

Summary of the WHO position on Measles Vaccine- April 2017

This position paper replaces the 2009 WHO position paper on measles. It incorporates the most recent developments in the field of measles and includes removal of introduction criteria for the routine second dose of measles-containing vaccine (MCV2), guidance on when to vaccinate infants from 6 months of age, and guidance on re-vaccination of HIV-infected children receiving highly active anti-retroviral therapy (HAART).

Background

Measles is one of the most contagious diseases of humans, and in the absence of vaccination, about 95% of individuals would be infected with measles virus by 15 years of age. In 2015, worldwide measles vaccination coverage with the first and second dose had reached 85% and 61%, respectively. In 2015, there were an estimated 134 200 measles deaths globally, representing a 79% decline since 2000.

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.

WHO position

Reaching all children with 2 doses of measles vaccine should be the standard for all national immunization programmes. In addition to the first routine dose of MCV (MCV1), all countries should include a second routine dose of MCV (MCV2) in their national vaccination schedules regardless of the level of MCV1 coverage. Countries aiming at measles elimination should achieve $\geq 95\%$ coverage with both doses equitably to all children in every district. Measles vaccines are recommended for all susceptible children and adults for whom measles vaccination is not contraindicated.

Where risk of measles mortality among infants remains high, MCV1 should be administered at 9 months of age. These countries should administer the routine dose of MCV2 at age 15–18 months. The minimum interval between MCV1 and MCV2 is 4 weeks. In countries with low risk of measles infection among infants (i.e. near elimination), MCV1 may be administered at 12 months and the optimal age for delivering routine MCV2 is based on programmatic considerations that achieve the highest coverage of MCV2. Every opportunity (e.g. whenever children come in contact with health services) should be taken to vaccinate all children who missed one or both MCV routine doses, particularly those <15 years of age.

A supplementary dose of MCV should be given to infants from 6 months of age:

- during a measles outbreak as part of intensified service delivery;
- during campaigns where the risk of measles among infants < 9 months of age is high;
- for internally displaced populations, refugees, and populations in conflict zones;
- for individual infants at high risk of contracting measles;
- for infants travelling to countries experiencing measles outbreaks;
- for infants known to be HIV-infected or exposed.

MCV administered before 9 months of age should be considered a supplementary dose¹ and recorded as “MCV0”. Children who receive a MCV0 dose should also receive MCV1 and MCV2 at the recommended ages according to the national schedule.

In countries with moderate to weak health systems, regular measles immunization campaigns can protect children who do not have access to routine health services. Campaigns should be conducted before the number of pre-school children susceptible to measles approaches the equivalent of one birth cohort. For large countries and countries which are close to measles elimination, a more extensive assessment of the accumulation of susceptible persons and timing of campaigns should be carried out at the subnational level. Countries should integrate their surveillance, demographic, survey and seroprevalence data together with vaccination coverage information, history of MCV and RCV use, and local knowledge to determine the age distribution of susceptibility (age-specific immunity gaps) and hence the target age range/s for measles and MR campaigns. Campaigns should continue until >90–95% vaccination coverage has been achieved at the national level for both MCV1 and MCV2, as determined by accurate coverage data for a period of at least 3 consecutive years.

All HCWs and any staff who are in contact with patients should be immune to measles. Documentation of immunity should be required before signing an employment contract or entering into a training programme. Susceptible individuals travelling to measles-endemic areas are considered at risk of contracting measles and should be offered vaccine from 6 months of age.

MCVs should not be given to individuals with a history of anaphylactic reactions or severe allergic reactions to any component of the vaccine (e.g. neomycin or gelatin) or those with any form of severe immunosuppression. Mild, concurrent infections are not a contraindication to vaccination. As a precautionary measure, MCVs should be avoided during pregnancy. Inadvertent administration of MCV during pregnancy is not a reason for terminating the pregnancy.

Measles vaccination should be routinely given to potentially susceptible, asymptomatic HIV-infected children and adults. 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 (recorded as MCV0). Two additional doses of measles vaccine should be administered to these children according to the national immunization schedule. An additional dose of MCV should be administered to HIV-infected children receiving HAART following immune reconstitution (e.g. when the CD4+ T lymphocyte count reaches 20–25% or when CD4+ T lymphocyte monitoring is not available, children should receive an additional dose of MCV 6–12 months after initiation of HAART).

As countries approach elimination, they should intensify surveillance and move towards weekly reporting to the WHO regional offices. To determine if a country or a WHO Region has achieved elimination, the regional verification commission should consider five lines of evidence² (on disease epidemiology, population immunity, quality of surveillance, sustainability of the programme, and genotyping evidence). These lines of evidence should be evaluated together to establish the case for elimination.

¹ Unless the country has data showing high seroconversion when vaccination is carried out before 9 months of age.

² See No. 9, 2013, pp. 89–100.