

# Revised WHO position on measles vaccine 2009

## - the abridged version -

This revised document replaces the position paper on measles vaccines that was published in the Weekly Epidemiological Record in March 2004. The paper provides links to references as well as to tables grading the level of scientific evidence for some key conclusions.

**Epidemiology and virology:** Measles virus is highly infectious and in the absence of vaccination, about 90% of individuals would be infected by 10 years of age. In 2007, worldwide measles vaccination coverage had reached 82% and between 2000 and 2007, the estimated annual number of deaths from measles dropped from 750 000 to 197 000.

**Vaccinology:** A number of live, attenuated measles vaccines are currently available, either as monovalent vaccine or as measles-containing vaccine combinations (MCVs) with one or more of rubella (R), mumps (M), and varicella (V) vaccines. The measles vaccines that are now internationally available are safe, effective, and may be used interchangeably in immunisation programmes.

**Recommendations:** Measles vaccines are recommended for all susceptible children and adults for whom measles vaccination is not contraindicated.

On-time delivery of the first dose remains the highest programme priority, but reaching all children with 2 well recorded doses of measles vaccine should be the standard for all national immunization programmes. The second dose can be administered through routine services or given periodically through mass campaigns to defined age groups. Measles elimination requires  $\geq 95\%$  nation-wide coverage with both doses. To achieve reduction of measles mortality immunization coverage should be  $\geq 90\%$  at the national level and  $\geq 80\%$  in each district.

Where measles transmission is high, the first dose of measles containing vaccine (MCV1) should be given at 9 months of age, but also to all unvaccinated children over this age. Where transmission is low, MCV1 administration at 12 months of age is preferable.

MCV2 may be added to the routine immunization schedule in countries that regularly achieve  $\geq 80\%$  national MCV1 coverage. Countries that do not meet this criterion should rather prioritize improving MCV1 coverage and conducting high quality follow-up campaigns. Where MCV1 is given at 9 months of age, the routine MCV2 should be administered at 15-18 months of age. In countries with very low measles transmission and MCV1 administered at 12 months, the optimal time for routine MCV2 (e.g. between age 15-18 months – school entry) depends on programmatic considerations. In countries with moderate to weak health systems, regular measles immunization campaigns can protect children who do not have access to routine health services.

Measles vaccination should be routinely given to potentially susceptible, asymptomatic HIV-infected children and adults. To limit the impact of measles outbreaks, WHO encourages thorough surveillance and risk assessment and rapid response, including expanded use of vaccination. Careful safety surveillance of possible adverse events must remain a key component of all immunization programmes.