

*Subject: immunization  
immunization  
Measles - p + c*

WHO/GPA/INF/89.6  
Original: English  
Distr.: General

*Topic: immunization*

GLOBAL  
PROGRAMME  
ON  
**AIDS**  
AND  
EXPANDED PROGRAMME  
ON IMMUNIZATION

JOINT WHO/UNICEF STATEMENT  
ON EARLY IMMUNIZATION FOR  
HIV-INFECTED CHILDREN

GENEVA  
JANUARY 1989



WORLD  
HEALTH  
ORGANIZATION

IN COLLABORATION WITH

UNITED NATIONS  
CHILDREN'S FUND



Source: *Weekly Epidemiological Record*,  
62: 297-299 (1987) and 64: 48-49 (1989)

---

## **Joint WHO/UNICEF statement on early immunization for HIV-infected children<sup>1</sup>**

In consultation with UNICEF, WHO's Global Programme on AIDS and the Expanded Programme on Immunization produced a joint statement on immunization and HIV-infected children in October 1987.<sup>2</sup> The thrust of that statement was to encourage the use of all the EPI antigens in HIV-infected children with the exception of BCG which should not be given to children thought to have symptomatic HIV infection. Further experience continues to support these recommendations, highlighting the benefits of immunization in protecting HIV-infected children, particularly against measles and complications of tuberculosis.

1. Children with known or suspected HIV infection are at increased risk of severe measles.<sup>3</sup> Such children should be offered measles vaccine as early as possible.
2. Standard WHO recommendations for children at high risk of contracting measles are to immunize with standard measles vaccine at six months of age with a second dose at nine months.<sup>4</sup> Children with known or suspected HIV infection should be considered in this high-risk category and receive measles vaccine at six months of age, followed by a second dose at nine months.
3. Studies are currently under way to examine the safety and efficacy of high doses and/or alternative strains of measles vaccines in children at six months of age or earlier. The efficacy data from these studies have been encouraging.<sup>5,6</sup> Furthermore, no significant adverse events have been associated with the use of either standard or alternative vaccines at higher doses in children below nine months of age (or indeed in older children). The number of children who have been studied is, however, still too small to permit detection of uncommon events. Studies of safety and efficacy of these vaccines are specifically encouraged in children known or suspected to be HIV-positive.
4. Parents of HIV-infected children may be HIV-infected themselves, and have a higher incidence of infectious tuberculosis than the general population. Early protection against tuberculosis with BCG immunization is therefore recommended for HIV-infected children who are not symptomatic.

---

### **Statement from the consultation on human immunodeficiency virus (HIV) and routine childhood immunization, Geneva, 12-13 August 1987<sup>2,7</sup>**

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.

---

1 *Weekly Epidemiological Record*, 64, 48-49 (1989).

2 *Weekly Epidemiological Record*, 62, 297-299 (1987).

3 Measles in HIV-infected children, United States. *MMWR* 1988; 37: 183-6.

4 *Weekly Epidemiological Record*, 64, 5-10 (1989).

5 Aaby P. et al. Trial of high dose Edmonston-Zagreb measles vaccine in Guinea-Bissau: protective efficacy. *Lancet* 1988; ii: 809-811.

6 Whittle H.C., Hanton P., O'Neill K. et al. Trial of Edmonston-Zagreb measles vaccine in The Gambia: antibody response and side effects. *Lancet* 1988; ii: 811-14.

7 Unpublished document WHO/SPA/INF/87.11.

---

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:<sup>1</sup>

"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
Infants	DPT	Yes	Yes
	BCG	Yes	No
	OPV	Yes	Yes
	IPV	Yes	Yes
	Measles	Yes	Yes
Women	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 remains 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.
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.

1. *Weekly Epidemiological Record*, 62: 8 (1987)

- 
5. Endorses the simultaneous administration of multiple antigens such as BCG, DPT, polio and measles vaccines when indicated.
  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 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 and 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:
      - (i) Determination of the serological 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 immunological 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 disease 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.