



# ABSTRACTS IN URGENT CARE

- Antibiotics for COPD
- Steroids for pediatric asthma
- Antibiotics for skin and soft-tissue infections
- Viscous lidocaine for pediatric mouth pain
- Post-concussion rest
- Duration of cold and earache in children
- ER visits for concussion
- Predictors of sore throat complications

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Each Month the Urgent Care College of Physicians (UCCOP) provides a handful of abstracts from or related to urgent care practices or practitioners. Sean McNeeley, MD, leads this effort.

## Reconsidering antibiotics for COPD exacerbation

**Key point:** Prescribing antibiotics to patients with mild-to-moderate COPD exacerbations who have no change in sputum probably is unnecessary.

**Citation:** Miravittles M, Moragas A, Hernandez S, et al. Is it possible to identify exacerbations of mild to moderate COPD that do not require antibiotic treatment? *Chest*. 2013;144(5):1571-1577.

The decision to prescribe antibiotics to patients with moderate to mild-to-moderate chronic obstructive pulmonary disease (COPD) exacerbations is usually based on increased sputum, sputum purulence or worsening dyspnea. Because most patients fall into the mild-to-moderate category, determining the true need for antibiotics could greatly reduce the use of antibiotics.

In this small study, the authors reviewed the control group of patients who were part of a randomized study to see if amoxicillin/clavulanate was better than placebo in mild-to-moderate exacerbations of COPD. Criteria for exclusion due to severity was FEV1 <50% predicted.

Of the 152 patients examined only 20% of patients clinically failed without antibiotics. A statistical review of the performance of these criteria as well as point-of-care C-reactive protein (CRP) levels resulted in only two criteria capable of reducing the clinical failure rate to 10%. Ten percent was the failure rate with

antibiotics in the original trial. The successful criteria included a change in purulence in sputum and a CRP >40 mg/L. Because most urgent care centers do not perform point-of-care CRP testing, sputum change would be most helpful to providers. Although this is a small study in need of prospective confirmation, it does call into question use of antibiotics for all patients with COPD exacerbations. ■

## Steroids for infants at risk of asthma

**Key point:** Infants at risk of asthma who are diagnosed with bronchiolitis may benefit from steroids.

**Citation:** Alansari K, Sakran M, Davidson BL, et al. Oral dexamethasone for bronchiolitis: A randomized trial. *Pediatrics*. 2013;132(4):e810-816.

Bronchiolitis is a frequent diagnosis in young children at urgent care centers. Most cases have a viral cause and little treatment has found to be beneficial. Some guidelines recommend a trial of albuterol and only suggest further prescription if clinical improvement is noted. Whether this indicates possible future asthma is uncertain.

This study evaluated another common asthma treatment in patients with bronchiolitis and risk of asthma. The authors looked at 200 children at risk of asthma with an average age of 3.5 months and a diagnosis of bronchiolitis. A risk of asthma was defined as a diagnosis of atopic dermatitis or a family history of asthma in a first-degree relative.

Patients in the treatment group were given dexamethasone 1 mg/kg on day 1 and then 0.6 mg/kg for 4 more days. The measured outcome was time to discharge from an observation unit, which was reduced with dexamethasone from 27.1 to 18.6 hours.

It is hoped that further investigation will be done with a larger population and more urgent care-appropriate outcomes,



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such as duration of symptoms or reduced need for admission. For now, consideration of steroids in patients at risk of asthma and whose clinical status requires further observation or admission seems appropriate. ■

### Antibiotics for skin and soft-tissue infections

**Key point:** *Some antibiotics prescribed for skin and soft-tissue infection may be avoidable.*

**Citation:** Hurley HJ, Knepper BC, Price CS, et al. Avoidable antibiotic exposure for uncomplicated skin and soft tissue infections in the ambulatory care setting. *Am J Med.* 2013;126(12):1099-1106.

Antibiotic resistance continues to be a major concern. Prescriptions for soft-tissue infections are common. The authors of this study attempted to understand better what prescribing practice of physicians are for soft-tissue infections and if any reduction would be appropriate.

In a retrospective manner the authors reviewed the use of antibiotics for cellulitis, wound infection and cutaneous abscess. Avoidable antibiotic exposure was defined as the use of antibiotics with broad gram-negative activity, combination antibiotic therapy, or 10 days or longer of therapy. The authors examined 364 cases and determined that almost half of the patients had avoidable antibiotic exposures by their definition.

This study, although interesting, has several limitations. First the authors' definition of avoidable antibiotic exposure is far from universally accepted. The first part regarding gram-negative coverage is very reasonable, considering that most soft-tissue infections are caused by *Staphylococcus* or *Streptococcus*. Further studies are necessary to confirm that not using combination antibiotics is inappropriate. With the recent increase in the price of doxycycline, use of a cephalosporin such as cephalexin plus a sulfa has become more common to cover methicillin-resistant *Staphylococcus aureus* and *Streptococcus*. The 10-day treatment cut-off also was unusual, considering that the guidelines referenced by the authors cite durations of 5 to 10 days. The definition of "uncomplicated" also left few patients in the study group.

Considering these limitations further study would be helpful before the authors' findings are universally applied. ■

### Rethinking viscous lidocaine for pediatric oral pain

**Key point:** *Viscous lidocaine is no more beneficial than placebo for improving oral intake in children with painful mouth infections.*

**Citation:** Hopper SM, McCarthy M, Tancharoen C, et al. Topical lidocaine to improve oral intake in children with painful infectious mouth ulcers: A blinded, randomized, placebo-controlled trial. *Ann Emerg Med.* 2013 Nov 7; pii: S0196-0644

(13)01335-8. doi: 10.1016/j.annemergmed.2013.08.022. [Epub ahead of print]

Maintaining hydration in children with painful mouth lesion is difficult. The investigators in this study attempted to see if 0.15 mL/kg of 2% viscous lidocaine would perform better than flavored placebo at 60 minutes. One hundred patients ages 6 months to 2 years were randomized in a double-blind fashion and fluid intake was assessed at 60 minutes with 4 mL considered a significant difference. No difference in consumption was noted between the groups.

This study, although small, should make us rethink use of a potentially toxic medication without definitive benefit in fluid intake. Pain scores were not obtained during this study, so this patient outcome was not evaluated.

### Post-Concussion Physical and Cognitive Rest

**Key point:** *Once again cognitive rest is proven to be important to speed of recovery.*

**Citation:** Brown NJ, Mannix RC, O'Brien MJ et al. Effect of cognitive activity level on duration of post-concussion symptoms. *Pediatrics.* 2013 Jan 6; [e-pub ahead of print].

Concussions continue to be a hot topic in the media and with patients. We continue to learn more about how these injuries in children should be treated.

The investigators in this study compared times to recovery with amount of cognitive activity. This study was performed in a prospective cohort fashion. A total of 335 patients ages 8 to 23 were assessed by Post-Concussion Symptom Scale as well as rating of their cognitive activity on a scale of zero to four on items such as reading, video game playing, and homework.

The mean duration of symptoms was 43 days, which may not have been longer than expected because this patient population had persistent symptoms at follow up within 3 weeks of injury. Still, 43 days is surprising.

The investigators concluded that cognitive activity was associated with longer duration of recovery. This study provides further reason to be sure patients understand that rest after a concussion includes both physical and cognitive function. Also, with a mean duration of 43 days, the importance of follow up should be stressed. ■

### Duration of cold and earache in children

**Key point:** *The duration of the common cold and earaches in children is longer than expected.*

**Citation:** Thompson M, Vodicka TA, Blair PS, et al. Duration of symptoms of respiratory tract infections in children: Systematic review. *BMJ.* 2013;347:f7027.

Pediatric illnesses such as the common cold, earache, sore throat and cough are frequently diagnosed. The expected duration of symptoms with these conditions is important to families and providers alike but to date, data on it have been conflicting. The authors of this study performed a systematic review of randomized controlled and observational studies to determine the duration of these illnesses. Although this analysis is retrospective, the information definitely adds to our understanding of symptom duration.

The duration of the following illness is expected to be as follows:

- Earache: 7 to 8 days
- Sore throat: 2 to 7 days
- Croup: 2 days
- Bronchiolitis: 21 days
- Acute cough: 25 days
- Common cold: 15 days
- Nonspecific upper respiratory infection: 16 days

It is hoped that this information will help parents understand how long to expect that their children may have symptoms. ■

### ER visits for concussion

**Key point:** *Emergency room visits for concussion have almost doubled in 10 years, but admissions have not increased.*

**Citation:** Colvin JD, Thurm C, Pate BM, et al. Diagnosis and acute management of patients with concussion at children's hospitals. *Arch Dis Child.* 2013;98(12):934-938.

As mentioned before, concussions are receiving more attention. The investigator of this study reviewed medical records from a large pediatric network to determine the percentage of children who were seen for concussion as well as the absolute number of admissions associated with that diagnosis.

As expected, the percentage of children seen in emergency rooms (ERs) for concussion increased from 0.36% to 0.62% between 2001 and 2010. The number of admissions during that same period, however, increased only minimally, from 525 to 555. Although more investigation is needed, this may be evidence that more patients presented to ERs for evaluation with low-risk concussions. Perhaps medical costs could be reduced if more of these patients were seen in urgent care centers rather than ERs.

The only factors that might confound that hypothesis are the high percentage of use of computed tomography (CT) in this study (over 60%) and the relatively low ER cost per visit. The median adjusted cost per visit without CT was only \$191, whereas with CT it was \$695. Unfortunately the investigators did not look at how the decision to scan compared to current guidelines, which also would alter the cost of the visits. ■

### Predictors of sore throat complications

**Key point:** *History and physical exam are not predictive of suppurative complications of sore throat. Antibiotics also did not appear to reduce occurrence.*

**Citation:** Little P, Stuart B, Hobbs FD, et al. Predictors of suppurative complications for acute sore throat in primary care: Prospective clinical cohort study. *BMJ.* 2013;347:f6867

Sore throat is a common complaint in the acute care setting. The investigators in this study looked at 14,610 patients with complaints of sore throat. The total percentage of suppurative complications was just over 1%. Suppurative complications included peritonsillar abscess, otitis media, sinusitis, cellulitis or impetigo. History and physical findings were not significantly predictive of these complications. Treatment either at the time of visit or delayed did not alter the incidence of suppurative complications. The only limitation to this study was a lack of comparison of type of antibiotics, which might have altered the results. The authors concluded that availability of follow up was the best way to discover and treat the low percentage of unpredictable complications. ■

### Return to Play Plan for Pediatric Concussion

**Key point:** *Return to play has been a focus of recent concussion guidelines. This article proposes that a return to learn plan is another aspect that needs our attention.*

**Citation:** Halstead ME, McAvoyn K, Devore CD, et al. Returning to learning following a concussion. *Pediatrics.* 2013;132(5):948-957.

When a child with a concussion should return to school can be just as complex a decision as when to return to play. Concussions are a difficult diagnosis for both parents and educators and unlike a broken ankle, they are associated with few visible signs. This article details the issues and types of plans necessary for a child with a concussion to return to learn (RTL) as the authors define it. A team approach to slowly integrate a student back to school is recommended. The team should consist of parents, physician, school nurse and teachers. Education about the common symptoms of concussion and ways to assist are provided in both tables and forms to test improvement similar to forms used for return to play. (Samples plans are listed below).

1. Headaches – reduce duration, frequent breaks
2. Visual symptoms – wear sunglasses, reduce brightness of screens
3. Noise – avoid gyms, band, and crowded corridors between glasses
4. Concentration/memory – reduce demands
5. Sleep disturbances – alternate schedules, shorter days, naps ■