GRADE Table 6. Is there a need for a booster dose following immunization with a single dose of live recombinant JE vaccine in vaccinees living in JE-endemic areas?

Population : Immunocompetent individuals living in JE-endemic areas
Intervention: One dose of live recombinant 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 a single dose of live recombinant JE vaccine in vaccinees living in JE-endemic areas?				
			Rating	Adjustment to rating
Quality Assessment	No. of studies/starting rating		6 RCTs[1]	4
	Factors decreasing confidence	Limitation in study design	Serious[2]	-1
		Inconsistency	None serious[3]	0
		Indirectness	Serious[4]	-1
		Imprecision	None serious	0
		Publication bias	None serious	0
	Factors increasing confidence	Large effect	Not applicable[5]	0
		Dose-response	Not applicable	0
		Antagonistic bias and confounding	Not applicable	0
	Final numerical rating of quality of evidence			**2**
Summary of Findings	**Statement on quality of evidence**			**Evidence supports limited confidence in the estimate of the effect on the health outcome.**
	Conclusion			**A single dose of live recombinant JE vaccine administered to children in endemic settings elicits seroprotective neutralizing antibody titres for at least 5 years after immunization.** ***Based on a review of data on IMOJEV***

[1]Six clinical studies with data for nearly 2000 subjects provides immunogenicity data for IMOJEV vaccinees at 12 months or longer following vaccination. Among children in endemic settings, four trials followed up participants for 1 year or longer. In one study, between six months and one year post-vaccination, the percent seroprotected dropped from 94.5% (95% CI: 89.4-97.6) to 88.1% (95% CI: 81.6-92.9) (Feroldi 2014). A recent study followed 200 Thai participants vaccinated at 12-24 months for five years (quoted with permission from Sanofi Pasteur, data to be presented at ACPID 2014). Seroprotection rates fell from 80.2% one year post-vaccination to 80.2%, 75.2%, 74.1%, and 65.6% at two, three, four, and five years post-vaccination, respectively. Long-term protection in adults from another study was much higher. Seroprotection rates among Australia military participants aged 18-55 years were 99% (95% CI: 96-100) one month after vaccination, followed by 95% (95% CI: 87-99), 90% (95% CI: 81-96), and 94% (95% CI: 82-99) at one year, two years, and five years post-vaccination (Nasveld 2010). However, only 46 participants (45% of the original study population) remained in the study at the final time point.

[2]Data are only available from 2 studies with follow-up to 5 years, and there are no effectiveness data, limiting the ability to fully assess long-term protection.
[3]Immunogenicity was higher over time in adults compared with children; there may be heterogeneity in the duration of protection by age.
[4]RCT outcomes are based on an accepted immunological correlate of protection (Hombach 2005).
[5]Due to the lower seroprotection rates reported in children in endemic settings, the small number of studies, and the lack of supporting effectiveness studies, no upgrade was applied.

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