## GRADE Table 8. What is the risk of serious adverse events following vaccination with live attenuated JE vaccine?

**Population :** Immunocompetent individuals
**Intervention:** One dose of live attenuated JE vaccine
**Comparison:** Placebo/no vaccination/other JE vaccine
**Outcome :** Serious adverse events

| *What is the risk of serious adverse events following vaccination with live attenuated JE vaccine?* | | | | |
|---|---|---|---|---|
| | | | Rating | Adjustment to rating |
| **Quality Assessment** | No. of studies/starting rating | | 4 RCTs[1,2] | 4 |
| | Factors decreasing confidence | Limitation in study design | None serious | 0 |
| | | Inconsistency | None serious | 0 |
| | | Indirectness | None serious | 0 |
| | | Imprecision | None serious | 0 |
| | | Publication bias | None serious | 0 |
| | Factors increasing confidence | Large effect | Not applicable | 0 |
| | | Dose-response | Not applicable | 0 |
| | | Antagonistic bias and confounding | Not applicable | 0 |
| | **Final numerical rating of quality of evidence** | | | **4** |
| **Summary of Findings** | **Statement on quality of evidence** | | | **Evidence supports a high level of confidence that the true effect lies close to that of the estimate of effect on health outcome** |
| | **Conclusion** | | | **Live attenuated JE vaccine has an acceptable safety profile.**<br>***Based on a review of data on CD.JEVAX*** |

[1]Four clinical studies of 1,256 participants contributed to the safety assessment. In children 9 months to 6 years, live attenuated SA 14-14-2 had moderately higher frequency and severity of local and systemic adverse reactions, including fever, compared to live recombinant vaccine (Feroldi 2014; Kim 2013). No vaccine-related serious adverse reactions or deaths were reported in RCTs (up to 7 months follow up) except for two cases of pyrexia in children aged 12-23 months.
[2]Post-marketing surveillance has also been done. Based on 23 million doses distributed between 2005-2012, 1426 adverse events were reported (61 per million doses), although this is an underestimate as is typical in particular with developing passive surveillance systems. Case reports were also reviewed, as was an observational study.

Reference List

**Clinical Studies**

Feroldi E, Pancharoen C, Kosalaraksa P, Chokephaibulkit K, Boaz M, Meric C, Hutagalung Y, Bouckenooghe A. Primary immunization of infants and toddlers in Thailand with Japanese encephalitis chimeric virus vaccine in comparison with SA14-14-2: a randomized study of immunogenicity and safety. Pediatr Infect Dis J. 2014 Jun;33(6):643-9.

Gatchalian S, Yao Y, Zhou B, Zhang L, Yoksan S, Kelly K, Neuzil KM, Yaïch M, Jacobson J. Comparison of the immunogenicity and safety of measles vaccine administered alone or with live, attenuated Japanese encephalitis SA 14-14-2 vaccine in Philippine infants. Vaccine. 2008 Apr 24;26(18):2234-41.

Kim DS, Houillon G. A randomized study of the immunogenicity and safety of Japanese encephalitis chimeric virus vaccine (JE-CV) in comparison with SA 14-14-2 vaccine in children in South Korea. 8th World Congress of the World Society for Pediatric Infectious Diseases (WSPID) - Nov. 19-22, 2013, Cape Town, South Africa.

Liu ZL, Hennessy S, Strom BL, Tsai TF, Wan CM, Tang SC, Xiang CF, Bilker WB, Pan XP, Yao YJ, Xu ZW, Halstead SB. Short-term safety of live attenuated Japanese encephalitis vaccine (SA14-14-2): results of a randomized trial with 26,239 subjects. J Infect Dis. 1997 Nov;176(5):1366-9.

**Post-marketing surveillance and case reports**

Liu Y, Lin H, Zhu Q, Wu C, Zhao Z, Zheng H. Safety of Japanese encephalitis live attenuated vaccination in post-marketing surveillance in Guangdong, China, 2005-2012. Vaccine. 2014 Mar 26;32(15):1768-73.

Jia N, Zhao QM, Guo XF, Cheng JX, Wu C, Zuo SQ, Dai PF, Zhao JY, Zhang JS. Encephalitis temporally associated with live attenuated Japanese encephalitis vaccine: four case reports. BMC Infect Dis. 2011 Dec 14;11:344.

Choi UY, Lee SY, Kim KH, Kim DS, Choi KM, Cha SH, Kang JH. Is a booster dose necessary in children after immunization with live attenuated Japanese encephalitis vaccine? J Trop Pediatr. 2013 Oct;59(5):423-5.