

Hepatitis B Vaccine Program for Chronic Kidney Disease Clients

Chronic hemodialysis clients are at high risk for HBV infection because the process of hemodialysis requires vascular access for prolonged periods. In an environment where multiple clients receive dialysis concurrently, repeated opportunities exist for person-to-person transmission of infectious agents, directly or indirectly via contaminated devices, equipment and supplies, environmental surfaces or hands of personnel. Furthermore, hemodialysis clients are immunosuppressed, which increases their susceptibility to infection. For more information, see [Part 2-Immunization of Special Populations, Chronic Kidney Disease](#).

Eligibility:

All pre-dialysis, hemodialysis and peritoneal dialysis clients in hospital, community, home or self-care settings are eligible for this program. Vaccine administration should occur at the dialysis facility; however, in some communities, the client may be referred to the local health unit to be immunized.

Pre-dialysis and Dialysis Clients ^A						
Age	ENGERIX®-B			RECOMBIVAX HB®		
	Dose	Volume	Schedule	Dose	Volume	Schedule
0-15 years ^B	20 mcg	1.0 mL	0, 1 and 6 months	10 mcg	1.0 mL	0, 1 and 6 months
16-19 years ^{B, C}	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 ^C	40 mcg	2.0 mL	0, 1, 2 and 6 months	40 mcg ^D	1.0 mL	0, 1 and 6 months

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 ≥ 10 IU/L, consider immune. Client should be tested annually for the presence of anti-HBs. Administer a second series or booster dose of hepatitis B vaccine as necessary. Refer to the [BC Renal Agency Hepatitis B Guidelines dated March 2022](#) (select Infectious Disease Guidelines → Hepatitis B Guideline → Vaccine Responder Annual Testing algorithm).
- If anti-HBs is < 10 IU/L, provide a second vaccine series and re-assess 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. Test annually for HBsAg. If an exposure to blood or body fluids occurs, the client will require post-exposure prophylaxis.

For ongoing management, refer to the [BC Renal Agency Hepatitis B Guidelines dated March 2022](#) (select Infectious Disease Guidelines → Hepatitis B Guideline) which provide recommendations related to: 1) Initial Hepatitis B Testing, 2) Vaccine Responder Annual Testing, 3) Isolated anti-HBc Positive Follow-up Testing and 4) Anti-HBc Positive Annual Testing. ^E

^A There is no specific level of renal function that correlates well with vaccine immunogenicity, and therefore the recommendations for pre-dialysis clients are the same as those for dialysis clients.

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

^C If any dose in the series is given as ENGERIX®-B, a 4-dose series is required.

^D Use the RECOMBIVAX HB® Dialysis Formulation (40 mcg/1 mL).

^E Serological recommendations for clients with chronic kidney disease differ slightly from other special populations due to the recommendation for annual testing.