Hepatitis B Vaccine Recommendations Algorithm for Health Care Workers At High-Risk of Past Infection

*This algorithm is intended to be used in conjunction with the Standard for Immunization of Health Care Workers, Standard for Immunization of Post-Secondary Health Care Students and the Hepatitis B Vaccine Biological Page.

**Notes:**
- These recommendations apply to pre-exposure immunization only. Post-exposure recommendations fall under the notifiable disease management guidelines and blood/body fluid exposure protocols.
- Those at high-risk of past infection include:
  - Those who have emigrated from a country where hepatitis B is endemic – see Hepatitis B Virus Infection – High Endemic Geographic Areas
  - Those with lifestyle risks for infection
  - Those who are a spouse, sexual or needle sharing partner of a hepatitis B case or chronic carrier
  - Those who are a household contact of a hepatitis B case or chronic carrier
- Ideally post-immunization serology (Anti-HBs) should be done a minimum of 1 month to a maximum of 6 months following immunization. For clients where it has been longer than 6 months, order the serology and if negative, give a booster dose followed by serology 1 month later. If still negative after the 4th dose, second series should be completed followed by serology 1 month later.
- If an anti-HBs titre of at least 10 IU/L is confirmed following completion of documented series (including HCW providing a copy of previous results), testing need not be repeated nor should further immunization be undertaken, with the exception of immunocompromised persons who may have further testing ordered through their attending physician.

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**Algorithm Diagram:**

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Screen for evidence of immunity or past disease; HBsAg, Anti-HBc and Anti-HBs serology

- HBsAg positive regardless of other results
  - Vaccine not required; Laboratory will notify ordering physician and automatically send results to zone Medical Officer of Health or designate for follow up based on zone processes.
  - Advise to alert their school/professional organization.

- HBsAg negative, Anti-HBc positive, Anti-HBs positive
  - Consider immune; vaccine not required

- HBsAg negative, Anti-HBc negative, Anti-HBs negative
  - Documented history of vaccine series
    - Not immune; Recommend vaccine series. Repeat Anti-HBs 1 to 6 months later
      - Ant-HBs positive
      - Anti-HBs negative

- HBsAg negative, Anti-HBc negative, Anti-HBs positive
  - Vaccine not required
  - Consider immune; No further vaccine or serological testing required
  - Yes
  - No
    - Consider immune; No further vaccine or serological testing required
    - Recommend completion of second series. Repeat Anti-HBs 1 to 6 months later
      - Anti-HBs positive
      - Anti-HBs negative
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