

# HEPATITIS B VACCINE

<b>Indication</b>	<ul style="list-style-type: none"> <li>Primary immunisation against infection caused by hepatitis B virus<sup>1</sup></li> <li>Recommended for all babies, commencing at birth<sup>2</sup></li> </ul>
<b>IM</b>	<b>Presentation</b> <ul style="list-style-type: none"> <li>Prefilled syringe (paediatric formulation) H-B-Vax®-II: 5 microgram in 0.5 mL</li> <li>Prefilled syringe (paediatric formulation) Engerix-B: 10 microgram in 0.5 mL</li> </ul>
	<b>Dosage</b> <ul style="list-style-type: none"> <li>0.5 mL as per brand dose/strength available           <ul style="list-style-type: none"> <li>Both vaccines are equipotent despite strength difference</li> </ul> </li> </ul>
	<b>Preparation</b> <ul style="list-style-type: none"> <li>Shake well before use<sup>3,4</sup></li> </ul>
	<b>Administration</b> <ul style="list-style-type: none"> <li>Administer in alternate thigh to that used for vitamin K IM injection           <ul style="list-style-type: none"> <li>If multiple injections into same thigh are necessary<sup>2</sup>, separate injections sites by at least 2.5 cm</li> </ul> </li> <li>Intramuscular injection into thickest part of the vastus lateralis in the anterolateral thigh<sup>5</sup></li> </ul>
<b>Special considerations</b>	<ul style="list-style-type: none"> <li>Greatest benefit if given within 24 hours of birth (do not delay beyond first 7 days of life<sup>2</sup>)</li> <li>Contraindication           <ul style="list-style-type: none"> <li>Serious allergic reaction (e.g. anaphylaxis) to a previous vaccine dose or to a component of the vaccine, including yeast<sup>6</sup></li> </ul> </li> <li>Cautions           <ul style="list-style-type: none"> <li>If moderate or severe acute illness (with or without fever), defer administration<sup>6</sup></li> <li>Immunocompromised may have suboptimal response to vaccine<sup>6</sup></li> </ul> </li> <li>If mother has chronic hepatitis B infection<sup>2</sup> <ul style="list-style-type: none"> <li>Give HBIG concurrently in alternate thigh to hepatitis B vaccine as soon as possible after birth and definitely within 48 hours<sup>7</sup></li> </ul> </li> <li>Subcutaneous route only under advice of ID specialist<sup>6</sup></li> <li>Consent, documentation and parent information as per local protocols</li> <li>Consider implementing a local protocol to aid identification of IM injection sites (e.g. vitamin K<sub>1</sub> into left thigh, hepatitis B vaccine into right thigh, hepatitis immunoglobulin into left thigh at least 2.5 cm from vitamin K<sub>1</sub> IM injection site)</li> <li>Subsequent doses as per National Immunisation Program Schedule for Queensland<sup>1</sup> and Australian Immunisation Handbook<sup>2</sup></li> </ul>
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>Injection site for swelling, tenderness<sup>6</sup></li> <li>If mother has chronic hepatitis B infection<sup>2</sup> <ul style="list-style-type: none"> <li>Measure HBsAg and anti-HBs at 3–12 months after completion of primary vaccine course</li> </ul> </li> </ul>
<b>Compatibility</b>	<ul style="list-style-type: none"> <li>No information</li> </ul>
<b>Incompatibility</b>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>
<b>Interactions</b>	<ul style="list-style-type: none"> <li>If administered at the same time as hepatitis B immunoglobulin-VF, give one IM injection in each leg (not both same leg)</li> </ul>
<b>Stability</b>	<ul style="list-style-type: none"> <li>Store at 2–8 °C (above or below may decrease potency<sup>2-4</sup>). Protect from light<sup>3,4</sup></li> </ul>
<b>Side effects</b>	<ul style="list-style-type: none"> <li>Digestive: GI disturbance<sup>3,4</sup></li> <li>Integumentary: local reaction at injection site<sup>3,4</sup></li> <li>Nervous: transient fever<sup>3,4</sup>, irritability<sup>3,4</sup></li> <li>Respiratory: apnoea may occur in premature babies<sup>6</sup></li> </ul>
<b>Actions</b>	<ul style="list-style-type: none"> <li>Induces protective levels of antibodies in majority of babies receiving recommended dose regimen<sup>2,3</sup></li> </ul>
<b>Abbreviations</b>	HBsAg: hepatitis B surface antigen, anti-HBs: hepatitis B surface antibodies, GI: gastrointestinal, HBIG: hepatitis B immunoglobulin, ID: infectious diseases, IM: intramuscular
<b>Keywords</b>	Vaccine, hepatitis, hepatitis B, vaccination, immunisation, HBsAg, HBIG



The Queensland Clinical Guideline *Neonatal Medicines* is integral to and should be read in conjunction with this monograph. Refer to the disclaimer. Destroy all printed copies of this monograph after use.

## References

1. Queensland Government. Immunisation Schedule Queensland. [Internet]. July 2020 [cited 2021 February 05]. Available from: [https://www.health.qld.gov.au/data/assets/pdf\\_file/0032/989114/qld-immunisation-schedule-children.pdf](https://www.health.qld.gov.au/data/assets/pdf_file/0032/989114/qld-immunisation-schedule-children.pdf).
2. Australian Government Department of Health. Hepatitis B. [Internet] 2020 [cited 2021 February 05]. Available from: <https://immunisationhandbook.health.gov.au>.
3. Therapeutic Goods Administration (TGA). H-B-Vax II hepatitis vaccine (recombinant) Hepatitis B surface antigen (recombinant). [Internet]. Canberra: Australian Government; September 2020 [cited 2021 January 15]. Available from: <https://www.tga.gov.au>.
4. Therapeutic Goods Administration (TGA). Engerix-B (hepatitis B surface antigen recombinant (yeast)) vaccine, suspension for injection. [Internet]. Canberra: Australian Government; September 2020 [cited 2021 January 15]. Available from: <https://www.tga.gov.au>.
5. Hockenberry M, Wilson D. Wong's Nursing Care of Infants and Children. 10th ed. USA: Elsevier; 2014.
6. IBM Micromedex® Neofax®. Hepatitis B Vaccine (Recombinant). In: IBM Micromedex® NeoFax®/Pediatrics (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. 2021 [cited 2021 February 05]. Available from: <http://neofax.micromedexsolutions.com/neofax>.
7. Australian Government Department of Health. Hepatitis B immunoglobulin. [Internet] 2020 [cited 2021 February 26]. Available from: <https://immunisationhandbook.health.gov.au>.

## Document history

ID number	Effective	Review	Summary of updates
NMedQ21.064-V1-R26	06/05/2021	06/05/2026	Endorsed by Queensland Neonatal Services Advisory Group (QNSAG)

## QR code

