

Safety of injections

WHO-UNICEF joint statement* on the use of auto-disable syringes in immunization services

1. The reuse of standard single-use disposable syringes¹ and needles places the general public at high risk of disease and death.
2. The auto-disable syringe, which is now widely available at low cost, presents the lowest risk of person-to-person transmission of blood-borne pathogens because it cannot be reused. The auto-disable syringe is the equipment of choice for administering vaccines, both in routine immunization and mass campaigns.
3. "Safety boxes", puncture-proof containers - for the collection and disposal of used disposable and auto-disable syringes, needles and other injection materials - reduce the risk posed to health staff and the general public by contaminated needles and syringes.
4.
 - WHO and UNICEF reaffirm the current policy that auto-disable syringes, vaccines and safety boxes should continue to be supplied as a "bundle" (see box, page 4) for all elective and emergency campaigns.
 - UNICEF reaffirms its current policy that UNICEF programme funds cannot be used to procure standard disposable syringes for any immunization purpose.
 - UNICEF announces that, as of 1 January 2001, no procurement service contracts² for standard disposable syringes will be entered into.
 - WHO and UNICEF urge that, by the end of 2001, all countries should use only auto-disable syringes or sterilizable syringes. Standard disposable syringes should no longer be used for immunization.
 - WHO and UNICEF urge that, by the end of 2003, all countries should use only auto-disable syringes for immunization.
5. All partners of immunization services are requested to finance not only the vaccines, but also the safe administration of vaccines, auto-disable syringes and safe management of waste. Partners should do this by planning and implementing the above strategy, as well as by supporting related training, supervision and sensitisation activities.



*This joint policy statement revises and replaces the document *WHO-UNICEF policy statement for mass immunization campaigns*, WHO/EPI/LHIS/97.04 Rev.1. It is issued by the World Health Organization, Geneva, Switzerland (Department of Vaccines and Biologicals) and the United Nations Children's Fund (UNICEF Programme Division, New York, USA and UNICEF Supply Division, Copenhagen, Denmark). This policy is also the adopted practice of the International Federation of Red Cross and Red Crescent Societies in their operations.



Background

Information reaching WHO and UNICEF consistently highlights the widespread occurrence of unsterile injection practices and identifies a major cause as insufficient supplies of syringes and needles³. Unsafe injections can result in the transmission of blood-borne pathogens from patient-to-patient, patient-to-health worker and, more rarely, health worker-to-patient. The community at large is also at risk when injection equipment is used and then not safely disposed of. In many instances, used equipment is reused, sold or recycled because of its commercial value. The imperative to improve safety of injections in immunization services is underlined by the publication of articles in the WHO Bulletin (October 1999) which show that, although immunization injections are thought to be safer than curative injections, around 30% of immunization injections are still unsafe. Much evidence of reuse of disposable syringes exists and even recent country reviews suggest that sterilization of syringes and maintenance of sterilization equipment is not systematic.

Last year, in the developing world, routine immunization of children under one year and immunization of women of childbearing age with tetanus toxoid (TT) accounted for over one billion injections. In addition to routine immunizations, measles control/elimination activities and disease-outbreak control operations together delivered more than 200 million injections in the same year.

Hepatitis vaccine is now in use in half of the developing countries and Hib, MMR and pentavalent vaccines are already widely used in the Americas. Acceleration of special activities which aim at the elimination of neonatal tetanus and at better control of measles has begun. And a Global Alliance of Partners of Immunization Services (GAVI) is being formed to assure access to new vaccines for many of the poorest countries where the vaccines are needed most.

These increases of immunization services, including the elimination and control campaigns, offer an opportunity for improvement and make it imperative that injections are made safe for people.

The disease burden associated with unsafe injection practices has been estimated⁴ and the cost implications of treatment of these diseases has been quantified⁵. Each unsafe injection costs governments between three to five times the extra cost of auto-disable syringes (which guarantee a sterile injection), not to mention the toll in terms of human suffering.

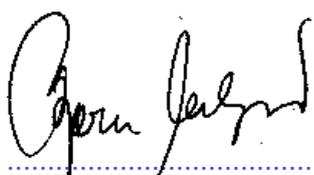
Strategy

Over the past years, WHO and UNICEF have launched a number of initiatives which aim to improve the safety of injections. The most recent was the precursor to this joint statement in 1997⁶ which related to the use of auto-disable syringes and safety boxes in immunization campaigns. That policy has assured the simultaneous budgeting and parallel purchasing and shipping of sufficient syringes and safety boxes for each consignment of vaccines for mass campaigns. Now, with a broad experience of the use of this equipment in the field, is the time to consolidate a policy to cover all administration of vaccine.

WHO and UNICEF have agreed to implement a strategy to ensure that special attention is paid to the safe administration of vaccines, both in routine immunization services and during mass campaigns. The policy statement (*on page 1*) defines the position of WHO and UNICEF and is intended as a guide to other partners of immunization services, including national ministries of health.

In addition to this policy statement, WHO and UNICEF recommend that:

- Countries exert maximum effort to ensure that procedures for injection safety are rigorous -this includes routine use and monitoring of indicators of sterilization while sterilizable equipment is still used. Partner agencies involved in immunization programmes in countries should provide maximum support for the strengthening of safe injection practices.
- Urgent attention be given to develop appropriate tools (current monitoring tools are still insufficient to objectively demonstrate compliance to safe injection practices).
- Agencies supporting immunization services be encouraged to provide time-limited financial support to countries procuring standard disposable syringes for immunization until government-won budgets can be increased to cover the additional cost of auto-disable syringes.
- Agencies supporting immunization services which fund the purchase of locally-manufactured standard disposable syringes for immunization should assist countries with technology transfer to enable them to switch to auto-disable syringes in the shortest possible time.
- Used auto-disable syringes should be deposited in safety boxes without re-capping, burned locally and the remains buried underground - until improved disposal methods are developed. Urgent attention should be given to develop improved means for effective, safe and environmentally-acceptable waste processing and final disposal of auto-disable syringes.



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FOOTNOTES

- ¹ Auto-disable (A-D) syringes conform to the WHO/V&B Performance Specifications E8/DS1 and DS2 and include pre-filled pouch-and-needle injection devices. This statement applies only to available supplies of A-D syringes which do not include, at this time, 0.05ml syringes for BCG intradermal injection or mixing syringes for reconstitution.
- ² UNICEF procurement service contracts cover the procurement of supplies and equipment by UNICEF as a service to governments and other organizations.
- ³ Review: Unsafe injections in the developing world and transmission of blood-borne pathogens, Simonsen L (Ph.D.), Kane A, Lloyd J, Zaffran M, Kane M (M.D.), *WHO Bulletin* October 1999.
- ⁴ Unsafe injections in the developing world: Region based estimates of the transmission of blood-borne pathogens, Kane A et al. *WHO Bulletin* October 1999.
- ⁵ "Direct and indirect costs of alternative injection technologies used in immunization services", Ekwueme et al. *WHO Bulletin* October 1999.
- ⁶ Safety of Injections: WHO-UNICEF policy statement for mass immunization campaigns, WHO/EPI/LHIS/7.04 Rev.1 – replaced by this statement, WHO/V&B/99.25.

The term "bundling" has been chosen to define the concept of a theoretical "bundle" which must comprise each of the following items:

- Good quality vaccines
- Auto-disable syringes
- Safety boxes

The implication is that none of the component items can be considered alone; each component must be considered as part of a "bundle" which contains the other two. "Bundling" has no physical connotation and does not imply that items must be "packaged" together.

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