

## Infants at High Risk for Hepatitis B

Infants born to mothers who are positive for HBsAg during pregnancy have a 10-90% risk of developing hepatitis B infection, depending on the mother's level of infectivity (i.e., viral load). Of those infants infected, there is a 90-95% chance of becoming chronic carriers of the disease. This risk of becoming infected drops to 2-4% if such infants are provided appropriate post-exposure prophylaxis at birth [i.e., hepatitis B immune globulin (HBIG) and hepatitis B vaccine]. In addition to immunoprophylaxis of infants, maternal antiviral therapy may be indicated for some HBsAg positive women during the third trimester of their pregnancy. This has been shown to significantly reduce the risk of hepatitis B transmission to the infant (68% reduction) compared to immunoprophylaxis alone.

All pregnant women should be screened for the presence of HBsAg during every pregnancy. If found to be positive, protocols are in place to ensure the infant is immunized with hepatitis B vaccine and HBIG as soon as possible after delivery.

### Perinatal Protocols for Hepatitis B

The BCCDC Public Health Laboratory (BCCDC PHL), as well as private and hospital laboratories, provide prenatal screening for hepatitis B. Approximately 95-99% of pregnant women in BC are routinely screened for HBsAg in pregnancy, and of all deliveries in BC, 0.7-1.2% are to HBsAg positive women. All positive specimens are tested for HBeAg, a marker of infectivity, at BCCDC PHL. Health care providers are also recommended to order hepatitis B virus DNA testing for HBsAg positive women in pregnancy to determine their viral load.

The HBsAg positive lab result is copied to the ordering health care provider (HCP) and local Public Health. Results are identified as **Prenatal Assessment**, and the expected date of delivery is included, if available. In addition, the letter [High Risk Neonatal Hepatitis B Program: Recommendations for Physicians, Registered Midwives and Nurse Practitioners](#), which provides follow-up information, is sent out by the BCCDC PHL to the ordering HCP.

The delivering HCP is responsible for documenting the mother's HBsAg positive result on the Antenatal Record, which alerts the delivering hospital regarding the need for HBIG and hepatitis B vaccine for the infant immediately after birth. For home deliveries, the midwife will coordinate with local Public Health to obtain HBIG and hepatitis B vaccine.

Immediately after birth (within 12 hours), the infant is given HBIG and the first dose of hepatitis B vaccine.

Infants identified as at risk of hepatitis B [e.g. mother is high risk for hepatitis B, but negative (possible window period) or unknown for HBsAg] are also given HBIG and/or the first dose of hepatitis B vaccine at birth. Refer to [Prophylaxis Indications for Infants at High Risk of Hepatitis B](#) for further recommendations for high risk indications and infant prophylaxis.

Information regarding the administration of HBIG and/or hepatitis B vaccine at birth is recorded on the [Community Liaison Record](#) that is sent to Public Health. This information should be recorded in the infant's electronic and/or paper record.

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The infant should then be immunized as per the routine schedule, which includes a complete hepatitis B vaccine series given as part of the combination vaccine INFANRIX hexa® at 2, 4 and 6 months of age. Ensure post vaccination testing (i.e., HBsAg and anti-HBs) is completed 1 month after (and preferably no longer than 6 months after) vaccine series completion.

### Prophylaxis Indications for Infants at High Risk of Hepatitis B

Indications	Prophylaxis
Infant born to <b>known</b> hepatitis B surface antigen positive (HBsAg+) mother.	Give HBIg as 0.5 mL <b>IM <u>immediately after birth</u></b> along with dose 1 of hepatitis B vaccine (0.5 mL <b>IM</b> ).
Infant born to a mother who is at high risk for hepatitis B infection [ <b>Injection drug use (IDU)</b> and/or <b>sex trade worker (STW)</b> ] and her infectious status at delivery is <b>unknown</b> or <b>negative</b> (possible window period).	Give HBIg as 0.5 mL <b>IM <u>immediately after birth</u></b> along with dose 1 of hepatitis B vaccine (0.5 mL <b>IM</b> ).
Infant born to a mother who has risk factors ( <b>other than IDU and/or STW</b> ) for hepatitis B infection and her infectious status at delivery is unknown or negative (possible window period).	Give dose 1 of hepatitis B vaccine as 0.5 mL <b>IM <u>immediately after birth</u></b> . <b>DO NOT GIVE HBIg</b>
Infant whose father or other primary caregiver or household contact has chronic hepatitis B infection.	Give dose 1 of hepatitis B vaccine as 0.5 mL <b>IM <u>immediately after birth</u></b> . <b>DO NOT GIVE HBIg</b>
Infant whose father or other primary caregiver is at high risk for hepatitis B and their infectious status is unknown or negative (possible window period).	Give dose 1 of hepatitis B vaccine as 0.5 mL <b>IM <u>immediately after birth</u></b> . <b>DO NOT GIVE HBIg</b>

Complete routine infant vaccine series and post-vaccination testing (HBsAg and anti-HBs) of infants as detailed above.

If the infant is HBsAg positive, refer to the [Communicable Disease Control Manual, Chapter 1, Hepatitis B](#) for case management.

If the infant is HBsAg negative and anti-HBs is  $\geq 10$  IU/L or greater, consider as immune.

If the infant is HBsAg negative and anti-HBs is  $< 10$  IU/L, a 2<sup>nd</sup> series of hepatitis B vaccine should be given and serological testing repeated 1 month post-series.