Grade Table 1. Effectiveness of one dose varicella vaccination in immunocompetent children (9 months to 12 years of age) in preventing all grades of severity of varicella (evidence available for within the first 10 years after vaccination)

Population: Immunocompetent children (9 month to 12 years of age)
Intervention: One-dose varicella vaccination
Comparison: Placebo/ No vaccination
Outcome: All grades of severity of varicella disease

What is the scientific evidence of the effectiveness of one dose of varicella vaccination (versus placebo/no vaccination) in preventing all grades of severity of varicella in immunocompetent children (9 months to 12 years of age)?

<table>
<thead>
<tr>
<th>Quality Assessment</th>
<th>Rating</th>
<th>Adjustment to rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors decreasing confidence</td>
<td>No. of studies/starting rating</td>
<td>40/ Observational¹</td>
</tr>
<tr>
<td>Limitation in study design</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Inconsistency</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Indirectness</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Imprecision</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Publication bias</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Factors increasing confidence</td>
<td>Large effect²</td>
<td>Applicable</td>
</tr>
<tr>
<td>Dose-response</td>
<td>Not applicable</td>
<td>0</td>
</tr>
<tr>
<td>Antagonistic bias and confounding</td>
<td>Not applicable</td>
<td>0</td>
</tr>
<tr>
<td>Final numerical rating of quality of evidence</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Statement on quality of evidence</td>
<td>We are very confident that the true effect lies close to that of the estimate of effect on health outcome</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>A single dose of varicella vaccination is effective to protect children of 9 months to 12 years against all grades of severity of varicella disease. Single dose varicella VE against all grades of disease severity ranged from 20 – 100%, with an approximate mean VE of 80% against all grades of disease severity, irrespective of vaccine type.</td>
<td></td>
</tr>
</tbody>
</table>

Reference List¹⁴⁵

¹ Two systematic reviews (Seward et al; Bayer et al.) and a syst. rev. done by WHO of the current literature (through October 2013) identified 40 observational studies. Single dose varicella VE against all grades of disease severity ranged from 20 – 100%, with an approximate mean VE of 80% against all grades of disease severity, irrespective of vaccine type. Only one study demonstrated vaccine effectiveness against all varicella to be 20% (95%CI 0%–40%).

² Upgraded by two levels as strong evidence from observational studies of a vaccine effectiveness of 80% or higher with no major residual confounders. In addition to effectiveness on an individual level, decline in incidence in all age groups over time, not only age-group targeted by vaccination program, suggests induction of community protection (Marin et al 2008, Marin et al 2011, Lopez et al 2011, Guris et al 2008).


