

Summary of Key Points

WHO Position Paper on Vaccines against measles virus September 2009



World Health
Organization

Measles vaccines

WHO position paper

- 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.
- Attenuated, live measles vaccines are
 - internationally available
 - safe
 - effective
 - provide long-lasting protection
 - inexpensive
 - may be used interchangeably in immunisation programmes.



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Immunization program standards

- All national immunization programmes should provide children with 2 doses of measles-containing vaccine (MCV) delivered:
 - continuously (i.e. through routine services) or
 - periodically through supplemental immunization activities (SIAs)
- In countries aiming at measles mortality reduction, immunization coverage should be $\geq 90\%$ nationally and $\geq 80\%$ in each district.
- Countries aiming at measles elimination should achieve $\geq 95\%$ coverage in every district.
 - Population immunity needs to be $>93\%$ – 95% in all districts to prevent measles epidemics



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Optimal age for MCV1

- Where risk of measles mortality among infants remains high, the first dose of MCV (MCV1) should be administered at 9 months of age.
- In countries with low risk of measles infection among infants (i.e. near elimination), MCV1 can be administered at 12 months
 - Higher sero-conversion rates are achieved at 12 months than 9 months
 - Increasing the age of administration of MCV1 from 9 months to 12 months represents a rational and desirable policy change.
 - Before increasing age of MCV1, policy-makers should review local measles epidemiology and programmatic data on vaccination.



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Interval between SIAs

- SIAs should be conducted before the number of susceptible pre-school age children reaches the average size of a birth cohort.
 - Programmes should use vaccination coverage data to monitor accumulation of susceptible persons.
 - This approach has been found to be programmatically useful and sufficiently accurate to prevent large outbreaks.



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Introduction of routine MCV2

- Introducing routine MCV2 improves measles control through:
 1. slowing the accumulation of susceptible children and lengthening of the interval between SIAs
 2. decreasing reliance on SIAs. SIAs can be stopped once high population immunity (>93-95%) can be maintained with two routine doses alone
 3. in some cases, establishing a well-child visit in the 2nd year of life that maximizes linkages with other routine doses and health interventions.
- Routine MCV2 may be introduced in countries that have achieved \geq 80% MCV1 coverage (according to WHO/UNICEF estimates) at the national level for 3 consecutive years
 - Countries not meeting this criterion should instead prioritize improving MCV1 coverage and conducting high quality follow-up SIAs
 - Countries that introduce MCV2 should continue to conduct regular SIAs as needed



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Criteria for stopping follow-up SIAs

- Cessation of SIAs should be considered only when >90-95% immunization coverage has been achieved at the national level with both routine doses for at least 3 consecutive years.
- Before stopping SIAs, a national committee should examine:
 - historical immunization coverage data at the national and district level
 - degree of heterogeneity of routine coverage among districts
 - population immunity profile
 - predicted rate of accumulation of susceptibles in the absence of SIAs
 - current epidemiology of measles
 - performance of the measles surveillance system.



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Optimal timing of routine MCV2

- Countries with $\geq 80\%$ MCV1 coverage (according to WHO/UNICEF estimates) at the national level for 3 consecutive years **and** with ongoing measles transmission should administer routine MCV2 at 15-18 months of age.
 - The minimum interval between MCV1 and MCV2 is one month.
- Countries with very low measles transmission (i.e. near elimination) should administer routine MCV2 at the age that enables achieving the highest MCV2 coverage:
 - If MCV1 coverage is high ($>90\%$) and school enrollment is high ($>95\%$), administration of routine MCV2 at school entry may be an effective strategy to achieve high coverage



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Outbreak response

- To limit impact of outbreaks, WHO encourages:
 - surveillance for early outbreak detection
 - thorough assessment of risk of spread and severe disease
 - rapid response including expanded use of measles vaccine
- The nature and extent of the vaccination response should be based on an assessment of risk of spread, risk of severe outcomes, and capacity to respond. Because of the diversity of situations in which outbreaks occur, a district outbreak coordination committee with broad representation should take the decisions as to the type of vaccination response at the local level.



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Measles vaccination of HIV positive individuals

- Measles vaccine should be routinely given to potentially susceptible, asymptomatic HIV-infected children and adults.
 - May even be considered for those with symptomatic HIV infection who are not severely immunosuppressed
- In areas with high incidences both of HIV-infection and measles:
 - The first measles immunisation may be offered as early as 6 months of age.
 - Two additional doses of measles vaccine should be administered to these children according to the national immunization schedule.

