HEPATITIS B VACCINE: NEONATAL ADMINISTRATION

Key words: Neonatal Hepatitis B, Neonatal immunisation, Hep B vaccine, HBV, Australian Immunisation schedule, neonatal medication

BACKGROUND INFORMATION

A birth dose of thiomersal-free monovalent hepatitis B vaccine is given to prevent vertical transmission of hepatitis B virus (HBV) from a carrier mother, and also to prevent horizontal transmission in the first months of life from a carrier among household or other close contacts with HBV.\(^1\)

The recommended vaccination schedule for HBV prevention for children includes a monovalent birth dose, followed by combination vaccines at 2, 4 and 6 months. The vaccine is generally well tolerated by the neonate, does not interfere with establishment or maintenance of breastfeeding, and is not associated with an increased risk of either fever, or medical investigations for sepsis in the neonate.\(^1\)

Preterm babies do not respond as well to the hepatitis B vaccines as well term neonates; and if < 32 weeks gestation or < 2000 g birth weight will require an additional immunisation schedule according to the Australian Immunisation guidelines.\(^1\)

Adverse events after vaccination are transient and minor and may include soreness of the injection site. Fever is expected in neonates after immunisation, and is common in 0.6-3.7% of neonates.\(^1\)

KEY POINTS

1. All neonates should be offered hepatitis B vaccination.
2. The birth dose should be given when the neonate is physiologically stable, preferably within 24 hours of birth.\(^1\)
3. The first birth dose of hepatitis B vaccine should not be delayed beyond 7 days of birth.\(^1,2\)
4. Neonates (term or preterm) of hepatitis B carrier mothers should be given a birth dose of hepatitis B vaccine (Paediatric) and paediatric dose of hepatitis B immunoglobulin (HBIG).\(^1\)
5. Refer to the clinical guideline page 3 Administration and Checking procedure by Nursing/Midwifery/Medical Staff and Students

PRIOR TO ADMINISTERING THE HBV VACCINE

- Check that the MR 216 Consent for Hepatitis B Immunisation form is signed by the mother.
- Ensure the dosage is written up by a doctor on the MR 811 Neonatal Inpatient Medication Chart
- Check that the identification name bands on the neonate and mother correspond with the consent form and medication chart.

ADMINISTRATION OF THE HBV

- The vastus lateralis muscle in the anterolateral thigh is the recommended site for IM vaccination in infants < 12 months of age, due to its larger muscle size.
- If the site is soiled in any way, clean the site with soap and water.
- If the mother has a known blood borne virus ensure the limb is cleaned with soap and water prior to vaccination.
- Ensure the infant does not move during the IM injection. However excessive restraint can increase the infant's fear and can result in increased muscle tension.
- Pierce the skin at an angle of 90° to the skin so the needle can safely be inserted to the hub. Provided an injection angle of > 70° is used, the needle should reach the muscle layer.
- If using a 25 gauge needle for an IM injection, ensure the vaccine is injected slowly over a count of 5 seconds to avoid injection pain and muscle trauma.
• If you have drawn back on the syringe plunger before injecting a vaccine (which is not considered necessary) and a flash of blood appears in the needle hub, withdraw the needle and select a new site for injection.
• Perform hand hygiene in accordance with the Infection Prevention and Control Policy and safely dispose of sharps.
• 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.
• Ensure that the minimum / maximum thermometer displays temperatures within the +2ºC to +8ºC range before removing the vaccine from the refrigerator.
• Ensure that the correct vaccine is taken from the refrigerator and that it is within expiry date.
• Check that there is no particulate matter or colour change in the vaccine.
• Administer sucrose / breastfeed at the time of injection.
• Do not extrude small air bubbles through the needle for injection. In the rare instance of a large air bubble in a pre-filled syringe, first draw back on the needle to ensure no vaccine is expelled along with the air, and then expel the air through the needle, taking care not to prime the needle with any of the vaccine, as this can lead to increased local reaction.
• For infants the preferred needle size is 25mm.

DOCUMENTATION

Record the hepatitis B vaccine administration on the:
• MR 811 Neonatal Inpatient Medication Chart- place small batch sticker on the dedicated “pharmacy” box of the drug chart.
• Baby’s Personal Health Record (purple book) birth details on page 33 and immunisation record card.

POSTNATAL EDUCATION

• Inform the woman of the schedule for hepatitis B immunisation
• Provide information about known side-effects that may occur following vaccination.

REFERENCES / STANDARDS


National Standards – 1 Clinical Care is Guided by Current Best Practice
3 Preventing and Controlling Healthcare Associated Infections
5 Patient Identification and Procedure Matching
Legislation - Commonwealth Family Law Act 1975; Poisons Act 1964
Related Policies – Operational Directive 0324/11: Consent to Treatment Policy for the Western Australian Health System 2011 (Parental Consent)
Other related documents – KEMH Clinical Guidelines, O&M, Neonatal Care: Hepatitis B Immunoglobulin (HBIG)