ABSTRACTS IN URGENT CARE

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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.

Hypertonic Saline in Bronchiolitis

Key point: Consider using hypertonic saline for bronchiolitis.

Citation: Zhang L, Mendoza-Sassi RA, Klassen TP, Wainwright C. Nebulized hypertonic saline for acute bronchiolitis: a systematic review. *Pediatrics*. 2015;136:687–701.

Bronchiolitis continues to be difficult to treat despite its high prevalence. With the exception of nasal bulb suction, few techniques have shown significant benefit, to the frustration of both patients' parents and health-care providers. A Cochrane Review suggested that hypertonic saline (HS) may benefit patients by decreasing length of hospital stay and disease severity scores. HS is thought to decrease airway edema, reduce mucous plugging, and increase mucociliary clearance. This systematic review of mostly randomized studies (one was pseudo-randomized) focused on the use of HS 3% versus normal saline 0.9% or standard care.

According to the review's authors, "[T]his new systematic review shows that nebulized HS is associated with a mean reduction of 0.45 days (~11 hours) in length of stay (LOS) among infants admitted for acute bronchiolitis and a mean reduction of 20% in the risk of hospitalization among outpatients. This review also suggests that nebulized HS is a safe treatment in infants with bronchiolitis, especially when administered in conjunction with a bronchodilator."

For the acute-care provider, the question of whether this is just another popular but soon-to-fade treatment for bronchiolitis is still unanswered. Of concern is the lack of analysis of complications, owing to the use of different criteria among the studies reviewed. Also, most urgent care centers are unlikely to stock HS; depending on how it is stocked, it could present a risk of accidental misuse. ■

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Cross-Reactivity Between Cephalosporins

Key point: Perhaps not all cephalosporin allergies are alike.

Citation: Romano A, Gaeta F, Valluzzi RL, et al. IgE-mediated hypersensitivity to cephalosporins: cross-reactivity and tolerability of alternative cephalosporins. *J Allergy Clin Immunol*. 2015;136:685–691.e3.

Like other antibiotics, cephalosporins can cause anaphylactic (type I) IgE-mediated allergic reactions. Although several recent studies have compared risk of allergic reactions between peni-

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cillins and cephalosporin, not much is known about cross-reactivity between cephalosporins. A small study of 102 patients in Italy compared reactions to penicillin, ampicillin, amoxicillin, and 11 cephalosporins via skin test and oral challenge. Their findings seem to confirm the cephalosporin reactions are likely due to the side chains rather than the β-lactam ring. Their conclusion was that cross-reactivity occurred within a group of cephalosporins that have a common side chain (cefuroxime, ceftriaxone, cefotaxime, cefepime, and ceftazidime) and within a group consisting of ampicillin and two aminocephalosporins (cefaclor and cephalexin). Cefazolin typically was tolerated by patients with allergies to cephalosporins in either group.

For the urgent care provider, this is potential good news, but it is far from conclusive. Further studies with larger numbers of participants are probably warranted to establish risk. ■

PECARN Criteria as a Tool for Predicting Intra-abdominal Injury

Key point: The PECARN criteria are better than clinical suspicion at predicting intra-abdominal injury.

Citation: Mahajan P, Kuppermann N, Tunik M, et al; Intra-abdominal Injury Study Group of the Pediatric Emergency Care Applied Research Network (PECARN). Comparison of clinician suspicion versus a clinical prediction rule in identifying children at risk for intra-abdominal injuries after blunt torso trauma. *Acad Emerg Med*. 2015;22:1034–1041.

Although intra-abdominal injury is not a frequent issue in urgent care, children who may have such injuries should be rapidly assessed and transferred to an emergency department. Authors in this planned subanalysis of a previous study done by the Pediatric Emergency Care Applied Research Network (PECARN) compared clinical suspicion to a decision rule to determine risk of intra-abdominal injury. The rule checkpoints included absence of visible trauma, a score on the Glasgow Coma Scale of >13, no abdominal tenderness, no evidence of thoracic wall trauma, no complaint of abdominal pain, no decreased breath sounds, and no history of emesis after the injury. The authors found that the clinical prediction rule had a significantly better sensitivity (97% vs. 83%) than did clinical suspicion. This did come at a reduction of specificity (42.5% vs. 79%).

From an urgent care perspective, this rule should not supplant clinical concerns but could be a baseline for when to transfer patients to an emergency department. The key is to quickly discern which patients need a higher level of care. ■

Rethinking Duration of Antibiotic Treatment in Strep Throat

Key point: A full 24 hours may not be needed for contagion to end.

Citation: Schwartz RH, Kim D, Martin M, Pichichero ME. A reappraisal of the minimum duration of antibiotic treatment before approval of return to school for children with streptococcal pharyngitis. *Pediatr Infect Dis J*. 2015 August 20;1. doi: 10.1097/INF.0000000000000883. [Epub ahead of print.]

The amount of time needed for children with strep throat to become noncontagious can significantly interfere with schooling. Authors in this study evaluated 111 patients with positive findings on rapid and *Streptococcus* culture for response to a 50-mg/kg dose of amoxicillin. Patients were seen the next morning before school, and a rapid test as well as a culture were obtained. Only 10 patients had positive findings on the rapid test, which were supported by culture findings. Seven of them had much less growth on the culture. All patients had been seen by 5 p.m. on the preceding day.

The findings of this small study should at least cause urgent care providers to reconsider whether the rule of 24 hours of antibiotic intake is hard and fast. Some children did have positive test findings, however. A study of infectivity, although difficult to create, would be even more beneficial. ■

Phenylephrine May Have No Benefit

Key point: Phenylephrine is no more effective than placebo for nasal congestion.

Citation: Meltzer EO, Ratner PH, McGraw T. Oral phenylephrine HCl for nasal congestion in seasonal allergic rhinitis: a randomized, open-label, placebo-controlled study. *J Allergy Clin Immunol Pract*. 2015;3:702–708.

Since pseudoephedrine was moved behind the pharmacy counter by law in 2006, few options for decongestants have existed for patients. The most popular option has been phenylephrine. This study attempted to find out whether it is beneficial in patients with allergic rhinitis. A total of 539 adults were randomized to take one, two, three, or four 10-mg phenylephrine pills or a placebo for a week. The end point of the study was improvement of a daily congestion score. Unfortunately there was no significant improvement. At least 18.4% of participants experienced an adverse effect.

"Since pseudoephedrine was moved behind the pharmacy counter by law in 2006, few options for decongestants have existed for patients. . . . It is unfortunate that pseudoephedrine has become more difficult to obtain."

It is unfortunate that pseudoephedrine has become more difficult to obtain. For the acute-care provider, this study highlights the problems with treating patients' symptoms without evidence of effectiveness, and it shows that phenylephrine should not be used for any patient. ■

Patients Should Be Told About Potential Constipation with Opioids

Key point: Medication adverse effects should be explained to patients and treated if possible.

Citation: Hunold KM, Smith SA, Platts-Mill TF. Constipation prophylaxis is rare for adults prescribed outpatient opioid therapy from U.S. emergency departments. *Acad Emerg Med*. 2015;22:1118–1121.

Constipation, although usually not a serious complication of medication use, can be bothersome and decrease the benefit of pain control. Most guidelines recommend preventative measures when prescribing pain medication. In this study of emergency department patients treated with outpatient opioid medications, the use of laxative was evaluated. Approximately 1% of patients 18 years and older and of the subgroup of those 65 years and older received laxatives. The authors compared findings for these groups to those for the 42% treated for constipation who received laxatives. The retrospective nature of this study as well as the prevalence of good-quality over-the-counter stool softeners may make this study less concerning.

For the urgent care provider, this is a good reminder of potential adverse effects of medications we provide and the need to at least inform patients about these effects, if not treat them. Longer courses of opioid medications should be infrequent in the urgent care setting, but even a few days of constipation can worsen an already negative situation, causing pain. ■

Use of Ottawa Ankle Rules by Triage Nurses Reduces Patients' Length of Stay

Key point: Ottawa ankle rules make help decrease patient wait times.

Citation: Lee WW, Filiatrault L, Abu-Laban RB, et al. Effect of triage nurse initiated radiography using the Ottawa Ankle Rules on emergency department length of stay at a tertiary centre. *CJEM* 2015 Jul 20;1–8. doi: 10.1017/cem.2015.67. [Epub ahead of print.]

The Ottawa Ankle Rules are a well-known and validated method for accessing the need for x-rays in patients with ankle injuries. This study focused on the use of these rules by triage nurses and the effect on length of stay. A total of 146 patients were randomized to 15 nurses specifically trained in application or the rules or standard triage. Length of stay was reduced by an average of 20 minutes. Agreement between nurses and health-care providers on the application of the rules was moderate. The satisfaction level of the triage nurses and the study participants was reported as high.

Although throughput times in an urgent care center are usually quite a bit shorter than those in an emergency department, a provider might sometimes be otherwise occupied, so getting the x-ray before evaluation would make sense. Whether the appropriate staff members are available to complete this triage may be the only limiting factor.

Lack of Sleep Really Does Increase the Chances of Getting Sick

Key point: Get more than 6 hours of sleep.

Citation: Prather AA, Janicki-Deverts D, Hall MH, Cohen S. Behaviorally assessed sleep and susceptibility to the common cold. *Sleep*. 2015;38:1353–1359.

It seems intuitive that if we are fatigued, we may be more susceptible to illness; however, there is not much research in this area to prove it. In this study, 164 healthy volunteers aged 18 to 55 years were monitored for 7 days with wrist actigraphy and sleep diaries. Participants were then exposed to a rhinovirus via nasal drops. Those participants sleeping more than 7 hours were less likely to develop a cold than those sleeping less. The odds ratio was more than 4.

Although this small study does not by itself provide overwhelming evidence regarding whether lack of sleep causes increased likelihood of illness, it does provide some confirmation. These findings reinforce idea that health-care providers who see ill patients every day need to get a good night's sleep. ■