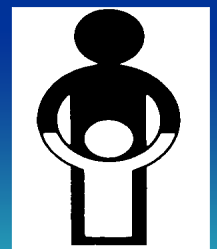


WHO Recommendations and Guidelines for the Prevention of Perinatal Hepatitis B and Use of Hepatitis B Vaccines

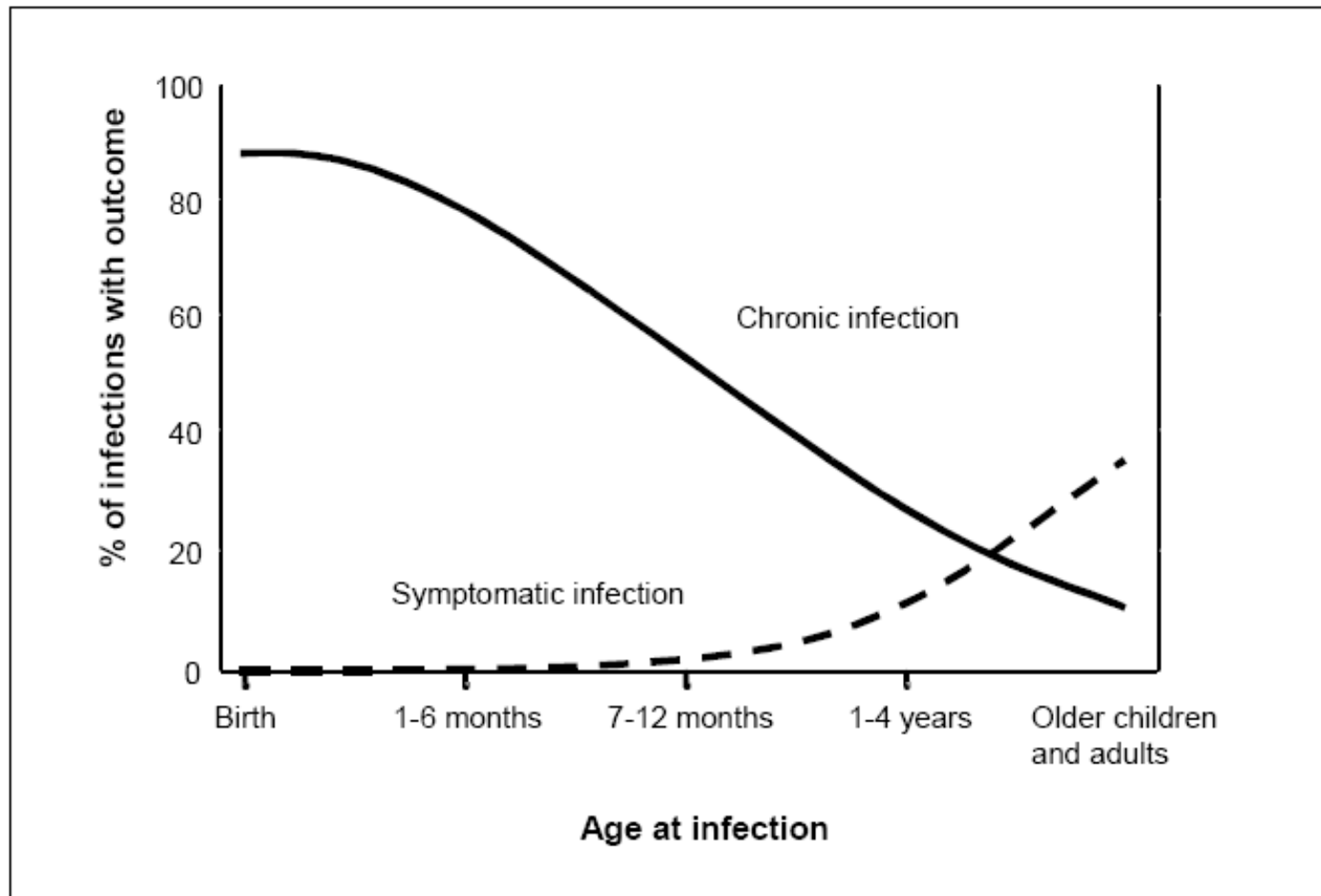
Steven Wiersma, Medical Officer
WHO/EPI, Geneva

March, 2006



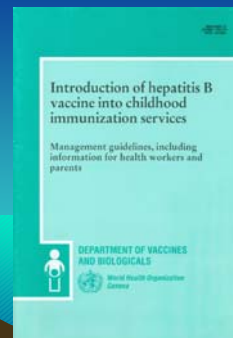
Epidemiology —▶ Strategy

Figure 1. Outcome of hepatitis B virus infection by age at infection



WHO HepB Immunization Strategies

- Include:
 - routine infant vaccination;
 - prevention of perinatal HBV transmission (the birth dose);
 - catch-up vaccination for older age groups.
 - (WHO/V&B/01.31)



Infant HepB Schedules: high incidence settings

- "A variety of schedules may be used for hepatitis B immunization in national programmes, depending on the local epidemiological situation and programmatic considerations. However, in countries where a high proportion of HBV infections are acquired perinatally, the first dose of hepatitis B vaccine should be given as soon as possible (<24 hours) after birth." (WER, 2004)



Infant HepB Schedules: low incidence settings

- "In countries where a lower proportion of HBV infections are acquired perinatally, the relative contribution of perinatal HBV infection to the overall disease burden, and the feasibility and cost-effectiveness of providing vaccination at birth, should be carefully considered before a decision is made on the optimal vaccination schedule."
- WHO Position Paper (WER, 2004)



Table 1. Options for adding hepatitis B vaccine to childhood immunization schedules

					Hepatitis B vaccine options			
					No birth dose	With birth dose		
Age	Visit		Other antigens			I	II	III
Birth	0	BCG [OPV0] ¹					HepB -birth ²	HepB1 ²
6 weeks	1		OPV1	DTP1		HepB1 ³	HepB2 ²	HepB2 ³
10 weeks	2		OPV2	DTP2		HepB2 ³		HepB3 ³
14 weeks	3		OPV3	DTP3		HepB3 ³	HepB3 ²	HepB4 ³
9–12 months	4				Measles			

¹ Only given in high polio endemic countries

² Monovalent vaccine

³ Monovalent or combination vaccine

Birth Dose Summary

- "National strategies for the prevention of perinatal transmission of HBV should take into account the relative contribution of such transmission to the overall hepatitis B disease burden and the feasibility of delivering the first dose of hepatitis B vaccine at birth." (WER, 2004)



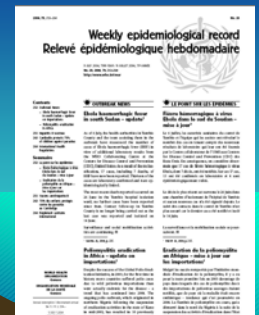
Perinatal Use of Hepatitis B Immune Globulin (HBIG)

- "As a rule, HBIG should be used as an adjunct to hepatitis B vaccine. However, in full-term newborns, the protection against perinatally acquired infection achieved by immediate (<24 hours) hepatitis B vaccination is not significantly improved by the addition of HBIG." (WER, 2004)



Administration of HepB to Low Birth Weight Newborns

- Countries that opt for schedules with a birth-dose should vaccinate preterm infants at birth and subsequently enter the respective national hepatitis B vaccination schedule. However, if the birth weight is <2000 g, the vaccine dose at birth should not be counted towards the primary series, and three additional doses should be given." (WER, 2004)



HBsAg Screening of Pregnant Women: with immunization of newborns born to HBsAg+ women

- This strategy is usually not feasible in developing countries with high prevalence of disease and may not be the most reliable and convenient option even in countries where HBsAg screening in pregnancy is well established. (WER, 2004)



Contraindications to Use of HepB

- "Hepatitis B vaccine is contraindicated for individuals with a history of allergic reactions to any of the vaccine's components. Neither pregnancy nor lactation is a contraindication for use of this vaccine." (WER, 2004)
- Further vaccination with hepatitis B vaccine is contraindicated in people with a history of anaphylaxis to a previous dose (WHO/V&B/00.36).



Out of Cold Chain (OCC)

- Vaccines with VVMs only if:
 - 1) health workers and others trained to interpret VVM readings correctly
 - 2) and if any vial bearing a VVM that has reached its end-point is discarded
- "...managerially...wise to maintain vaccine in the cold chain for as long as possible during distribution" (WHO/V&B/02.35)



OCC Policy

- "Policy can be developed at country level to allow vaccine OCC either generally for all routine immunization activities or on a limited basis in certain areas or under special circumstances, such as:
 - national immunization days;
 - hard-to-reach geographical areas;
 - immunizations provided in the home;
 - cool seasons;
 - storage and transportation of freeze-sensitive vaccines (DTP, TT, DT, Td, hepatitis B and Hib vaccines) where the risk of freezing is greater than the risk of heat exposure. "
 - (WHO/V&B/02.35)



A Challenge to WHO

"Indonesia allows OCC storage of HepB vaccine for the birth dose—but other nations seem reluctant to follow suit—and WHO does not yet unequivocally support such a strategy."

Hipgrave et al, Improving birth dose coverage of hepatitis B vaccine. Bull WHO 2006; 84:65-71,



Questions:

- What future guidelines are needed?
- How do we monitor progress in prevention of perinatal hepatitis B?
- Is WHO unequivocal on OCC strategy?
- Others



Operational Experience

- Sudan, Somalia, DRC, India, Nigeria, Benin, Ivory Coast and others experience with OPV
- Indonesia, China, Vietnam experience with hepatitis B
- Bolivia and Indonesia experience with TT



Discussion

