

Isolated Total Antibody to Hepatitis B Core Antigen (anti-HBc)^{a,b} Lab Results During Pregnancy: Clinical Considerations for Management of Pregnant Women and Infant(s)^c

All pregnant women should be tested for HBsAg during an early prenatal visit (e.g., first trimester) in each pregnancy, even if they have been vaccinated or tested previously.^d Hepatitis B triple panel testing can be done during prenatal visits, preferably in the first trimester, regardless of vaccination status, for women without history of previous triple panel testing. Pregnant women with a history of appropriately timed triple panel testing and without subsequent risk for exposure to HBV (i.e., no new HBV exposures since triple panel screening) should receive HBsAg testing. Testing pregnant women known to be chronically infected or immune enables documentation of the HBsAg test result during that pregnancy to ensure timely prophylaxis for exposed infants.^e

Isolated total anti-HBc test results may be due to resolved infection with waning immunity, occult infection (clinically diagnosed in cases of isolated total anti-HBc and detectable HBV DNA), false positive, or a mutant HBsAg strain that is not detectable by laboratory assay.^f HBV DNA testing for the pregnant woman can provide additional information on the pregnant woman's HBV status and next steps; refer to viral hepatitis specialist if determined to have HBV infection.

The decision tool below may be applied for **pregnant women with isolated total anti-HBc, no clinical signs or symptoms consistent with hepatitis B, and no previous history of hepatitis B or previous hepatitis B lab results available for comparison.**

	Maternal HBV DNA is detectable	Maternal HBV DNA is undetectable
Management of the Infant	Postexposure prophylaxis following 2018 ACIP recommendations on page 12 and report results to Perinatal Hepatitis B Prevention Program Coordinator.^{d,g}	Provide hepatitis B birth dose and complete the vaccine series.^h
Management of Pregnant Woman	- Refer to viral hepatitis specialist (e.g., infectious disease specialist, gastroenterologist, or maternal-fetal medicine specialist). - If HBV DNA is > 200,000 IU/mL, evaluate for treatment initiated at 28-32 weeks of gestation.ⁱ	- Consider additional HBV testing (e.g., IgM anti-HBc, HBeAg) to guide diagnosis and decision making. - Patients with resolved or resolving HBV infection should be counseled about their history of HBV infection and risk for reactivation.

Additional considerations:

- Hepatitis B virus infection in newborns and infants can lead to serious complications later in life including cirrhosis of the liver, liver cancer, and premature death.^j
- Isolated total anti-HBc associated with occult HBV infection among non-institutionalized US persons is uncommon; the prevalence of occult HBV infection among populations with risk factors (e.g., HIV, HCV, hemodialysis, injection drug use) or advanced chronic liver disease is higher.^{k,l,m}
- The risk of perinatal transmission in the setting of maternal occult HBV infection with low-level viremia is presumably low.ⁿ High HBV DNA viral load and HBeAg positivity among HBsAg positive mothers are associated with increased risk of perinatal transmission.^o

^a **Abbreviations:** HBsAg=hepatitis B surface antigen; HBV= hepatitis B virus; anti-HBs= antibody to hepatitis B surface antigen; total anti-HBc= total antibody (immunoglobulin M [IgM] and immunoglobulin G [IgG] antibodies) to hepatitis B core antigen; IgM anti-HBc = immunoglobulin M antibody to hepatitis B core antigen; anti-HBe = antibody to hepatitis B e antigen

^b Isolated total antibody to hepatitis B core antigen means a positive/reactive total anti-HBc test, with a negative/non-reactive HBsAg test, and a negative/non-reactive anti-HBs test.

^c All CDC recommendations are voluntary and CDC trusts that clinicians/providers act always in the best interest of patients/mothers/babies, based on clinical circumstances by providing care after consultation and shared clinical decision making.

^d [Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices](#)

^e [Screening and Testing for Hepatitis B Virus Infection: CDC Recommendations — United States, 2023 | MMWR.](#)

^f [Clinical Testing and Diagnosis for Hepatitis B | Hepatitis B | CDC](#)

^g Newborn HBV postexposure prophylaxis consists of administration of hepatitis B immune globulin and a dose of single antigen hepatitis B vaccine within 12-hours of birth, and completion of both HepB vaccine series and post vaccination serologic testing.

^h Interpretation of this HBV test result profile includes resolved or resolving HBV infection. Risk of reactivation includes receipt of cancer chemotherapy or other immunosuppressive therapies, hepatitis C treatment, or presence of immunocompromising condition.

ⁱ Society for Maternal-Fetal Medicine (SMFM). Society for Maternal-Fetal Medicine Consult Series #69: Hepatitis B in pregnancy: updated guidelines. American Journal of Obstetrics & Gynecology, 2024. Volume 230, Issue 4, B2 - B11.

^j [Clinical Signs and Symptoms of Hepatitis B | Hepatitis B | CDC](#)

^k Spradling P.R., et al., *Estimated Prevalence and Number of Persons With Isolated Antibody to Hepatitis B Core Antigen and Associated Occult Hepatitis B, United States, 2001-2018*. J Infect Dis. 2022 Feb 1;225(3):465-469.

^l Im, Y.R., et al., *Prevalence of occult hepatitis B virus infection in adults: a systematic review and meta-analysis*. Lancet Gastroenterol Hepatol, 2022. 7(10): p. 932-942.

^m Torbenson, M., et al., *High prevalence of occult hepatitis B in Baltimore injection drug users*. Hepatology, 2004. 39(1): p. 51-7.

ⁿ Khamduang W., et al., *Program for HIV Prevention and Treatment (PHPT-2) group. Prevalence, risk factors, and impact of isolated antibody to hepatitis B core antigen and occult hepatitis B virus infection in HIV-1-infected pregnant women*. Clin Infect Dis. 2013 Jun;56(12):1704-12.

^o [Hepatitis B | Red Book: 2021–2024 Report of the Committee on Infectious Diseases | Red Book Online | American Academy of Pediatrics](#)