

Editorials

Short Courses of Oral Corticosteroids: Lack of Benefit and Potential Harms for Common Acute Conditions

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See related Practice Guideline at <https://www.aafp.org/afp/2018/0615/p821.html>.

Primary care physicians generally agree that we should be more thoughtful and selective about the use of antibiotics in patients with upper and lower respiratory tract infections, and about the use of opioids for conditions such as back pain. However, prescriptions for antibiotics remain common in patients with acute respiratory infections.¹ Patients are increasingly seeking care for acute infections at urgent care centers, which prescribe antibiotics for respiratory infections more often than primary care practices.¹ Physicians also commonly prescribe short courses of oral corticosteroids, with one study finding the most common indication to be acute respiratory tract infection.²

Meta-analyses have suggested that corticosteroids may have a small benefit for acute cough and sore throat, but they included studies that were small or had a high risk of bias.^{3,4} The best evidence comes from several well-designed and adequately powered randomized trials. In the first, 565 children in the United Kingdom with mild to moderate sore throat were randomized to oral dexamethasone, 10 mg, or placebo.⁵ The only benefit was a small reduction in symptoms at two days, but no improvements at other times or for other outcomes. The authors' overall assessment was that this small benefit was not worth the potential harm. Regarding cough, a recent trial identified 401 adults with acute cough but no history of asthma, and randomized them to prednisolone, 40 mg once daily, or placebo.⁶ The researchers found no clinically significant difference between groups in cough severity or duration, antibiotic use, peak flow rates, or patient satisfaction. This was true even for patients with wheezing on initial presentation. Regarding back pain, a study randomized 269 adults with sciatica to a 15-day course of prednisone, 60 mg once daily tapering to 20 mg once daily, or placebo, and found no reduction in pain, function, or other outcomes.⁷ However, adverse effects such as insomnia, nervousness, and increased appetite were more common in the prednisone group.

Thus, the best evidence to date does not support a significant benefit for corticosteroids in patients with cough, sore throat, or back pain. However, there may be harms. A recent study identified 1.5 million U.S. adults who had been continuously enrolled in a health insurance plan for two years.² Linking pharmacy records with new diagnoses, the authors found that 21% of patients received a short course (less than 30 days) of a systemic corticosteroid during the study period, and one-half received a six-day course of methylprednisolone. The median dose was 20 mg of prednisone, and the most common indications were respiratory infection, back or neck pain, and allergies. Patients receiving an oral corticosteroid in the previous year and those receiving an inhaled or intranasal corticosteroid were excluded, as were organ transplant recipients and patients with malignancies. The researchers found a clinically and statistically significant increase in the risk of serious complications during the five to 30 days after the corticosteroid was prescribed; this risk declined over the subsequent two months. The relative risks over that initial month were 5.3 for sepsis, 3.3 for venous thromboembolism, and 1.9 for fracture. The absolute increases were 0.8 additional episodes of sepsis, 2.2 additional episodes of venous thromboembolism, and 7.1 additional fractures per 1,000 person-years, or approximately one additional serious complication per 100 person-years. Because the greatest risk occurs in the first month after the corticosteroid is prescribed, this corresponds to roughly one additional serious complication per 1,000 short courses of a corticosteroid.

A short course of oral corticosteroids is appropriate for many patients with acute exacerbation of asthma or chronic obstructive pulmonary disease, and for selected patients with peritonsillar abscess,⁸ severe pharyngitis (characterized by pain with swallowing and moderate to severe pharyngeal erythema),⁹ and community-acquired pneumonia requiring hospitalization.^{10,11} However, widespread use of corticosteroids in patients with non-pneumonia lower respiratory tract infection, nonsevere sore throat, or low back pain is inappropriate and not worth the risk of rare but potentially serious harms.

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