

Hepatitis B immune status

Post-vaccination serological testing 4 weeks after the third dose of hepatitis B vaccine is recommended only in those at high risk of acquiring the infection (e.g. health-care workers) and those likely to have a poor response (e.g. immunosuppressed). It is not recommended for the general population.

If adequate anti-HBs levels are not reached following a full course of hepatitis B vaccination, the possibility of HBsAg carriage should be investigated.

Those who are HBsAg negative and do not respond should be offered further doses of the vaccine. This can be given as either a fourth double dose or a further three doses at monthly intervals with testing 2 weeks after each additional dose.

Persistent non-responders should be informed about the need for hepatitis B immunoglobulin (HBIG) within 72 hours of parenteral exposure to HBV. Those at significant occupational risk, who have a documented history of a primary course of hepatitis B vaccine but in whom seroconversion status is unknown, should be given a single booster dose of the vaccine and tested for anti-HBs levels 4 weeks later. If the level is < 10 IU/L, two further doses should be given according to the catch-up schedule and anti-HBs levels checked at least 4 weeks after the second dose.

Booster doses are not recommended for adults, children, and all sub-groups (such as health-care workers and dentists) following successful vaccination. The exception is immunosuppressed individuals, in particular those with either HIV infection or renal failure. The timing for boosting in such individuals should be decided by regular monitoring of anti-HBs levels at 6–12 monthly intervals.

Australian Immunisation Handbook, 8th Edition (2003).

Another recommendation for non-responders

Not mentioned in the handbook but another recommendation for non-responders of hepatitis B vaccination in high-risk health-care workers is intradermal injection of 0.25 mL of vaccine every 2 weeks for four doses. If redness or swelling develops at the intradermal injection site, anti-HBs levels should be checked prior to further injections.

Sources: R. E. Levitz, et al. Immunization with high-dose intradermal recombinant hepatitis B vaccine in healthcare workers who failed to respond to intramuscular vaccination. *Infection Control and Hospital Epidemiology* 16, no. 2 (1995): 88–91.

E. G. Playford, et al. Intradermal recombinant hepatitis B vaccine for healthcare workers who fail to respond to intramuscular vaccine. *Infection Control and Hospital Epidemiology* 23, no. 2 (2002): 87–90.