

Hepatitis B: Newborns at Risk

Site Applicability

St. Paul's Hospital Neonatal Intensive Care Unit (NICU) & Pregnancy, Birthing and Newborn Centre

Practice Level

Specialized: Physicians (with perinatal or pediatric privileges), Registered Midwives, Perinatal and Neonatal Registered Nurses

Need to Know

- Hepatitis B is a preventable liver disease caused by the hepatitis B virus (HBV). It ranges in severity from a mild acute illness to chronic illness which can result in long-term sequelae. Most individuals will spontaneously clear the infection in 4 to 8 weeks.
- Infants born to birthing persons who are positive for Hepatitis B surface antigen (HBsAg) have a 10 to 90% risk of developing a hepatitis B infection, depending on the birthing person's viral load. The risk of becoming a chronic carrier of HBV varies with the age at which the infection occurs, with infants having a 90 to 95% chance of becoming chronic carriers if they are infected.
- All pregnant persons should be screened for HBsAg in every pregnancy. If testing was not done during the pregnancy, it should be conducted urgently at the time of delivery. The result of antenatal HBsAg testing is documented on the antenatal record by the primary maternity care provider.
- If HBsAg is found to be positive, protocols are in place to ensure the infant is immunized with the hepatitis B vaccine and hepatitis B immune globulin (HBIG) as soon as possible after delivery. The risk of becoming infected with by the HBV can be reduced to 2 to 4% in infants of HBsAg positive birthing persons by providing the infant with post-exposure prophylaxis at birth (i.e. HBIG and hepatitis B vaccine), along with following the recommended routine newborn vaccination series.
- INFANRIX hexa (diphtheria, tetanus, pertussis, hepatitis B, polio, and haemophilus influenzae type b) is be given at 2, 4, and 6 months of age.
- The dose of the hepatitis B vaccine and/or HBIG will provide protection to infant until the INFANRIX hexa is given at 2 months of age.

Indication and Dosages:

Indication	Prophylaxis
Infant born to known HBsAg-positive birthing person.	Give hepatitis b immune globulin (HBIG) 0.5 mL IM and Hepatitis B vaccine 0.5 mL IM (Dose 1) As soon as possible after birth (Give within 12 hours of birth). USE SEPARATE SITES AND GIVE AT THE SAME TIME
Infant born to a birthing person who is at high risk for hepatitis B infection and infectious status at delivery is unknown or negative (possible window period). (e.g. intravenous drug use, sex trade worker)	Give hepatitis b immune globulin (HBIG) 0.5 mL IM and Hepatitis B vaccine 0.5 mL IM (Dose 1) As soon as possible after birth (Give within 12 hours of birth). USE SEPARATE SITES AND GIVE AT THE SAME TIME
Infant born to a birthing person who has risk factors for hepatitis B infection (other than intravenous drug use and/or sex trade worker) and infectious status at delivery is unknown or negative (possible window period). (e.g. high risk sexual practices, or recently emigrated from a country where hepatitis B has higher prevalence .)	Give Hepatitis B vaccine 0.5 mL IM (Dose 1) As soon as possible after birth (Give within 12 hours of birth). DO NOT GIVE HBIG
Primary caregiver or other household contact of infant has chronic hepatitis B virus infection . (e.g. parent, nanny, etc.)	Give Hepatitis B vaccine 0.5 mL IM (Dose 1) As soon as possible after birth (Give within 12 hours of birth). DO NOT GIVE HBIG
Primary caregiver is at high risk for hepatitis B and status is unknown or negative	Give Hepatitis B vaccine 0.5 mL IM (Dose 1) As soon as possible after birth (Give within 12 hours of birth). DO NOT GIVE HBIG

Equipment and Supplies

- Hepatitis B vaccine (from Pharmacy)
- Hepatitis B immunoglobulin, if required (from Blood Bank)
- If HBlg and/or Hepatitis B vaccine are not in prefilled syringes:
 - 1 – 1 mL syringe,
 - 1 – blunt-fill needle,
 - 2 – 25G 5/8 needles,
 - Medication labels
- Alcohol Swabs
- Gauze
- Cloth & Soap

Procedure

1. Obtain an order on Cerner for hepatitis B vaccine and HBlg if required (PowerChart → PED newborn admission PowerPlan).
2. If HBlg is ordered, the physician or RM must obtain informed consent from parent/caregiver. The parent/caregiver who is consenting for the newborn and the physician or RM obtaining consent must sign the “PHC Consent for Transfusion of Blood and/or Blood Products” record, prior to administration.
3. If HBlg is required and to obtain HBlg, reprint from Cerner the blood component/product administration order for HBlg. (Note: If re-printing of the administration order cannot be done, use and fill the downtime “Blood Product Request Form”, No.NF166)
4. Retrieve the HBlg directly from the Blood Bank (local 68003) using the reprinted Cerner administration order. (Note: HBlg will not be transported using the pneumatic tube station.)
5. The RN administering the HBlg and another qualified health care professional perform required checks ([see Practice Level](#)). Check patient first and last name, MRN, date of birth, type of product, product unit/lot number, product expiry date and time on the Transfusion Record, Banner bar, Product Compatibility Tag, Product Label and Patient Identification band. Both healthcare professionals’ sign in appropriate field(s) on paper transfusion record ([see Blood/Blood Product Administration](#)).
6. To obtain Hepatitis B vaccine, ensure order is placed in Cerner (PED newborn admission PowerPlan). Pharmacy will send Hepatitis B vaccine via pneumatic tube system once order is reviewed. If unable to retrieve Hepatitis B vaccine, complete medication request in PowerChart.
7. Check lot number, expiry dates, and patient identifiers of hepatitis B vaccine with a second qualified health care professional.
8. Don appropriate PPE, perform hand hygiene, and wash leg(s) thoroughly with warm water and soap

9. Identify the infant by scanning Cerner-specific newborn armband label in "Medication Administration" in the banner bar on Cerner. Scan hepatitis B vaccine label and perform 7 rights of medication administration.
10. Explain the procedure to parent/caregiver and encourage birthing person to hold infant skin to skin, breastfeed, or use other soothing behaviours for comfort and pain relief during the procedure.
11. Cleanse site(s) with alcohol swab and allow to dry for 30 seconds.
12. If both HBlg and hepatitis B vaccine are ordered, administer HBlg 0.5 mL IM and hepatitis B vaccine 0.5 mL IM using **separate sites, but administering at the same time** (have a second RN present to help as needed). Give HBlg and Hepatitis B vaccine within 12 hours of birth.
13. Hold gauze on site(s) to achieve hemostasis and observe infant for any reaction - redness, swelling, etc.
14. Chart in the appropriate fields on Cerner PowerChart and complete paper transfusion record.
15. Place paper transfusion record in Chartlet.

Documentation

- Hepatitis B Vaccine – sign on MAR in PowerChart
 - Include lot number, expiry date, and the administration site.
- HBlg – Interactive View and I&O → Blood Product Administration → Transfusion Data → Hep B Immune Globulin Volume
- HBlg – complete paper transfusion record and sign in appropriate field(s)

Patient and Family Education

- Explain the rationale for why vaccine and/or blood product are needed
- Encourage birthing person to hold infant skin to skin, breastfeed, or use other soothing behaviours for comfort and pain relief during the procedure.
- Encourage parent/caregiver to monitor site(s) for any adverse reaction and to notify RN if any redness, swelling or bleeding persists.
- Educate about the importance of following the routine newborn vaccination series.

References

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- BC Centre for Disease Control. (April 2021). Hepatitis B Control (Accessed 08/08/2022 from http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%201%20-%20CDC/BCCDC%20HBV%20Guideline%20FINAL%20April_2021.pdf)
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