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.

![Table]

<table>
<thead>
<tr>
<th>Age</th>
<th>Dose</th>
<th>Volume</th>
<th>Schedule</th>
<th>Dose</th>
<th>Volume</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 15 years</td>
<td>20 mcg</td>
<td>1.0 mL</td>
<td>0, 1 and 6 months</td>
<td>10 mcg</td>
<td>1.0 mL</td>
<td>0, 1 and 6 months</td>
</tr>
<tr>
<td>16 – 19 years C</td>
<td>40 mcg</td>
<td>2.0 mL</td>
<td>0, 1, 2 and 6 months</td>
<td>10 mcg</td>
<td>1.0 mL</td>
<td>0, 1 and 6 months</td>
</tr>
<tr>
<td>20 years of age and older C</td>
<td>40 mcg</td>
<td>2.0 mL</td>
<td>0, 1, 2 and 6 months</td>
<td>40 mcg</td>
<td>1.0 mL</td>
<td>0, 1 and 6 months</td>
</tr>
</tbody>
</table>

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 July 2018 (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.


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 Use the adult formulation (10 mcg/1 mL).
C If a client has received Engerix®-B vaccine as dose 1, the client will require a 4-dose series regardless of which vaccine is used to complete the series. If a client has received Recombivax HB® vaccine as dose 1, the client will only require a 3-dose series regardless of which vaccine is used to complete the series.
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.