Measles vaccines: WHO position paper - 28 August 2009
Grading of scientific evidence in support of key recommendations

Table IV. Safety of the measles vaccine in young children and adolescents

Question: Are measles containing vaccines safe when used for preventing measles in young children and adolescents?

Settings: Global

Conclusion: Measles vaccine does not cause serious adverse events (Moderate level of scientific evidence)

Quality assessment						Summary of Findings	Importance
No of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Quality**	
Risk of serious adverse event following MCV immunization							
6	RCTs	Serious[1]	No serious	No serious	No serious	Moderate	Critical

[1] The design and reporting of safety outcomes in MMR vaccine studies, both pre- and post-marketing, are largely inadequate.

Two systemic reviews have been conducted that included review of measles vaccine safety and assessed the quality of evidence: an overall adverse event grading by Demicheli V et al and an event-specific grading by Elliman D et al.

In a Cochrane database systematic review in 2005 based on 31 comparative prospective or retrospective trials published during the period 1985–2004, *Demicheli V et al* concluded that MMR was associated with a lower incidence of upper respiratory tract infections, a higher incidence of irritability, and a similar incidence of other adverse effects compared to placebo. The vaccine was likely to be associated with benign thrombocytopenic purpura, parotitis, joint and limb complaints, febrile convulsions within two weeks of vaccination and aseptic meningitis (mumps) using Urabe strain-containing MMR. Exposure to MMR was unlikely to be associated with Crohn's disease, ulcerative colitis, autism or aseptic meningitis (mumps) using Jeryl-Lynn strain-containing MMR.

In the systematic review by *Elliman D et al, 2007,* the grading of scientific evidence related to different types of adverse events was as follows: As compared to control groups, MCV increases the incidence of acute fever and febrile seizures (moderate evidence): *(anonymous* 1968; *Virtanen M et al,* 2000; *Barlow WE et al*, 2001*; Vestergaard M et al*, 2004); does not seem to increase the risk of asthma and eczema (very low evidence) : *(Maher JE et al,* 2004; *McKeever TM et al,* 2004); does not seem to cause aseptic meningitis (very low evidence): *(Dourado I, et al* 2000*; Ki M et al,* 2003)*;* does not seem to increase the risk of development regression or autistic spectrum disorders (low evidence): *(DeStefano F et al*, 2004*; Madsen KM et al*, 2002)*;* and does not seem to increase the risk of inflammatory bowel disease *(Patja A et al, 2000).*

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