GRADE Table 5. Is there a need for a booster dose following immunization with one dose of live attenuated JE vaccine in individuals living in JE-endemic areas?

Population : Immunocompetent individuals living in JE-endemic areas
Intervention: One dose of live attenuated JE vaccine administered ≥12 months previously
Comparison: Placebo/no vaccination/other JE vaccine
Outcome : JE disease (immunogenicity accepted)

Is there a need for a booster dose following immunization with one dose of live attenuated JE vaccine in individuals living in JE-endemic areas?				
			Rating	Adjustment to rating
Quality Assessment	No. of studies/starting rating		2 RCTs[1]	4
	Factors decreasing confidence	Limitation in study design	None serious	0
		Inconsistency	None serious[2]	0
		Indirectness	Serious[3]	-2
		Imprecision	None serious	0
		Publication bias	None serious	0
	Factors increasing confidence	Large effect	Applicable[4]	+1
		Dose-response	Not applicable	0
		Antagonistic bias and confounding	Not applicable	0
	Final numerical rating of quality of evidence			**3**
Summary of Findings	**Statement on quality of evidence**			**Evidence supports a moderate level of confidence that the true effect lies close to that of the estimate of effect on health outcome**
	Conclusion			**A single dose of live attenuated JE vaccine administered to children in endemic settings elicits seroprotective neutralizing antibody titres for at least 3 years after immunization.** ***Based on a review of data on CD.JEVAX***

[1]Two clinical studies are available with data on participants 12 months after vaccination, and for one of these studies, 2 years and 3 years after vaccination. A study from the Philippines measured immunogenicity of a single dose (and no other vaccine administered for at least 28 days) for three years (NCT00412516 results). Among 8 month-olds administered a single dose of live attenuated vaccine, seroprotection was measured at 90.4% (95% CI: 81.9-95.8), 81.1% (95% CI: 71.5-88.6), and 79.3% (69.3-87.2) at 1 year, 2 years, and 3 years post vaccination. Among 10 month-olds, the corresponding seroprotection rates were 86.1% (95% CI: 80.6-90.6), 80.7% (95% CI: 74.6-85.9), and 81.9% (95% CI: 75.8-87.0). These figures are consistent with 12-month immunogenicity results from a study of Thai children aged 9-12 months (Feroldi 2014).
[2] In a lot-to-lot consistency study in Bangladesh with vaccine from a new GMP-compliant facility, seroprotection rates ranged between 80.2% (95% CI: 74.0-85.2) to 86.3% (95% CI: 79.8-91.0)(Zaman 2014). Two lots were not equivalent with a

seroprotection rate difference of -4.33 (-11.94-3.31). It is not known whether the long-term seroprotection rates and effectiveness of the GMP vaccine will be consistent with those seen in studies of the non-GMP vaccine.
[3]Study outcomes are based on an accepted immunological correlate of protection (Hombach 2005).
[4] High seroprotection (>80%) rates post-vaccination, a defined threshold in the WHO Guidance for the Development of Evidence-Based Vaccine-Related Recommendations. Although data for three years is only based on one study, it is supported by three effectiveness studies done at one year or greater after vaccination. A case control study in Nepal estimated vaccine effectiveness to be 95.5% (95% CI: 90.1-99.2) one year following vaccination (Ohrr 2005). A second case-control study in Nepal estimated vaccine effectiveness to be 96.2% (95% CI: 73.1-99.9) give years following vaccination (Tandan 2007). A case control study done in China in the 1990s estimated vaccine effectiveness to be 80% (95% CI: 44-93) up to 14 years after vaccination with a single dose.

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