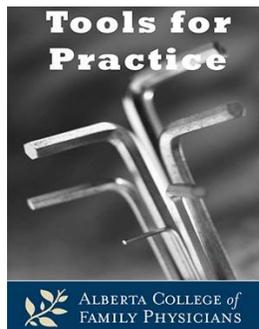


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**Evidence Updated: None**  
**Bottom Line: No change**  
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## **Coughing up the Data on Croup**

**Clinical Question: Are glucocorticoids beneficial for mild to moderate croup and, if so, is lower dose equivalent to standard dose?**

**Bottom Line: Glucocorticoids, including dexamethasone, are beneficial in the treatment of mild to moderate croup, with a Number Needed to Treat (NNT) of 5 for symptom improvement and a NNT of 17 for return to care. Low-dose dexamethasone (0.15 mg/kg) may be equivalent to the more commonly prescribed 0.6 mg/kg.**

### **Evidence:**

- A systematic review (38 trials, 4,299 patients) evaluating glucocorticoids (the majority used dexamethasone) for mild to moderate croup found:<sup>1</sup>
  - Significant improvement in croup symptoms at six hours: NNT=5 (95% Confidence Interval 3 to 11).
    - Similar improvement at 12 and 24 hours.
  - Fewer return visits to emergency and/or (re)admissions: NNT=17 (13 to 28).
  - Shorter time spent in emergency or hospital: Mean difference 12 hours (5 to 19 hours).
  - No reported adverse events.
- The above review included two small randomized controlled trials (137 patients with mild to moderate croup) that compared 0.15 mg/kg to 0.6 mg/kg of dexamethasone. There was no difference in:
  - Change in croup score from baseline at six hours, Standard Mean Difference -0.02 (-0.37 to 0.32).
  - Return visits and/or (re)admissions, Risk Ratio 1.04 (0.62 to 1.75).
- Limitations: Small sample size.

### **Context:**

- Even children with mild croup (croup score <2) benefit from glucocorticoid treatment.<sup>2</sup>

- Symptom improvement of steroids may be evident in ten minutes, with statistically significant improvement at 30 minutes.<sup>3</sup>
- A retrospective observational study found reduced hospital and intensive care admission rates, length of stay and intubations when 0.6 mg/kg dexamethasone was introduced and used in the hospital protocol (1980–1995).<sup>4</sup> These rates did not change when 0.6 mg/kg was replaced by 0.15 mg/kg in 1995.<sup>5</sup>

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