

NEONATAL MANAGEMENT FOR EXISTING MATERNAL CONDITIONS

3. MATERNAL HEPATITIS B

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3 Hepatitis B
Neonatal Postnatal
Clinical Guidelines
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This guideline should be used in conjunction with its respective obstetrics and midwifery [Clinical Guideline Section B 1.4.3 Hepatitis B in pregnancy](#) which provides additional information about hepatitis B infection in pregnancy.

KEY POINTS

1. Hepatitis B vaccine alone, hepatitis B immunoglobulin alone, and a combination of the two have been shown to reduce perinatal transmission of hepatitis B. However, the combination of hepatitis B vaccine and the immunoglobulin is superior in reducing risk for perinatal transmission of the hepatitis B virus (HBV) than vaccination alone.¹
2. At KEMH it is recommended that neonates born to mothers who are carriers of HBV receive vaccination to prevent HBV, and also be administered the hepatitis B immunoglobulin within 12 hours of birth.
3. Women who are high risk for contacting blood-borne viruses, and who have given birth without screening for HBV are recommended to have urgent testing to confirm their status.
4. Recommended follow-up by the GP for the neonate at risk of perinatal transmission of HBV after the first vaccine and immunoglobulin for HBV is to encourage the follow-up vaccination regimen, and then arrange testing for the infant. This is done 3 to 12 months after completion of the primary course of vaccination.
5. If anti-HBs levels are adequate and the HBsAg are negative in the infant 3 to 12 months after immunoglobulin and the primary vaccination course for HBV, then the child is considered immune through natural clearance or vaccination.
6. Breastfeeding is not contra-indicated for neonates born to mothers who are hepatitis B surface antigen (HBsAg) positive.

BACKGROUND INFORMATION

Perinatal transmission of HBV occurs in utero or through exposure to blood and blood contaminated fluids at or around birth, and accounts for 30-50% of hepatitis B carriers.² If a mother is positive for hepatitis B surface antigen positive (HBsAg) or hepatitis B e antigen (HBeAg) then up to 90% of these infants will become chronically infected without preventative strategies.^{2,3} Of those that are chronically infected 15-25% will die from cirrhosis or HBV-related liver cancer.³

Repeated hepatitis B vaccination over a period is required to provide an effect antibody response. The hepatitis B immunoglobulin provides high levels of antibody to the hepatitis B surface antigen, and it is immediately effective and protective for several months before weakening.²

MANAGEMENT

<u>Maternal HBV status</u>	<u>Neonatal Management</u>	<u>Additional Information</u>
Positive: <ul style="list-style-type: none"> • HBsAg positive • HBeAg positive 	Recommend administration of the first dose of hepatitis B vaccine plus hepatitis B immunoglobulin (HBIG) within 12 hours of birth. ⁴ Recommended follow-up combination vaccines are given at: <ul style="list-style-type: none"> • 2 months • 4 months • 6 or 12 months.⁴ Measure anti-HBs and HBsAg levels 3-12 months following completion of the primary vaccination course. ⁴	Efficacy of HBIG deteriorates markedly if administration is delayed beyond 48 hours of birth. ⁴ The hepatitis B vaccine is recommended to be administered at the same time as the HBIG but in the opposite anterolateral thigh. If concurrent vaccination is not possible then vaccination should not be delayed beyond 7 days. ⁴ The mother should be informed of the recommended follow-up vaccination schedule, and follow-up blood tests to determine infection or immunity of the baby. Arrange a neonatal discharge letter for the GP.
Unknown status – high risk for HBV.	Recommend vaccination. If the mother is found to be HBsAg positive then HBIG is recommended immediately. ⁴	Recommend the mother be tested as soon as possible for a current hepatitis B status. A result is normally available at KEMH within 24 hours.
Negative	Offer all neonates hepatitis B vaccine (paediatric) as soon as the neonate is physiologically stable, and preferably within 24 hours . ⁴ Recommended follow-up combination vaccines are given at: <ul style="list-style-type: none"> • 2 months • 4 months • 6 or 12 months.⁴ 	The vaccine has not been shown to interfere with breastfeeding, and is not associated with risk of fever or medical investigation for sepsis. If the birth dose is missed and the baby is 8 or more days old, a catch up schedule is not required. ⁴

ADMINISTERING AND DOCUMENTATION FOR THE HEPATITIS B VACCINE AND HEPATITIS B IMMUNOGLOBIN

See [Clinical Guideline, Section B 10.4.3 Neonatal Hepatitis B Vaccine.](#)

See [Clinical Guideline, Section B 10.4.4 Neonatal Hepatitis B Immunoglobulin](#)

BREASTFEEDING

- Breastfeeding should be encouraged and is not contraindicated if a mother is HBsAg positive.⁵
- Women who are hepatitis B positive carriers should be advised not to donate breast-milk.⁵

CARE OF THE NEONATE AT RISK FOR PERINATAL TRANSMISSION OF HBV

- Universal precautions should be utilised as for all neonates.
- Prior to administering injections the neonate should be bathed, or the injection site cleansed with an alcohol swab.

GP FOLLOW-UP

Complete a discharge GP letter for neonates born to known HBsAg positive or HBeAg positive mothers with the follow-up recommendations:

- Perform Anti-HBs and HBsAg levels on the neonate 3 -12 months following the primary vaccination course⁴
- If anti-HBs levels are adequate and the HBsAg is negative, then the child is considered immune through natural clearance or vaccination.⁴

Ensure the mother is aware of the follow-up vaccination regimen, and need for GP review to assess anti-HBs and HBsAg levels for the baby.

REFERENCES

1. Lee C, Gong Y, Brok J, et al. Hepatitis B immunisation for newborn infants of hepatitis B surface antigen-positive mothers. **The Cochrane Database of Systematic reviews**. 2006(2).
2. Lee C, Gong Y, Brok J, et al. Effect of hepatitis B immunisation in newborn infants of mothers positive for hepatitis B surface antigen: systematic review and meta-analysis. **BMJ**. 2006;332(7537):328-36.
3. Zuckerman J, van Hattum J, Cafferkey M, et al. Should hepatitis B vaccination be introduced into childhood immunisation programs in northern Europe? **Lancet Infectious Diseases**. 2007;7:410-9.
4. Australian Government Department of Health and Ageing and National and Medical Research Council. Hepatitis B. **The Australian Immunisation Handbook**. 9th ed2008.
5. Gambarin-Gelwan M. Hepatitis B in Pregnancy. **Clinics in Liver Disease**. 2007;11:945-63.