

Discrepant HBsAg lab results during pregnancy: recommended next steps

Purpose: A guide for determining management of infants born to a pregnant women with an initial confirmed HBsAg positive result followed by a negative result during the same pregnancy*

Example: HBsAg-positive (1ST trimester) → HBsAg-negative (3rd trimester)

KEY POINTS:

- All positive HBsAg results in pregnancy should be followed by a Nucleic Acid Test (NAT) for HBV DNA ([ACIP](#))
 - A positive HBV DNA indicates current HBV infection during pregnancy[†]
 - Additional tests for total anti-HBc, IgM anti-HBc and anti-HBs will help establish diagnosis[§]
- If a definitive diagnosis of HBV infection is not yet established at the time of delivery, the infant should be given hepatitis B vaccine within 12 hours of birth while additional labs are pending
 - Infants weighing < 2000g should also receive Hepatitis B Immune Globulin (HBIG) within 12 hours of birth if diagnosis cannot be established
 - If testing confirms diagnosis of HBV infection, infants weighing ≥ 2000g should be given HBIG within 7 days of birth
 - If a definitive diagnosis cannot be established (e.g., person refuses additional testing), consider managing conservatively and administering HBIG within 7 days of birth
- Refer all HBsAg positive pregnant women to the Perinatal Hepatitis B Prevention Program (PHBPP) [coordinator](#) for case management of mother and infant.

*For pregnant women never treated or diagnosed with chronic hepatitis B

[†]Pregnant women should be referred to Perinatal Hepatitis B Prevention Program (PHBPP) and the infant should receive hepatitis B vaccine and hepatitis B immune globulin within 12 hours of birth

[§]If no other lab tests are drawn, because HBV infection cannot be ruled out (and risk factors are not always reported), manage as if it is an HBV infection, i.e., Refer to PHBPP, infant needs post-exposure prophylaxis

Table. Interpretation of HBV markers of infection following discrepant HBsAg lab results during pregnancy

HBsAg results: First HBsAg positive and second HBsAg negative in same pregnancy

Additional Tests*	Results of additional testing†	Interpretation	Action
HBV DNA	Detected	Resolving acute infection [§]	<ul style="list-style-type: none"> • Refer to PHBPP • Infant needs post-exposure prophylaxis[¶]
Total anti-HBc	Positive		
IgM anti-HBc	Positive		
Anti-HBs	Positive		
HBV DNA	Not detected	False positive HBsAg** with a history of HBV infection cleared prior to pregnancy <i>OR</i> False negative HBsAg (possible mutant ^{**})	<ul style="list-style-type: none"> • Refer to PHBPP • Infant needs post-exposure prophylaxis^{§§}
Total anti-HBc	Positive		
IgM anti-HBc	Negative		
Anti-HBs	Negative		
HBV DNA	Detected	Occult infection	<ul style="list-style-type: none"> • Refer to PHBPP • Infant needs post-exposure prophylaxis
Total anti-HBc	Positive		
IgM anti-HBc	Negative		
Anti-HBs	Negative		
HBV DNA	Detected	False negative HBsAg (possible mutant ^{**})	<ul style="list-style-type: none"> • Refer to PHBPP • Infant needs post-exposure prophylaxis
Total anti-HBc	Positive		
IgM anti-HBc	Positive		
Anti-HBs	Negative		
HBV DNA	Not detected	False positive HBsAg** with a history of HBV infection cleared prior to pregnancy <i>OR</i> resolved acute infection during pregnancy	<ul style="list-style-type: none"> • Refer to PHBPP • Infant needs post-exposure prophylaxis^{§§}
Total anti-HBc	Positive		
IgM anti-HBc	Negative		
Anti-HBs	Positive		
HBV DNA	Not detected	False positive HBsAg and potentially susceptible ^{¶¶}	<ul style="list-style-type: none"> • Do not refer to PHBPP • Vaccinate infant per routine guidelines
Total anti-HBc	Negative		
IgM anti-HBc	Negative		
Anti-HBs	Negative		
HBV DNA	Not detected	False positive and potentially vaccinated	<ul style="list-style-type: none"> • Do not refer to PHBPP • Vaccinate infant per routine guidelines
Total anti-HBc	Negative		
IgM anti-HBc	Negative		
Anti-HBs	Positive		

* Additional tests should be done on either the same day or after the second HBsAg (-) result

† If no other lab tests are drawn, because HBV infection cannot be ruled out (and risk factors are not always reported), manage as if it is an HBV infection, i.e., Refer to PHBPP, infant needs post-exposure prophylaxis

§ HBV exposure early in pregnancy

¶ Post-exposure prophylaxis: administer HBIG and hepatitis B vaccine to the infant within 12 hours of birth

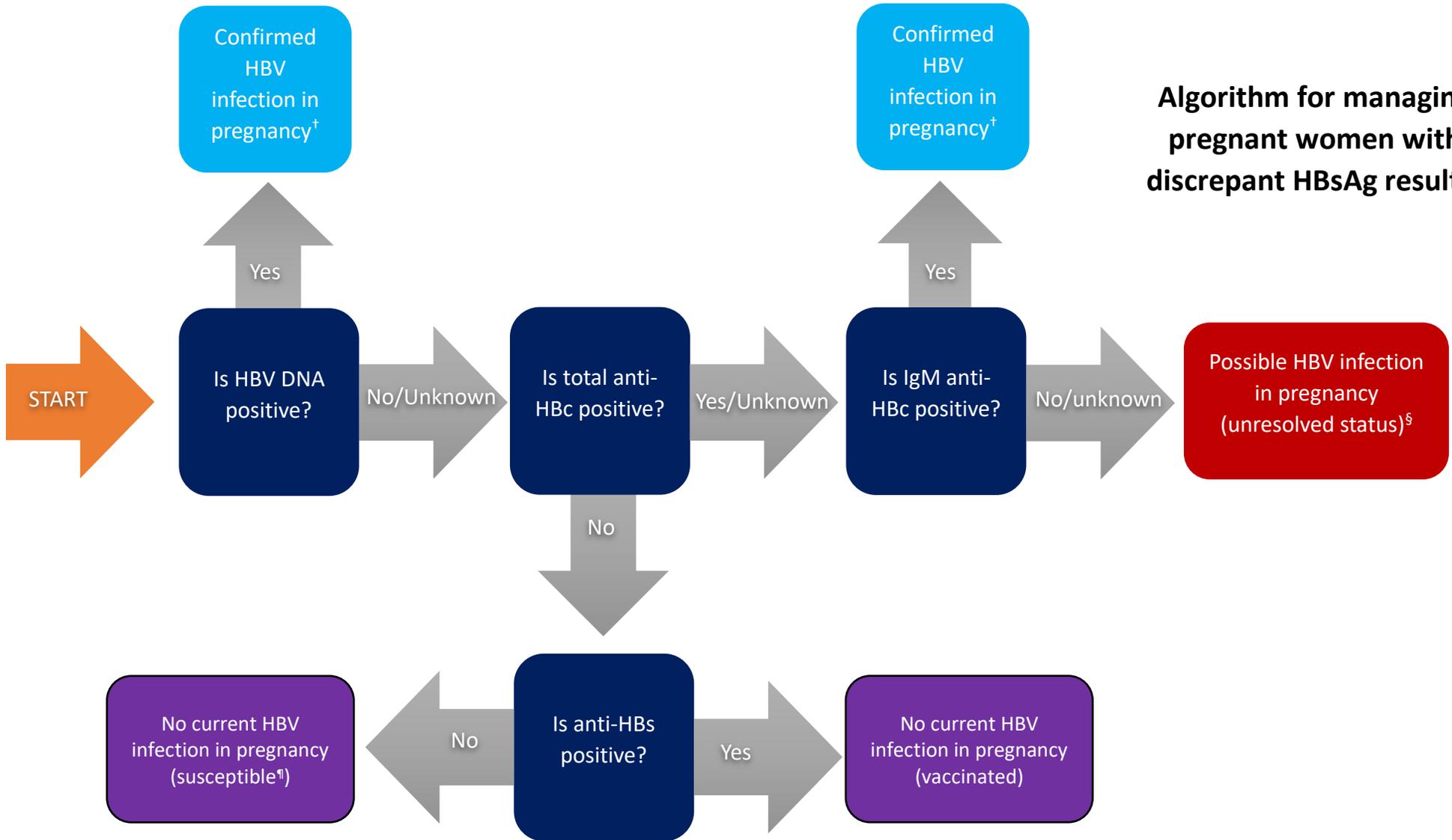
** False positive HBsAg can occur within 30 days of receiving hepatitis B vaccine

†† Mutant HBV that is not detected on second HBsAg test. Some mutant HBV isolates may be undetectable by HBsAg assays that have not yet incorporated these mutants in their assay systems. FDA-approved Abbott ARCHITECT HBsAg assay and Siemens Centaur HBsAg II assays can detect most commonly occurring HBV mutants

§§ Cannot rule out HBV exposure during pregnancy

¶¶ Susceptible persons should be vaccinated according to [ACIP recommendations](#)

Algorithm for managing pregnant women with discrepant HBsAg results*



*For persons never treated or diagnosed with chronic hepatitis B, with an initial confirmed HBsAg positive result followed by a negative result in the same pregnancy.

†Administer Hepatitis B immune globulin (HBIG) and Hepatitis B vaccine to infant within 12 hours of birth and refer to Perinatal hepatitis B Prevention Program (PHBPP)

§Infants born to pregnant women with unresolved HBV infection status should be treated as born to an unknown HBsAg status pregnant women at birth with Hepatitis B vaccine within 12 hours of birth for infants weighing $\geq 2000\text{g}$ and Hepatitis B vaccine and HBIG within 12 hours of birth for infants weighing $< 2000\text{g}$.

- Perform additional testing in pregnant women at the time of delivery. If results are consistent with true infection, refer to PHBPP.

¶Susceptible persons should be vaccinated according to [ACIP recommendations](#)

References:

- [CDC_HepatitisB_SerologicTest_FactSheet9.indd](#)
- [Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices \(cdc.gov\)](#)
- [Universal Hepatitis B Vaccination in Adults Aged 19–59 Years: Updated Recommendations of the Advisory Committee on Immunization Practices — United States, 2022 | MMWR \(cdc.gov\)](#)
- [Management of Infants Born to Women with Hepatitis B Virus Infection for Pediatricians \(cdc.gov\)](#)
- [Screening and Referral Algorithm for Hepatitis B Virus \(HBV\) Infection Among Pregnant Women \(cdc.gov\)](#)
- [Hepatitis B Management: Guidance for the Primary Care Provider - HBV Primary Care Workgroup - Hepatitis B Online \(uw.edu\)](#)
- [Update on Prevention, Diagnosis, and Treatment of Chronic Hepatitis B: AASLD 2018 Hepatitis B Guidance](#)
- [Discrepant Hepatitis B Surface Antigen Results in Pregnant Women Screened to Identify Hepatitis B Virus Infection - ScienceDirect](#)