REVIEWER COMMENTS. Although this study does not show a statistical difference between the beclomethasone and placebo groups, there are several important caveats. In screening for this study, 1371 children were seen and 846 children were excluded, mostly for wheezing at the baseline visit and corticosteroid use in the previous month. Had these children been seen a day earlier without wheezing, or a couple weeks later when they were “off” steroids, they may have qualified for the study; in addition, considering they may well have had increased bronchial hyperresponsiveness compared with some of the children in the study, this action may have accentuated the differences between beclomethasone and placebo. Although the conclusion of the study stands, it is important to note the strong trend in favor of beclomethasone, with a relative risk of 0.61 and the upper end of the 95% CI just eclipsing unity at 1.08 (associated with a P value of .09). A final point is that the study did not document when the child first exhibited signs of a viral upper respiratory tract infection. If the average child was not seen until day 3 (or even later), this delay in corticosteroid therapy could also bias the results to show minimal differences. In this regard, a useful follow-up study would be to repeat the protocol but only allow entrance in the first 24 to 48 hours of an upper respiratory tract infection; this early intervention would mimic what we currently tell our parents to do.

Budesonide Nebulization Added to Systemic Prednisolone in the Treatment of Acute Asthma in Children: A Double-Blind, Randomized, Controlled Trial

PURPOSE OF THE STUDY. The goal of the study was to test the hypothesis that adding high-dose nebulized budesonide to standard asthma treatment in children in the emergency department (ED) during the first hour would decrease their hospital admission rate.

STUDY POPULATION. The study population included children aged 2 to 12 years with physician-diagnosed asthma (or previous episodes of shortness of breath responsive to a β-agonist) who presented to the ED with a moderate or severe acute asthma exacerbation.

METHODS. Children were randomized within the pharmacy (double-blind) to receive 3 doses of 500 μg/dose of budesonide or placebo with a β-agonist (salbutamol + ipratropium bromide) via nebulization every 20 minutes over 1 hour. They also received prednisolone 2 mg/kg (maximum dose of 60 mg). Asthma severity was assessed by using a previously studied asthma scoring system. Patients were assessed at baseline and 1 and 2 hours after initiation of medication. Those who remained in the ED were also evaluated at 3 and 4 hours. A decision to admit or discharge was made at 2, 3, or 4 hours.

RESULTS. The study enrolled 723 children, with 139 re-enrolled at subsequent visits for a total of 906 randomization assignments. Overall, there was no statistical difference in admission rates, with 16.4% of the budesonide group versus 18.3% of the placebo group admitted (P = .38). On subgroup analysis, however, among the more severe group, significantly fewer children in the budesonide group were admitted versus the placebo group (P = .03). Among the subgroup with severe asthma, there was a 58% reduction in the risk of admission in the budesonide group versus the placebo group.

CONCLUSIONS. The addition of nebulized budesonide to standard ED treatment decreased admission rates in children with severe acute asthma.

Dexamethasone for Acute Asthma Exacerbations in Children: A Meta-Analysis

PURPOSE OF THE STUDY. The goal of this meta-analysis was to determine whether intramuscular or oral dexamethasone is equivalent or superior to a 5-day course of prednisone or prednisolone for acute exacerbations of asthma.

STUDY POPULATION. Children ≤18 years of age presenting to the emergency department (ED) with acute exacerbations of asthma requiring systemic steroids were included in the study.

METHODS. The authors performed a meta-analysis of 6 randomized controlled trials of acute asthma exacerbations in
children presenting to the ED. Treatment with dexametha-
sone was compared with prednisone/prednisolone treatment for
the primary outcome of return visits or readmissions to the
hospital.

RESULTS. The authors report similar relative risks (RRs) of
relapse at all time points between the 2 groups: 5 days (RR: 0.90 [95% confidence interval (CI): 0.46–1.78]), 10 to 14 days (RR: 1.14 [95% CI: 0.77–1.67]), and 30
days (RR: 1.20 [95% CI: 0.03–56.93]). Dexamethasone
was associated with a lower incidence of emesis in ei-
ther the ED (RR: 0.29 [95% CI: 0.12–0.69]) or home
(RR: 0.32 [95% CI: 0.14–0.74]).

CONCLUSIONS. The authors recommend that clinicians con-
sider single or 2-dose regimens of dexamethasone as a
robust alternative to 5 days of prednisone/prednisolone.

REVIEWER COMMENTS. The authors demonstrate by meta-analysis
that dexamethasone and prednisone/prednisolone are
equally effective therapy regarding prevention of revisits
to the clinic, ED, or for hospitalization, but adherence is
likely better with the shorter course and is better tolerated.
The studies are not suf
icient in statistical power to deter-
mine whether intramuscular or oral dexamethasone are
equivalent. Finally, the generalizability of these conclusions
to other health care settings outside of the ED is a subject for
future studies.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2014–18177777

Christopher Randolph, MD
Waterbury, CT

Question 1: Prednisolone or Dexamethasone for
Acute Exacerbations of Asthma: Do They Have
Similar Efficacy in the Management of
Exacerbations of Childhood Asthma?

PURPOSE OF THE STUDY. Prednisolone is the most commonly
prescribed corticosteroid for asthma exacerbations; how-
ever, a 5-day course is normally required, and adherence
may be an issue. Dexamethasone is a long-acting corti-
costeroid, and a 1-dose intramuscular or 1- or 2-dose oral
course may be an alternative. How do these 2 treatments
compare?

STUDY POPULATION/METHODS. A Medline search was performed
which revealed 6 randomized trials that have compared
the efficacy of prednisolone and dexamethasone for use
in pediatric asthma exacerbations.

RESULTS. There was some heterogeneity among the studies,
with 3 comparing a single dose of intramuscular
dexamethasone with a 3- to 5-day course of oral pre-
nisolone, and 3 comparing 1 or 2 doses of oral dexam-
ethasone with a 5-day course of oral prednisolone.
None of the 6 studies reported any significant differences
in efficacy for symptom scores, hospitalization rates, or
relapse rates.

CONCLUSIONS. All 6 studies supported the claim that dexam-
ethasone is just as effective as prednisolone.

REVIEWER COMMENTS. These studies seem convincing in sug-
gest that 1 dose of intramuscular dexamethasone or 1 or
2 doses of oral dexamethasone are as effective as a several-
day course of prednisolone for asthma exacerbations, and
this approach could clearly improve treatment adherence
when this outcome may be in doubt.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2014–18177AAAA

John M. Kelso, MD
San Diego, CA

Add-on Omalizumab in Children With Severe
Allergic Asthma: A 1-Year Real Life Survey

PURPOSE OF THE STUDY. The goal of this study was to report
the real-life efficacy and safety of add-on treatment with
omalizumab in a large group of children with severe
allergic asthma. The primary aim of this observational
study was to evaluate the effect of omalizumab on asthma
control. Secondary aims were to evaluate outcomes, in-
cluding asthma exacerbations, health care utilization,
inhaled corticosteroid (ICS)-sparing effect, pulmonary
function test results, and safety.

STUDY POPULATION. A total of 104 children <18 years of age
with severe allergic asthma and long-term follow-up at par-
ticipating tertiary care centers who started omalizumab
between January 2006 and June 2009 were enrolled.

METHODS. Baseline characteristics were collected from medical
files. Data were collected prospectively during 3 separate
visits, including at initial administration of omalizumab
(V0), at 20 ± 4 weeks (V1), and 52 ± 4 weeks (V2). Data
included the level of asthma control during the 4 weeks
before each visit, exacerbations, health care utilization,
pulmonary function test results, data on maintenance
therapy and ICS dose, and adverse events.

RESULTS. Asthma control improved over the year of treat-
ment with omalizumab. Rates of poor control were 82%
at V0, 17% at V1, and 8% at V2, and rates of good control
were 0% at V0, 53% at V1, and 67% at V2 (P < .0001).
There was a 72% reduction in exacerbations and an
88.5% reduction in hospital admissions over the 1 year
of treatment. There was a significant improvement in pul-
monary function test results and a 30% reduction in ICS
dose over the 1-year treatment. The only effect modifier
observed for response to omalizumab was age (ie, age ≥12
years was associated with better control). Six patients dis-
continued omalizumab due to a serious adverse event.
Dexamethasone for Acute Asthma Exacerbations in Children: A Meta-Analysis
Christopher Randolph
*Pediatrics* 2014;134;S178
DOI: 10.1542/peds.2014-1817ZZZ

Updated Information & Services
including high resolution figures, can be found at:
http://pediatrics.aappublications.org/content/134/Supplement_3/S178.2

Permissions & Licensing
Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
https://shop.aap.org/licensing-permissions/

Reprints
Information about ordering reprints can be found online:
http://classic.pediatrics.aappublications.org/content/reprints

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2014 by the American Academy of Pediatrics. All rights reserved. Print ISSN: .
Dexamethasone for Acute Asthma Exacerbations in Children: A Meta-Analysis
Christopher Randolph
Pediatrics 2014;134;S178
DOI: 10.1542/peds.2014-1817ZZZ

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://pediatrics.aappublications.org/content/134/Supplement_3/S178.2