

**Meta-Analysis: Are the results of the review valid?**

Almeida, JR et al. Combined Corticosteroid and Antiviral Treatment for Bell Palsy. *JAMA*. 2009;302(9):985-993.

<b>What question (PICO) did the systematic review address?</b>
This systematic review and meta-analysis was conducted to estimate the association of corticosteroids and antiviral agents with the risk of unsatisfactory facial recovery in patients with Bell palsy.
<b>F - Is it unlikely that important, relevant studies were missed?</b>
<p>This paper: No</p> <ul style="list-style-type: none"> <li>Databases searched: MEDLINE, EMBASE, CENTRAL, CINAHL, PsychInfo, and Web of Science to March 1, 2009, for relevant trials in any language. Also searched conference proceedings, dissertations, and theses through PAPERSFIRST, PROCEEDINGSFIRST, and PROQUEST. Also screened bibliographies of relevant articles, involved experts, and checked the clinical trial registry.</li> <li>Key words: Medical Subject Headings and keywords for methods (RCTs), patient population (Bell palsy and idiopathic facial nerve paralysis occurring at all ages), and interventions (corticosteroids and antiviral agents) were used to identify studies.</li> <li>Two reviewers independently screened all studies by title or abstract and then independently reviewed all studies for inclusion and then extracted data. Disagreements were resolved by consensus.</li> </ul> <p>Refer to Figure 1 for selection flowchart</p>
<b>A - Were the criteria used to select articles for inclusion appropriate?</b>
<p>This paper: Yes</p> <p>Inclusion criteria: 1) RCT study design of patients diagnosed with Bell Palsy, 2) Studies that compared treatment with steroids or antivirals against a control, 3) Studies that reported at least one outcome of facial recovery</p> <p>Outcome: "We defined unsatisfactory recovery as failure to achieve complete or near normal recovery."</p>
<b>A - Were the included studies sufficiently valid for the type of question asked?</b>
<p>This paper: Yes/Unclear</p> <p>Studies were assessed using Cochrane criteria</p> <p>Refer to Table 2</p>
<b>T - Were the results similar from study to study?</b>
<p>This paper: Yes</p> <p>Comment: Overall heterogeneity is low</p> <p>Steroids without antiviral agents (<math>I^2 = 3\%</math>), Steroids with antiviral agents (<math>I^2 = 47\%</math>), Overall test for heterogeneity (<math>I^2 = 20\%</math>). All p values &lt; 0.05</p> <p>Antiviral agents without steroids (<math>I^2 = 39\%</math>, p= 0.48 for overall effect), Antiviral agents with steroids (vs. steroids alone) (<math>I^2 = 10\%</math>), Overall test for heterogeneity (<math>I^2 = 33\%</math>).</p>

**What were the results?****How are the results presented?**

Refer to Figures 2 & 3

Steroids without antiviral agents RR 0.69 (p=.001); 10 studies

Steroids with antiviral agents (vs. antiviral agents alone) RR 0.48 (p=.004); 2 studies

Antiviral agents without steroids RR 1.14 (p=.48); 2 studies

Antiviral agents with steroids (vs. steroids alone) RR 0.75 (p=.05); 8 studies

**Summary:**

Antiviral agents were not shown to be effective alone

Antiviral agents plus steroids showed borderline statistical significance (p =.05) when compared to steroids alone

Antiviral agents plus steroids have statistically significant risk reduction (p=.004) when compared to antiviral agents alone

**Limitations:**

2 studies contributed almost half of the total patients; neither of which individually showed a benefit for using antiviral agents

Individual studies used varying tools to determine outcome