



ABSTRACTS IN URGENT CARE

- Decision Fatigue vs Antibiotic Stewardship
- Rethinking Syncope and Near-Syncope
- Blunt Abdominal Trauma in Kids
- Is Too Much Made of Biphasic Anaphylaxis?
- Relief for the Retching
- Exacerbations of Asthma in Children

■ JOSHUA RUSSELL, MD, MSC, FAAEM, FACEP

Practice of Urgent Care: More Patients, More Decisions, More Fatigue

Key point: We should be aware, as clinicians, that as we progress through our shifts, decision fatigue mounts. One manifestation of decision fatigue is an incremental decline in antibiotic stewardship. It is also important to understand that taking breaks seems to combat the harmful effects of decision fatigue.

Citations: Linder JA, Doctor JN, Friedberg MW, et al. Time of day and the decision to prescribe antibiotics. *JAMA Intern Med.* 2014;174(12):2029–2031. Pignatiello GA, Martin RJ, Hickman RL Jr. Decision fatigue: a conceptual analysis. *J Health Psychol.* March 1, 2018. [Epub ahead of print]

As we grind our way toward the tail end of another cold and flu season, patient volumes at most urgent care centers remain high. And the more patients we see, the more decisions we have to make.

One study estimated that the average American makes as many as 35,000 decisions every day. And in urgent care, we almost certainly are forced to make even more choices than the average person. Think about your last shift and the multitude of decisions you faced at every step, with every patient. Thousands and thousands of decisions—ranging from mundane to critical—requiring thoughtful consideration throughout the day. Follow-up with primary care or ENT? In 2 days or 3? Or 5? Splint or brace? Order a chest x-ray for this patient with cough or not?

The result of this seemingly endless stream of choices is what cognitive psychologists call *decision fatigue*: the notion that we

(ie, humans) have limited capacity to regulate our behavior and that that capacity wanes each day with every decision we make. Because this is a universally relevant concept to all professions, decision fatigue has been getting an increasing amount of press in recent years. And even if you haven't heard the term, you've certainly experienced its effects. Those moments where you find that your resolve to do the right thing for the patient has been replaced with the temptation to just do the easy thing. That's decision fatigue.

And nowhere in acute care is this temptation greater than when we are faced with the choice of whether or not to prescribe antibiotics for respiratory illnesses. In this 2014 paper, Linder, et al reviewed nearly 22,000 primary care visits for URI symptoms involving 204 different providers. Importantly, they excluded patients with significant chronic disease.

The investigators found that there was a linear increase in the likelihood of a provider prescribing an antibiotic in a situation where antibiotics were “sometimes indicated” and “never indicated” with each passing hour of the work day. By the end of an 8-hour shift, the odds of an inappropriate antibiotic prescription from this group of providers was 26% higher than at the beginning of the work day.

Importantly, antibiotic stewardship did improve somewhat after the providers' lunch break. This suggests that breaks can reduce the harmful effects of decision fatigue (although even after their break, inappropriate antibiotic prescriptions were doled out at a significantly higher rate than at the beginning of the work day). ■

Treat Patients Who Get Dizzy and Pass Out the Same

Key point: Most clinicians think of near-syncope as a lower risk complaint than syncope. However, patients presenting with syncope and near-syncope have similar rates of short-term morbidity and mortality.



Joshua Russell, MD, MSc, FAAEM, FACEP practices emergency and urgent care medicine, and manages quality and provider education for Legacy/GoHealth Urgent Care. Follow him on Twitter: @UCPracticeTips.

“Avoidance of unnecessary ED referrals and diagnostic radiation in children is an important objective for pediatric patient safety.”

Citation: Bastani A, Su E, Adler DH, et al. Comparison of 30-day serious adverse clinical events for elderly patients presenting to the emergency department with near-syncope versus syncope. *Ann Emerg Med.* December 7, 2018. [Epub ahead of print]

Dizziness is among the more challenging complaints to evaluate in urgent care. Patients can feel dizzy for a litany of reasons ranging from the trivial to the life-threatening. However, there is a common tendency among clinicians to treat true syncope more seriously than “simple” lightheadedness. This study should prompt us to rethink that notion.

In this cohort study, the researchers enrolled 3,581 adult patients over age 60 presenting to 11 different EDs over a 3-year period with either near-syncope/lightheadedness or syncope. They then followed these patients to determine the rates of 30-day adverse outcomes between the two groups. There were similar rates of both death (0.9 vs 1.4%) and serious clinical events, such as ACS/MI, arrhythmia, CVA, PE etc. (18.7% vs 18.2%) for both groups in the 30 days following presentation. Based on these results, the authors conclude that the acute care clinician should use the same clinical approach for patients presenting with near-syncope and syncope. ■

Blunt Abdominal Trauma in Kids? There’s a Clinical Prediction Rule for That

Key point: Clinically important intraabdominal injuries (CIIAI) in children, thankfully, are rare. The PECARN prediction rule for children with blunt abdominal trauma (BAT) was 99% sensitive for excluding CIIAIs in this validation study. This decision tool appears to be “ready for primetime.”

Citation: Springer E, Frazier SB, Arnold DH, Vukovic AA. External validation of a clinical prediction rule for very low risk pediatric blunt abdominal trauma. *Am J Emerg Med.* November 23, 2018. [Epub ahead of print]

Parents frequently bring children to urgent care centers with all manner of injuries. Excluding intraabdominal injury is challenging without advanced imaging. However, most urgent care centers do not have ready access to CT. Additionally, avoidance of unnecessary ED referrals and diagnostic radiation in children is an important objective for pediatric patient safety.

In 2013, the PECARN group published a prospective study

of more than 12,000 children with BAT. In doing so, they derived a seven-item clinical prediction rule that excluded CIIAI with 97% sensitivity. This more recent external validation study found that the PECARN very-low-risk criteria for children with BAT performed with similarly high sensitivity in this second large group of children with abdominal injuries.

The prediction rule for very-low-risk BAT consists of the absence of the following criteria:

- Evidence of abdominal wall trauma or seatbelt sign
- Glasgow Coma Scale score <15
- Abdominal tenderness
- Evidence of thoracic wall trauma
- Complaints of abdominal pain
- Abnormal breath sounds
- Any vomiting

This study included all children 18 years and younger except those with a penetrating mechanism of injury, known pregnancy, and/or preexisting neurologic disorder. Based on these data, if all seven criteria were met, CIIAI was excluded with 99% sensitivity. In such very-low-risk patients, ED referral is unnecessary. Applying the prediction rule for pediatric BAT can prevent unwarranted expense and diagnostic radiation exposure, although few children will actually meet all seven low-risk criteria. ■

Is Biphasic Anaphylaxis the Boogie Man After All?

Key point: Recurrence of anaphylaxis after the resolution of symptoms appears to be exceedingly rare. When allergic symptoms do recur, cutaneous findings seem to be most common. In this series of patients, airway/respiratory compromise and shock did not occur in the few cases of possible biphasic allergy.

Citation: Højlund S1, Søre-Jensen P, Perner A, et al. Low Incidence of biphasic allergic reactions in patients admitted to intensive care after anaphylaxis. *Anesthesiology.* 2019;130(2): 284-291.

During my emergency medicine training I remember being scolded by one of my gruffer and grayer-haired attendings during a night shift as I was discharging a young woman with resolved anaphylaxis. He was upset that I hadn’t warned her that, because of the risk of recurrent anaphylaxis, she needed to have 911 dialed on her phone, ready to send, and an Epi-Pen unsheathed, ready to inject. Historically, this sort of paranoia among clinicians regarding the possibility of anaphylaxis recurring suddenly and unpredictably has been common.

Despite incidences reported as high as 23%, though, I’ve never seen a case of recurrent, or so-called, “biphasic” anaphylaxis (nor do I know anyone who has). Still, with a concern for such high-risk complications, I’ve made it a habit to sternly warn all my patients with moderate-to-severe allergic reactions about this phenomenon when I discharge them.

“Prolonged observation periods and ED referrals/admissions for patients whose [anaphylaxis] symptoms have resolved is likely overkill.”

This paper has forced me to rethink that practice.

In this retrospective Danish chart review study, 83 patients with severe anaphylaxis requiring ICU admission were identified and followed during a 3-year study period. Of those 83 patients, 4.8% presented again with possible allergic reactions.

All reactions consisted of isolated skin findings. Only one case (1.2%) of possible recurrence was thought most likely due to biphasic allergy rather than another cause. None of the patients died or required rehospitalization.

It is worth noting that 96% of patients in this study were treated with corticosteroids, which are believed to reduce the risk of recurrent allergic symptoms. Based on these data, it's probably still worth mentioning the small possibility of short-term recurrence of allergic symptoms, but prolonged observation periods and ED referrals/admissions for patients whose symptoms have resolved is likely overkill. ■

Ohhh, That Smell!

Key point: Inhaled isopropyl alcohol, or “aromatherapy,” effectively and quickly controls acute nausea.

*Citation: April MD, Oliver JJ, Davis WT, et al. Aromatherapy versus oral ondansetron for antiemetic therapy among adult emergency department patients: a randomized controlled trial. *Ann Emerg Med.* 2018;72(2):184-193.*

Imagine the last patient you had who simply couldn't stop retching. They probably couldn't even talk to you, much less take a pill. All they could do was hold their head down and moan. These patients are not uncommon in urgent care. And while many therapeutic options exist to control nausea and vomiting, for rapid effects, most drugs require parenteral administration and cause significant side effects such as sedation and akathisia.

Over recent decades, ondansetron oral dissolving tablets have emerged as a relatively safe, relatively quick option for mitigating nausea in the acute care setting. However, even ondansetron requires staff to administer the medication and the patient to be able to hold the tablet in their mouth.

Borrowing an established treatment from the anesthesiology literature, isopropyl alcohol has gained increasing attention as an adjunctive treatment for acute nausea in recent years. In this randomized controlled trial, the investigators compared

the effects of isopropyl alcohol with ondansetron to isopropyl alcohol with placebo on subjective nausea in 120 adult ED patients. The study included patients with nausea from all causes; however, the vast majority of patients were vomiting due to food poisoning or gastroenteritis.

The researchers measured the patients' nausea on a visual analog scale (VAS) before receiving the treatment they were randomized to and then again at 30 minutes post-treatment. Patients receiving isopropyl alcohol with ondansetron and placebo had roughly equivalent, significant reductions in subjective nausea (30 and 32/100 respectively). Interestingly, there did not appear to be an added benefit of ondansetron above placebo when added to inhaled isopropyl alcohol. There were no adverse reactions reported to inhaled isopropyl alcohol.

Think again about your last miserable patient who was retching uncontrollably. Now imagine simply handing them an alcohol wipe to sniff rather than trying to get them to keep a tablet under their tongue. This strategy appears to be a safe and effective initial treatment for such patients in the urgent care setting and offers a quick fix solution if they arrive while there's a wait to be seen. ■

Greatest Hit of the Month: Treating Acute Exacerbations of Asthma in Children

Key point: Single-dose oral dexamethasone is not inferior to 3 days of oral prednisolone for children with mild-to-moderate acute asthma exacerbations.

*Citations: A randomized trial of single-dose oral dexamethasone versus multidose prednisolone for acute exacerbations of asthma in children who attend the emergency department. Cronin JJ, McCoy S, Kennedy U, et al. *Ann Emerg Med.* 2016; 67(5):593-601.*

*Toledo A, Amato CS, Clarke N, et al. Injectable dexamethasone sodium phosphate administered orally? A pharmacokinetic analysis of a common emergency department practice. *J Pediatr Pharmacol Ther.* 2015;20(2): 105-111.*

Increasingly, urgent care is the destination of choice for parents when their child's asthma flares up. Asthma treatment is straightforward and, unless severe, doesn't require many resources. The mainstay of treatment for acute asthma exacerbations, in addition to inhaled, short-acting bronchodilators, has long been systemic corticosteroids.

In children, oral steroids are preferred to minimize the traumatic experience of an injection; however, the horrendous taste of most orally administered glucocorticoids makes the experience only slightly less abhorrent for children. Because of their unpalatability, completion of a full course of oral steroid solution is a challenge even for the most well-intentioned parents. Additionally, multiday dosing of corticosteroids requires the caregivers to fill a prescription, which presents an often-under-

estimated logistical challenge while simultaneously caring for a sick child. If only there were an easier way.

Well, turns out, there is. In a 2016 study, researchers enrolled 226 pediatric patients 2-16 years of age who presented to an Irish ED with mild-to-moderate asthma exacerbations. Children were randomized to receive prednisolone oral solution (1 mg/kg q day, max daily dose 40 mg) for 3 days or dexamethasone oral solution (0.3 mg/kg once, max dose 12 mg).

Between the prednisolone 3-day course and dexamethasone single-dose therapy, there was no difference between the groups for the primary outcome of interest, which was respiratory assessment (PRAM score) at post-ED visit day 4. Additionally, there was no difference in need for repeat ED/clinic visits or hospitalizations between the groups.

Single-dose dexamethasone appears to be an effective and attractive alternative to multiday prednisolone for acute asthma exacerbations in children. Additional evidence suggests that while oral bioavailability of injectable dexamethasone (dexamethasone sodium phosphate) is slightly less than that of orally formulated dexamethasone, it has similar clinical efficacy. Addi-

“Evidence suggests that while oral bioavailability of injectable dexamethasone is slightly less than that of orally formulated dexamethasone, it has similar clinical efficacy.”

tionally, injectable dexamethasone has the practical advantage of being a smaller volume for an equivalent dose and is generally felt to be less unpleasant tasting. Furthermore, many urgent care centers do not carry both oral and injectable formulations of dexamethasone and, in such cases, dosing children one time orally with the injectable formulation of dexamethasone is a reasonable practice as complete steroid therapy for children with acute asthma exacerbations. ■



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