Hepatitis B (HBV) vaccine:

need for a booster injection?

VHPB, Kyiv 2004

Information for the Development of Immunization Policy

2002 update (WHO/V&B/02.28, printed: March 2003)

The priorities for hepatitis B immunization strategies in order of importance are:

- routine infant vaccination;
- prevention of perinatal HBV transmission (from mother to baby);
- catch-up vaccination for older age groups.

Introduction of hepatitis B vaccine into childhood immunization services *(WHO/V&B/01.31)*

Management guidelines, including information for health workers and parents
WHO, Department of Vaccines and Biologicals, November 2001

- Many studies have shown that infants, children and adults who have responded to a three-dose hepatitis B immunization series are protected from the disease for as long as 15 years, even if they lose protective antibodies over time.
- Long-term protection relies on immunological memory, which allows a protective anamnestic response after exposure to HBV.
- **Booster doses of vaccine are not, therefore, recommended.**

Information for the Development of Immunization Policy

2002 update (WHO/V&B/02.28, printed: March 2003)

Administration summary

Type of vaccine	Recombinant DNA or plasma-derived
Number of doses	Three doses given by the intramuscular route into upper thigh of infant and deltoid muscle of adult
Schedule	Several options (see above)
Booster	***None***
Contraindications	Anaphylactic reaction to a previous dose
Adverse reactions	Local soreness and redness, rarely anaphylactic reaction
Special precautions	Birth dose must be given if there is a risk of perinatal transmission

HBV booster: considerations

- Boosters may be used to provide reassurance of protective immunity against benign breakthrough infection

- Appropriate monitoring of vaccine/treatment escape mutants requires the set up of an independent global network for this purpose

HBV booster: considerations

- For immunocompromised patients, regular testing for anti-HBs, and a booster injection when the titre falls below 10 mIU/mL, is advised.
- Booster policy should be addressed for special sub-groups (e.g. health care workers).

HBV booster: considerations

- Recommendations for post-exposure prophylaxis of subjects, that are not immune or whose status is unknown should be standardized.

Conclusions

- To date there are no data to support the need for booster doses of HB vaccine in immunocompetent individuals who have responded to a primary course.

- All adequately vaccinated individuals have shown evidence of immunity in the form of persisting anti-HBs and/or in vitro B-cell stimulation or an anamnestic response to a vaccine challenge.

HBV vaccine booster : future need?

- Additional information is needed to establish the need for a booster injection for adults beyond 15 years after vaccination
- Additional information is needed also for children immunized at birth, in order to assess whether the immunological memory persists into adolescence and advanced adulthood, when the risk of infection, either by lifestyle or HBV professional exposure, becomes higher.
- To address this, cohort studies of immunized subjects are warranted.

HBV vaccine strategy

- **Risk reduction**
  - Because non-response or incomplete response to standard HBV vaccination will always exist (although rare):
    general precautions for the prevention of viral transmission are still mandatory
  - Protection and immunization of at-risk individuals
  - All health care providers should be vaccinated, vaccination must be offered
- **Strengthen surveillance**
  - Diagnostic tests, national detection, global reporting
  - Avoid emergence of a new virus
- **Improve preparedness**
  - Difficulty of implementing universal precautions and safe injection practices
  - Insuring sustainability of vaccination programs
  - There is justification for producing more immunogenic vaccines

Thank you

http://www.who.int

“Le mieux est l’ennemi du bien”

("The better is the enemy of the good")