# HEPATITIS B VACCINATION FOR NEONATES AND MANAGEMENT OF HEPATITIS B POSITIVE MOTHERS - GCNC - CHW

## PRACTICE GUIDELINE ©

## DOCUMENT SUMMARY/KEY POINTS

- This guideline follows the recommendations of the Neonatal and Infant Hepatitis B Prevention and Vaccination Program Policy Directive PD2023_032
- Neonates admitted to Grace Centre for Newborn Intensive Care or other wards within CHW are enrolled in the Neonatal Hepatitis B Vaccination program:
  - Mothers who are HBsAG positive will be identified, if possible, through the Antenatal Screening report
  - Neonates born to HBsAG positive mothers are offered hepatitis B immunoglobulin (HBIG) within 12 hours of birth and a total of four doses of hepatitis B vaccine to be administered at birth, two, four and six months of age.
  - All other neonates are offered a total of four doses of hepatitis B vaccine administered at birth, two, four and six months of age. The initial dose needs to be administered within 7 days of birth.
  - Hepatitis B vaccine is ordered on the medication chart which is faxed to Pharmacy so the labelled vaccine can be picked up from Pharmacy for administration on the ward.
  - For all babies born < 32 weeks gestation or have a birth weight <2000g, it is recommended that a booster dose of Hepatitis B- containing vaccine be given at 12 months of age if the anti-HBs antibody level is not measured at seven months of age





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| **Approved by:** | SCHN Policy, Procedure and Guideline Committee | |
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| **Team Leader:** | Clinical Nurse Educator | **Area/Dept**: GCNG - CHW |

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# CHANGE SUMMARY

- Information updated to include dosage of Vaccination and Immunoglobulin
- Adverse Reactions and Contraindications included
- Information updated to include breastfeeding

# READ ACKNOWLEDGEMENT

- Read Acknowledge Only – All clinical staff caring for newborn infants requiring Hepatitis B immunisations should read and acknowledge this document.

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## Background

Hepatitis B is a viral infection that can cause both acute and chronic liver infection and damage. It is the most common blood-borne viral infection in Australia. After acute infection, up to 12% of affected adults and up to 90% of infected neonates may become chronically infected carriers. The virus is spread via blood and body fluids and can potentially be transmitted from mother to baby at or around the time of childbirth. Carriers may be asymptomatic.

Hepatitis B is a vaccine-preventable disease, and 4 doses of Hepatitis B vaccine in the first year of life to be given at birth, 2 months, 4 months, and 6 months are recommended in the current Australian National Immunisation Program Schedule. For a neonate born to a mother with HBV infection, Hepatitis B vaccination reduces the risk of infection by 70%; the addition of HBIG at birth augments this risk reduction to over 90%. HBsAg positive women can breastfeed their babies providing the baby is immunised.

Acute Hepatitis B (HB) is rare in Australia. Most Hepatitis B infections are acquired prenatally and most of these infections can be prevented by appropriate prophylaxis given at the time of birth. Women with acute hepatitis caused by Hepatitis B virus (HBV) and those with chronic Hepatitis B viral infection (HBsAg positive) may transmit HBV to their infants. Acute Hepatitis B diagnosed in the first or second trimester carries a perinatal transmission risk of approximately 10%. Acute Hepatitis B diagnosed in the third trimester carries a perinatal transmission risk of approximately 75%. There is no data to justify a recommendation on the mode of birth in acute hepatitis.

## Consent

- A parent or legal guardian must provide consent for each vaccination encounter for children under the age of 14 years.
- To ensure valid consent is obtained, the person giving consent must be over the age of 16 years, parent or guardian and should be given information on the risks and benefits of the vaccine to be given. Printed information should be provided in addition to verbal explanations (the AIH contains a useful summary that can be used for this purpose Immunisation Resource). Sufficient time to make the decision as well as an opportunity to ask further questions must be provided.
- Written consent is required.

## Procedure

***Equipment***

- Sucrose
- 23 Gauge (Blue) needle for term infants
- 25 Gauge (Orange) needle for preterm infants
- Hepatitis B vaccine (0.5ml)

- Hepatitis B immunoglobulin if Hepatitis B positive mother (1000IU)
- Sharps container

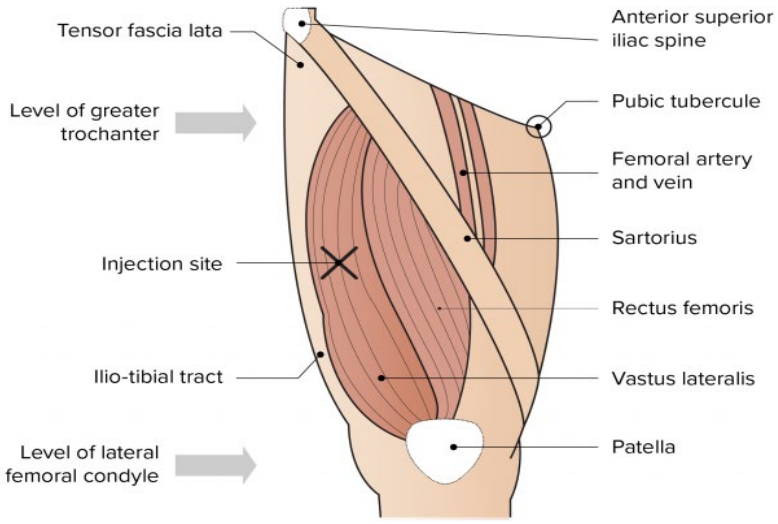
***Preparing the vaccine***

- Ensure that the vaccine has been kept in a purpose-built vaccine refrigerator that has maintained temperatures within the +2°C to +8°C range before using the vaccine.
- The vaccine is to be administered straight away and is not given at room temperature.
- Check the expiry date and that there is no particulate matter or colour change in the vaccine.
- Wash hands with soap and water or use a waterless alcohol-based hand rub.
- Prepare the appropriate injection equipment for the vaccine to be administered.

***Recommended injection sites***

Infants <12 months of age:

- The vastus lateralis muscle in the anterolateral thigh is the routinely recommended site.
- The ventrogluteal area is an alternative site only to be used by providers who are familiar with the landmarks used to identify this site.
- The deltoid muscle is not recommended for IM injections in this age group.




## Procedure

- Ensure written consent has been obtained. Inform parents prior to planning for timing of procedure. Ensure they are informed and if able can comfort their baby throughout the procedure.
- Immunisation administration is a two-person procedure.
- Administer sucrose two minutes prior to the procedure or allow for breastfeeding pre, during and post the procedure Sucrose- Management of Short Duration Procedural Pain in Infants

- Perform the 5 rights of medication administration.
- Prepare the infant for the procedure by swaddling with leg exposed.
- Locate landmark for injection and clean the skin only if visibly soiled.
- Insert the needle at a 90-degree angle, with depth consideration based upon the infant's size.
- Once the needle is inserted you do not need to pull back on the plunger prior to administration.
- Administer intramuscular injection slowly.
- Do not apply excessive pressure or rub site on removal of the needle, as this could cause a localised reaction.
- Document time administered, site and batch number in the Power chart, blue book and on the medication chart.

***Adverse reactions***

Swelling, tenderness. Fever can occur in 0.6–3.7% of cases.

***Contraindications***

Postpone vaccination in significant acute illness or temperature > 38.5°C.

Severe thrombocytopenia or a coagulation disorder.

Hypersensitivity to any vaccine component.

# Hepatitis B Positive Carriers

## Care of Hepatitis B Positive Mothers

- Active / passive immunisation (vaccine / HBIG) of babies at birth is effective in preventing transmission of Hepatitis B in more than 95% of babies.
- The 5% of babies who fail to be protected by this regimen and develop Hepatitis B are usually those who do not receive the full regimen of vaccination, those who fail to develop antibodies (anti-HBs), or who are born to mothers with very high levels of HBV DNA.
- Caesarean section is known to lower the risk of perinatal transmission in chronically infected HBsAg positive mothers, however, the benefit of caesarean section is only marginal and caesarean section may not be protective without active / passive immunisation of the baby. It is therefore vital to ensure babies born to HBsAg and HBsAg positive mothers receive HB vaccine plus HB immunoglobulin at birth. The Hepatitis B vaccine course must be completed with doses at 2, 4 and 6 months of age.
- Provided appropriate immunoprophylaxis has been given at birth, breastfeeding by HBsAg-positive women has not been shown to increase rates of perinatal transmission.

## Care of Neonates born to Hepatitis B positive mothers

- Clean the neonate's eyes and non-intact skin with water as soon as possible after the birth.
- Obtain written consent from the parent for the baby to receive the immunoglobulin using the Blood Products Transfusion form.
- Obtain written consent from parent for the baby to receive Hepatitis B vaccine.
- Prescribe Hepatitis B vaccine and immunoglobulin (HBIG) on the baby's medication chart by the medical officer as soon as possible after birth.
- Administer vaccine and immunoglobulin as soon as the baby is stable after birth and within 12 hours.
- Clean the injection sites well before administering injections.
- Administer the immunoglobulin (100IU) and vaccine (0.5ml) by intramuscular injection in different sites or different legs. The anterolateral aspect of the thigh is the preferred site. The gluteal area should not be used in infants.
- The vaccine does not interfere with either establishing or maintaining breastfeeding.
- Remind parents before discharge of the importance of the baby receiving second, third and fourth vaccinations at 2 months, 4 months and 6 months.
- Refer baby to a GP for follow-up testing (HBS Ag and Anti-HBs) at 9-12 month of age. Document on discharge summary and in the Personal Health Record (Blue Book)
- Advise parents of the importance of follow-up at 9-12 months and possible further follow-up by a paediatrician if any of the follow-up tests return a positive result.
- Notify the Infection Control CNC who will contact the New South Wales Public Health Unit and complete notification.

## Preterm Infants

- Despite their immunological immaturity, preterm infants generally respond satisfactorily to vaccines.
- Provided they are medically stable and there are no contraindications to vaccination, preterm infants should be vaccinated according to the recommended schedule at the usual chronological age, without correction for prematurity.
- Preterm infants born to HBsAg-positive mothers should be given hepatitis B vaccine and hepatitis B immunoglobulin (HBIG) after birth.
- Low-birth weight preterm newborn infants do not respond as well to hepatitis B-containing vaccines as full-term infants. Therefore, for low-birth-weight infants (<2000g) and/or infants born at <32 weeks gestation (irrespective of weight) should receive hepatitis B vaccine at birth, 2, 4 and 6 months of age and either:
    - measure anti-Hep B at 7 months of age and give a booster at 12 months of age if antibody titre is < 10mLU/mL, or
    - give a booster at 12 months of age without measuring the antibody titre.

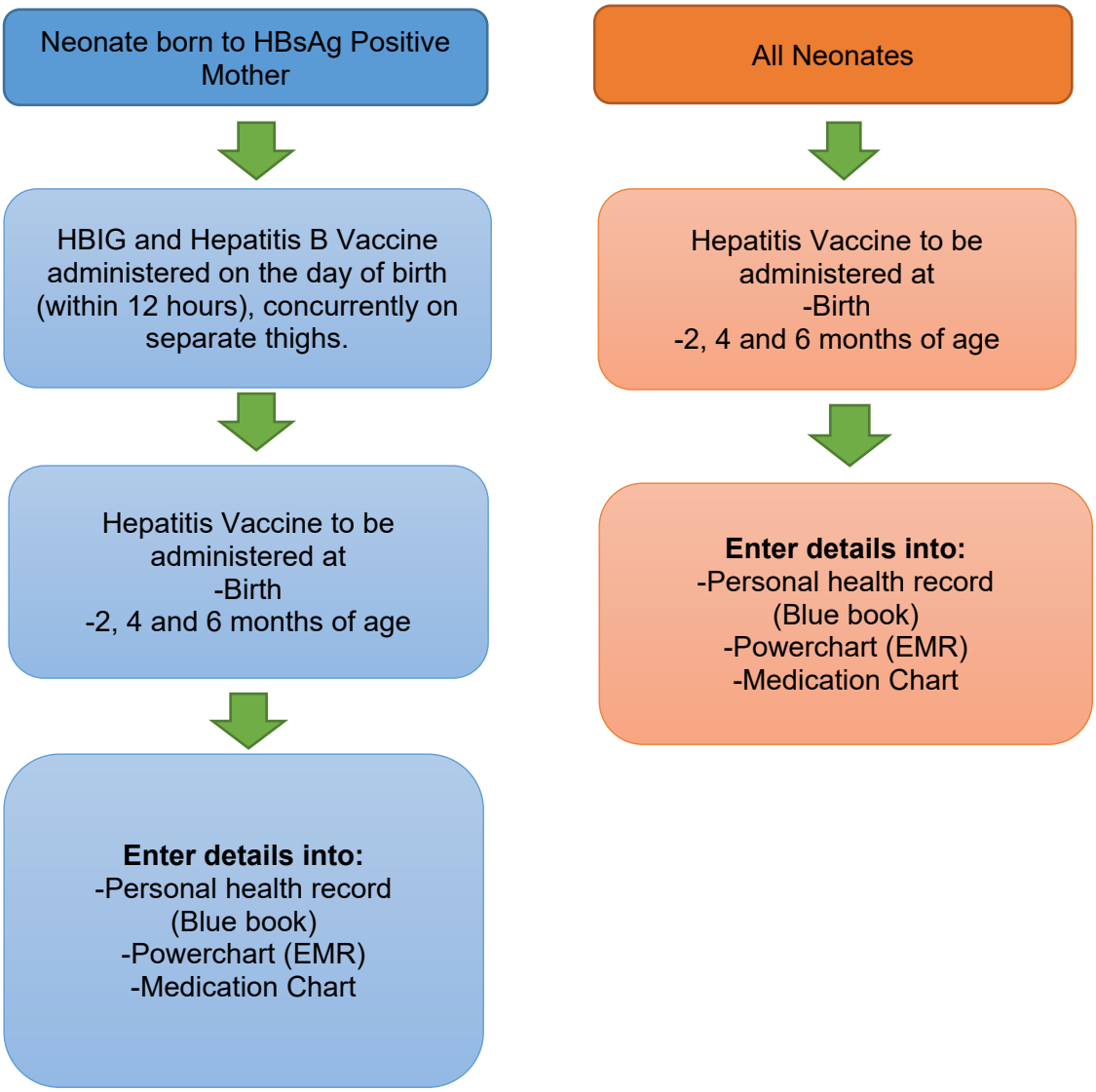
Note: Record in the patient's Personal Health Record ("Blue book") when the next booster is due.

The following precautions and schedule modification should also be considered for preterm infants:

- Immunisation has been associated with an increased risk of apnoea in preterm infants vaccinated in hospital, particularly those still requiring complex medical care and/or with an existing history of apnoea. Although in this setting, apnoea is generally self-limiting, measures should be taken to manage this anticipated AEFI.

For additional information refer to Australian Immunisation Handbook and **Neonatal and Infant Hepatitis B Prevention and Vaccination Program Policy Directive**: https://www1.health.nsw.gov.au/pds/Pages/doc.aspx?dn=PD2023_032

## Flow Chart for Neonatal Hepatitis B Vaccination Program



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