

**Prednisolone versus Dexamethasone for Croup:  
A Randomized controlled trial <https://doi.org/10.1542/peds.2018-3772>**

**Background & Objectives:**

- Prednisolone or low dose dexamethasone is widely used for childhood croup , but lacks rigorous evidence.
- The study compares oral regimen: dexamethasone 0.6 mg/kg with both low dose dexamethasone 0.15 mg/kg and prednisolone 1 mg/kg

**Methods:**

Prospective double blinded, randomized clinical trial based in 2 hospitals in Perth, enrolled patients > 6 months and maximum weight 20 kg. Exclusion criteria were known prednisolone or dexamethasone allergy, immunosuppressive treatment, steroid therapy and high clinical suspicion of alternate diagnosis. 1252 participants were enrolled and randomly assigned to receive dexamethasone (0.6 mg/kg; n = 410), low-dose dexamethasone (0.15 mg/kg; n = 410), or prednisolone (1 mg/kg; n = 411). Primary outcome measures included Westley Croup Score 1-hour after treatment and unscheduled medical re-attendance during the 7 days after treatment.

## ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



### Prednisolone versus Dexamethasone for Childhood Croup. Which is better?

**Results:**

- Mean Westley Croup Score at baseline was 1.4 for dexamethasone, 1.5 for low-dose dexamethasone, and 1.5 for prednisolone. Adjusted difference in scores at 1 hour, compared with dexamethasone, was 0.03 (95% confidence interval 20.09 to 0.15) for low-dose dexamethasone and 0.05 (95% confidence interval 20.07 to 0.17) for prednisolone.
- Reattendance rates were 17.8% for dexamethasone, 19.5% for low-dose dexamethasone, and 21.7% for prednisolone (not significant [P = .59 and .19]).

**Conclusions:** Noninferiority was demonstrated for both low-dose dexamethasone and prednisolone. The type of oral steroid seems to have no clinically significant impact on efficacy, both acutely and during the week after treatment.

**Key Message:** Oral steroids are an effective treatment of croup, and the type of steroid seems to have no clinically significant impact on efficacy

## EXPERT COMMENT



“This study confirms the safety and efficacy of oral steroids for croup. This is relevant particularly at times, when a specific steroid may not be available, which may lead to delay in treatment. It is acceptable to use any of the 3 above steroid regimes to treat croup in children.”

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**Reference**

Parker CM, Cooper MN. Prednisolone Versus Dexamethasone for Croup: a Randomized Controlled Trial. Pediatrics. 2019 Sep;144(3):e20183772. doi: 10.1542/peds.2018-3772. Epub 2019 Aug 15.