certainty* | Description   |
|---------------------|---|
| High                | The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.  |
| Moderate            | The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as:<br>the number, size, or quality of individual studies<br>inconsistency of findings across individual studies<br>limited generalizability of findings to routine primary care practice<br>lack of coherence in the chain of evidence.<br>As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion. |
| Low                 | The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:<br>the limited number or size of studies<br>important flaws in study design or methods<br>inconsistency of findings across individual studies<br>gaps in the chain of evidence<br>findings that are not generalizable to routine primary care practice<br>a lack of information on important health outcomes.<br>More information may allow an estimation of effects on health outcomes.  |

\*The U.S. Preventive Services Task Force (USPSTF) defines certainty as “likelihood that the USPSTF assessment of the net benefit of a preventive service is correct.” The net benefit is defined as benefit minus harm of the preventive service as implemented in a general primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

**Potential Financial Conflicts of Interest:** None disclosed.

**Requests for Single Reprints:** Reprints are available from the USPSTF Web site ([www.preventiveservices.ahrq.gov](http://www.preventiveservices.ahrq.gov)).

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|--|---------------|----------------|
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| Contents of this Course   | Quiz Status | Date Completed |
|---|-------------|----------------|
| SOURCE ARTICLE: Systematic Review: An Evaluation of Major Commercial Weight Loss Programs in the United States [ <a href="#">Abstract</a> ] [ <a href="#">Full text</a> ] [ <a href="#">PDF</a> ] | --          | --             |
| QUIZ: An Evaluation of the Major Commercial Weight Loss Programs in the United States [ <a href="#">Quiz</a> ]  | Not done    | --             |

**APPENDIX: U.S. PREVENTIVE SERVICES TASK FORCE**

Members of the U.S. Preventive Services Task Force† are Ned Calonge, MD, MPH, *Chair* (Colorado Department of Public Health and Environment, Denver, Colorado); Diana B. Petitti, MD, MPH, *Vice-Chair* (Arizona State University, Phoenix, Arizona); Thomas G. DeWitt, MD (Children's Hospital Medical Center, Cincinnati, Ohio); Allen J. Dietrich, MD (Dartmouth Medical School, Hanover, New Hampshire); Kimberly D. Gregory, MD, MPH (Cedars-Sinai Medical Center, Los Angeles, California); David Grossman, MD (Group Health Cooperative, Seattle, Washington); George Isham, MD, MS (HealthPartners, Minneapolis, Minnesota); Michael L. LeFevre, MD, MSPH (University of Missouri School of Medicine, Columbia, Missouri); Rosanne M. Leipzig, MD, PhD (Mount Sinai School of Medicine, New York, New York); Lucy N. Marion, PhD, RN

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† Members of the Task Force at the time this recommendation was finalized. For a list of current Task Force members, go to [www.ahrq.gov/clinic/uspstfab.htm](http://www.ahrq.gov/clinic/uspstfab.htm).