**Author(s):** SAGE working group on PPV23

**Date:** 2008-06-27

**Question:** Is PPV23 efficacious against pneumococcal disease in healthy adults < 65?

**Settings:** Global

**Conclusion:** Moderate quality evidence to support effectiveness of PPV23 against IPD in healthy adults < 65 years of age.

<table>
<thead>
<tr>
<th>No of studies</th>
<th>Design</th>
<th>Limitations</th>
<th>Inconsistency</th>
<th>Indirectness</th>
<th>Imprecision</th>
<th>Other considerations</th>
<th>Quality</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective against invasive pneumococcal disease</td>
<td>8 randomised trials</td>
<td>serious</td>
<td>no serious</td>
<td>no serious</td>
<td>no serious</td>
<td>⊕⊕⊕Ο</td>
<td>MODERATE</td>
<td>CRITICAL</td>
</tr>
</tbody>
</table>

1 Only 3 RCTs addressing the issue of IPD focused on healthy adults (Austrian et al 1980 a and b; Riley et al. 1977). Some additional trials included healthy adult populations together with elderly, but did not discriminate between groups in the analysis. In addition, 6 observational studies addressed IPD in healthy adults (Domínguez 2005; Jackson 2003; Shapiro 1984; Shapiro 1991; Sims 1988; and Vila-Corcoles 2006). Only studies mentioned and retained by at least one of two recent meta-analyses (Moberley et al or Scott et al) are included.

2 Some problems of blinding and concealment of allocation (Austrian et al). The study by Riley et al. included outcomes based on pulmonary aspirates as proof of IPD.

3 No major inconsistency between trials. One study by Austrian did not contribute due to absence of cases. The outcomes of the RCTs are consistent with those of the 5 observational studies.

4 The study by Riley included persons 10 years of age and over. RCTs looked at PPV14. Observational studies looked at vaccines of varying valencies.

5 Only 20 events in total. Wide confidence limits, but results still statistically significant.

6 Summary OR based on only 2 RCTs is 0.13, (95% CI: .04 -.50). Summary OR from observational studies is .41 (95%CI: .32 -.52).

**Bibliography:**


