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SPECIAL  
PROGRAMME  
ON AIDS

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STATEMENT FROM THE  
CONSULTATION ON HUMAN  
IMMUNODEFICIENCY VIRUS (HIV) AND  
ROUTINE CHILDHOOD IMMUNIZATION

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## Consultation on Human Immunodeficiency Virus (HIV) and routine childhood immunization

Concern has been raised that children infected with the human immunodeficiency virus (HIV) who receive routine childhood immunizations may have decreased immune responses and be at increased risk for adverse effects or acceleration of HIV-induced immunosuppression. Limited experience suggests that the likelihood of successful immunization is reduced in some HIV-infected individuals but that the risk of serious adverse effects remains low. The theoretical risk of accelerating HIV infection by simultaneous administration of multiple antigens is not supported by limited clinical information and is likely to be negligible in contrast to other natural sources of antigenic stimulation.

Having reviewed the available information in Geneva on 12 and 13 August, 1987, the WHO informal consultation on HIV and routine childhood immunization:

- 1 Endorses the 1986 Expanded Programme on Immunization (EPI) Global Advisory Group recommendations on the use of EPI antigens:

"In countries where human immunodeficiency virus (HIV) infection is considered a problem, individuals should be immunized with the EPI antigens according to standard schedules. This also applies to individuals with asymptomatic HIV infection. Unimmunized individuals with clinical (symptomatic) AIDS in countries where the EPI target diseases remain serious risks should not receive BCG, but should receive the other vaccines (see table)."

Table

Recommendations on the use of EPI antigens in HIV-infected individuals in countries where the EPI target diseases remain important causes of morbidity

	Vaccine	Asymptomatic	Clinical AIDS
<i>Infants</i>	BCG	Yes	No
	DTP	Yes	Yes
	OPV	Yes	Yes
	IPV	Yes	Yes
	Measles	Yes	Yes
<i>Women</i>	Tetanus toxoid	Yes	Yes

- 2 In accordance with the Global Advisory Group, notes that live vaccines are not usually given to immunocompromised individuals, but agrees that, in areas where the risk of exposure to measles and poliovirus is high, the benefits of immunization outweigh the apparently low risk of adverse effects from these vaccines, even in the presence of symptomatic HIV infection. Inactivated poliomyelitis vaccine (IPV) is an alternative to OPV for immunization of children with symptomatic HIV infection who may be at increased risk of OPV-associated paralytic poliomyelitis.

- 3 Notes that although a theoretical risk exists, evidence for an increased rate of adverse reactions after BCG immunization among asymptomatic HIV-infected individuals remain inconclusive. Therefore,

*a For asymptomatic HIV infected individuals:*

- Where the risk of tuberculosis is high, BCG is recommended at birth or as soon as possible thereafter in accordance with standard policies for immunization of non-HIV-infected children;
- In a limited number of areas, the risk of tuberculosis is low, but BCG is recommended as a routine immunization; in these areas, BCG may be withheld from individuals known or suspected to be infected with HIV;

*b For symptomatic HIV-infected individuals, BCG should be withheld.*

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- 4 Emphasizes the EPI recommendation to immunize children as early in life as possible. Vaccine-associated adverse effects may be minimized and vaccine response optimized by beginning immunization before the progression of HIV-induced immunosuppression.

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  - 5 Endorses the simultaneous administration of multiple antigens such as BCG, DTP, polio and measles vaccines when indicated.

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  - 6 Strongly encourages further investigations in the following areas:
    - a *Safety of immunizations in HIV-infected children:*
      - i Surveillance of HIV-infected children to permit rapid identification of any unexpectedly frequent adverse events following immunization;
      - ii Establishment or modification of population-based surveillance systems to detect rare serious adverse events associated with immunization of HIV-infected children;
      - iii Comparison of the rates of frequent and less severe adverse events which occur in HIV-infected children and uninfected children following immunization.
    - b *The natural history of vaccine-preventable diseases in HIV-infected children:*
      - i Determination of the rates of serious complications of vaccine-preventable diseases in HIV-infected children in health care facilities and in the community correlation of such complications with the stage of HIV infection and degree of immunosuppression;
      - ii Establishment or modification of population-based surveillance systems to detect serious complications of vaccine-preventable diseases in HIV-infected children;
      - iii Assessment of the role of immune globulin in protection of HIV-infected children against vaccine-preventable diseases.
    - c *Immunogenicity and efficacy of immunizations in HIV-infected children:*
      - ii Determination of the serologic response to immunization in HIV-infected children compared to uninfected children and correlation of vaccine response to stage of HIV infection and degree of immunosuppression;
      - ii Development of methods to improve vaccine responses of HIV-infected children, if these are found to be decreased;
      - iii Determination of the persistence of vaccine-induced antibody;
      - iv Prospective follow-up of immunized HIV-infected children and retrospective evaluation of cases of vaccine-preventable diseases to determine rates of vaccine failure in HIV-infected children.
    - d *Possible activation or acceleration of HIV-infection by repeated antigenic stimulation with immunizations, including simultaneous administration of multiple antigens:*
      - i Detection of increased HIV replication following immunization of HIV-infected children;
      - ii Detection of immunologic abnormalities following immunization of HIV-infected children;
      - iii Retrospective studies of the relationship between total number of immunizations received and/or number of antigens received simultaneously by HIV-infected children and the onset of symptomatic HIV infection, progression of clinical HIV diseases and/or fatal outcome of HIV infection. The informal consultation agreed that prospective placebo-controlled, double-blind studies in which some HIV-infected children would not receive recommended immunizations are not appropriate.
    - e *The immunogenicity and efficacy of tetanus toxoid immunization of HIV-infected pregnant women in the prevention of neonatal tetanus.*