

## Hepatitis B Vaccine Higher Dose Schedule

The following immunocompromised individuals may respond sub-optimally to standard dosing of hepatitis B vaccine:

- Congenital immunodeficiency
- Hematopoietic stem cell transplant (HSCT) recipients <sup>A</sup>
- Solid organ transplant candidates and recipients
- HIV infection

Such individuals should be offered the higher dose schedule as follows:

Age	ENGERIX®-B (20 mcg/1 mL)			RECOMBIVAX HB® (10 mcg/1 mL)		
	Dose	Volume	Schedule	Dose	Volume	Schedule
0-15 years <sup>B</sup>	20 mcg	1.0 mL	0, 1 and 6 months	10 mcg	1.0 mL	0, 1 and 6 months
16-19 years <sup>B, C</sup>	40 mcg	2.0 mL	0, 1, 2 and 6 months	10 mcg	1.0 mL	0, 1 and 6 months
20 years of age and older <sup>C</sup>	40 mcg	2.0 mL	0, 1, 2 and 6 months	40 mcg <sup>D</sup>	4.0 mL	0, 1 and 6 months

Individuals with advanced liver disease (e.g., cirrhosis, physician-diagnosed advanced liver disease related to hepatitis C infection) who are non-responsive to the initial hepatitis B vaccine series (standard dosing), should be immunized as per the 'Hepatitis B Vaccine Higher Dose Schedule' for the second series.

**Post-vaccination serology:** Measure anti-HBs at 1-6 months after completion of the vaccine series to ensure that an adequate immune response has been achieved. If anti-HBs is  $\geq 10$  IU/L, consider immune. If anti-HBs is  $< 10$  IU/L, provide a second vaccine series and reassess anti-HBs 4 weeks later. If anti-HBs remains  $< 10$  IU/L, consider as a 2-series non-responder and susceptible to hepatitis B. There is no benefit to further vaccination. If an exposure to blood or body fluids occurs, the client will require post-exposure prophylaxis.

**Note:** If post-vaccination serology was done more than 6 months after completion of the vaccine series, titres may underestimate protection achieved by the series. Consider as immune those with anti-HBs  $\geq 10$  IU/L. However, if anti-HBs  $< 10$  IU/L and:

- anti-HBs is *detectable*: provide 1 dose of vaccine and retest 4 weeks later:
  - If level is  $\geq 10$  IU/L, consider as immune and no further doses are required.
  - If level is  $< 10$  IU/L, complete the second vaccine series and retest 4 weeks later.
- anti-HBs is *undetectable*: provide a second series and retest 4 weeks later.

If anti-HBs remains  $< 10$  IU/L after 2 vaccine series, consider as a 2-series non-responder and susceptible to hepatitis B.

<sup>A</sup> For programmatic reasons, HSCT recipients should follow the hepatitis B vaccine schedule outlined in [Part 2 – Immunization of Special Populations, Hematopoietic Stem Cell Transplantation \(HSCT\)](#), using the age-appropriate higher vaccine dosing as indicated in the table above.

<sup>B</sup> The adult presentation of ENGERIX®-B (20 mcg/1 mL) or RECOMBIVAX HB® (10 mcg/1 mL) can be used for this age group.

<sup>C</sup> If any dose in the series is given as ENGERIX®-B, a 4-dose series is required.

<sup>D</sup> The RECOMBIVAX HB® Dialysis Formulation (40 mcg/1 mL) should not be used for these individuals. The exception is HSCT recipients and kidney transplant candidates and recipients who should receive 1 mL of the RECOMBIVAX HB® Dialysis Formulation (40 mcg/1 mL).