

# Parent-Initiated Prednisolone for Acute Asthma in School Aged Children: A Randomised Clinical Trial

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**Background:** Evidence from systematic reviews demonstrates the effectiveness of oral corticosteroids in the treatment of acute asthma in school-aged children when administered following physician review. As a result, the use of parent initiated corticosteroids is becoming a more widely accepted practice. There is a paucity of published evidence to support this practice.

**Objective:** To evaluate the efficacy of a short course of parent-initiated oral prednisolone for acute asthma in school-aged children.

**Methods:** A population-based sampling strategy was used to recruit children aged 5-12 years with a history of four or more episodes of acute asthma in the preceding year. Episodes of acute asthma, rather than participants, were randomised to receive a short course of parent-initiated prednisolone (1mg/kg/day) or placebo. Parents initiated a course of treatment if they felt, from previous experience, the episode to be a more severe attack, or if the symptoms were not improving after 6 to 8 hours with regular use of reliever medication. The primary end point: a validated 7-day daytime symptom score (DTSS). Other end points: a validated 7-night night time symptom score (NTSS), health resource utilisation (HRU), and school absenteeism.

**Results** 230 children were enrolled in the study. Over a 3 year period 131 participants contributed 155 episodes of acute asthma randomised to parent-initiated treatment with prednisolone and 153 episodes randomised to treatment with placebo. Treatment with prednisolone reduced the mean DTSS by 15% (95% CI 2% to 26%,  $p=0.022$ ) and the mean NTSS by 16% (95% CI 0% to 30%,  $p=0.050$ ). The number of episodes requiring a HRU was 48 (31%) in those treated with prednisolone and 69 (45%) in those treated with placebo (OR 0.54, 95% CI 0.34, 0.86). The number of episodes needed to treat to prevent an HRU was 7.1, (95% CI 4.0 to 30.3). School absenteeism was reduced by 0.4 days (95% CI -0.8 to -0.0 days,  $p=0.045$ ).

**Conclusion** A short course of oral prednisolone initiated by parents when their child suffers an episode of acute asthma may reduce asthma symptoms, HRU, and school absenteeism. Parent-initiated prednisolone is an appropriate strategy for the management of more severe episodes of acute asthma in school-aged children. The modest benefits of this strategy must be balanced against potential side effects of repeated short courses of oral corticosteroid.