



ABSTRACTS IN URGENT CARE

- Do Clothes ‘Make’ the Physician?
- Hydration and UTIs
- Getting to Know AFM
- Stopping Trichomoniasis in Its Tracks
- A New Wrinkle for Fluoroquinolones
- Clearing Peds with Head Injuries

■ JOSHUA RUSSELL, MD, MSC, FAAEM, FACEP

A Brief Introduction

Happy New Year! 2018 is now behind us and it was another great year for urgent care. We are fortunate to work in one of the most dynamic and rapidly growing fields in medicine. I find it thrilling that the future of urgent care is ours to define and design.

According to data from the UCA, last year nearly 150 million patients received care in U.S. urgent care centers. These patients deserve quality, evidence-based care; however, the rapid growth of urgent care has outpaced scholarly research in the field. As always, Abstracts in Urgent Care represents our efforts to fill this gap. Similarly, your readership of *JUCM* demonstrates your commitment to continuing self-education and safe delivery of care to your patients.

After Glenn Harnett, MD stepped down as the author of Abstracts in Urgent Care last fall, I was honored to be asked to take over the role of curating this department. In recent years, I have spent a lot of time thinking about clinical quality in urgent care. I’ve peer-reviewed thousands of urgent care charts as part of quality improvement initiatives and participated in the education and training of hundreds of urgent care providers across the country. Through this experience, one truth has emerged most prominently: practicing in urgent care is a tough job. As curator of Abstracts in Urgent Care, my goal is to provide content that makes the job a bit easier for each of you.

There are some challenges to urgent care practice that are immutable—the demanding pace and long hours, for example. Unfortunately, reading Abstracts in Urgent Care won’t change

these aspects of the work. However, through this space, I am committed to presenting the most relevant peer-reviewed literature to enhance your clinical effectiveness.

Keeping current with a wide array of medical knowledge is certainly a critical aspect of urgent care practice, and Abstracts in Urgent Care will continue to deliver important updates in evidence-based acute care. But it doesn’t take much time in urgent care to realize that proficiency in this job consists of much more than knowing the best antibiotic to treat otitis media and cellulitis. It is the cognitive and behavioral aspects of our work—such as communicating with patients, recognizing risks of diagnostic error, and mitigating decision fatigue—which arguably play a larger role in clinical effectiveness, especially in this digital era where reference materials are easily and constantly at our fingertips. This reality is the motivation for the addition of the Urgent Care Practice section in Abstracts in Urgent Care. In coming months, you’ll find practice-changing entries located here, addressing the psychological and metacognitive aspects of urgent care work in addition to the summaries of current and pertinent medical literature you’ve come to expect from Abstracts in Urgent Care.

In urgent care, how you think about the job is often just as important as what you know. I’m excited to make Abstracts in Urgent Care your source for the most relevant research summaries to keep you at the top of your game in urgent care in 2019 and beyond. Happy learning!

URGENT CARE PRACTICE What You Wear Matters

Key point: Provider attire has a meaningful effect on patient experience. Patients ascribe more positive characteristics to clinicians wearing white coats regardless of provider gender and the type of attire worn underneath the white coat.

Citation: Petrilli CM, Saint S, Jennings JJ, et al. Understanding



Joshua Russell, MD, MSc, FAAEM, FACEP practices emergency and urgent care medicine, and manages quality and provider education for Legacy/GoHealth Urgent Care.

patient preference for physician attire: a cross-sectional observational study of 10 academic medical centres in the USA. *BMJ Open*. 2018;8(5):e021239.

Urgent care providers are tasked with quickly establishing rapport and gaining the trust of numerous new patients each shift. Positive patient experience has been shown to be associated with better adherence to treatment plans and improved outcomes. In this large, national survey, researchers administered a questionnaire to over 4,000 patients at 10 different hospitals across the U.S. The investigators asked the participants for their preferences in physician attire after showing them photos of seven male and female models dressed in either scrubs, business casual, or formal clothing—with or without a white coat—or a business suit. Participants were asked for their opinions about the clinician's character across five domains: knowledgeability, trustworthiness, caringness, approachability, and comfort. Fifty-three percent of respondents expressed that the "physician's attire was important to them during care." In general, formal attire with a white coat was the most preferred attire by study participants, and adding a white coat to each type of dress improved the patients' perceptions of the clinician. Interestingly, a subanalysis looking at patient opinions for attire based on the gender of the provider showed a much stronger preference toward wearing a white coat for female compared to male providers. Based on the results of this study, wearing a white coat seems to be an effective, simple, and low-effort strategy for improving patients' perception of your competence. But remember, white coats are a proven fomite as well, so keep them clean! ■

Advise Women with UTIs: Drink Plenty of Water

Key point: Ensuring adequate water intake is a simple, safe, and inexpensive way to reduce the risk of UTI in women.

Citation: Hooton TM, Vecchio M, Iroz A, et al. Effect of increased daily water intake in premenopausal women with recurrent urinary tract infections: a randomized clinical trial. *JAMA Intern Med*. 2018;178(11):1509-1515.

We commonly tell patients presenting with urinary tract infections and other urinary complaints to "drink more water" to speed their recovery and reduce the risk of recurrence. While this recommendation may have intuitive logic, few studies have examined the truth behind such axiomatic advice. Additionally, virtually all prior research on this topic has involved only observational studies and, therefore, has been unable to demonstrate a causal relationship between dehydration and UTI risk. In this study, investigators performed an open-label, randomized controlled trial comparing the risk of recurrent cystitis among 140 healthy young women with low baseline reported water intake (<1.5L/day). Participants were randomized either to continue

with their regular amount of water consumption or to increase their water intake by 1.5L/day. The results were both highly statistically and clinically significant. Participants drinking more water had 53% fewer episodes of cystitis on average during the 12-month follow-up period. Subjects drinking more water required 1.9 antibiotic prescriptions vs 3.6 prescriptions in the standard hydration group. You can feel confident recommending better hydration as a proven strategy to reduce risk of UTI recurrence, especially in women who admit to not drinking enough water or provide urine samples with high specific gravity. ■

Not Familiar with Acute Flaccid Myelitis? Your Patients' Parents Will Be

Key point: Acute flaccid myelitis (AFM) is a rare but serious polio-like condition, generally affecting children, that UC providers should be familiar with. It is commonly associated with typical viral syndromes and occurs most often during the late summer and early fall.

Citation: Van Haren K, Ayscue P, Waubant E, et al. Acute flaccid myelitis of unknown etiology in California, 2012-2015. *JAMA*. 2015;314(24):2663-2671.

It was September 2014 when CDC researchers began learning of clusters of cases of a polio-like illness affecting pediatric patients across the U.S. Most were previously healthy, school-aged children with a precedent upper respiratory infection or gastrointestinal-type illness. Needless to say, the popular press ran with the story, invoking fear in the minds of parents nationwide. The illness was acute flaccid myelitis (AFM). The cause of AFM remains unknown; however, there is some association with types of enterovirus and adenovirus. It occurs sporadically as well as seasonally. Most patients have only partial recovery and remain permanently disabled. There is no effective treatment for the condition, though neurologists may recommend trials of plasmapheresis, IVIG, and/or corticosteroids.

The urgent care provider should be familiar with this condition because parents may bring their child in with concerns for AFM in the setting of a viral illness, especially during times of higher media coverage. Subtle, early findings suggesting AFM include ptosis or other cranial nerve palsy, difficulty swallowing, and/or objective limb weakness. As urgent care is a likely care destination for parents with concerns for AFM, it is important for providers to feel comfortable assessing for these findings and reassuring parents (when appropriate) or referring patients for a higher level care if neurologic deficits are present. These rare cases will require evaluation by a pediatric neurologist and should be referred, ideally, to an ED where this is available. ■

Trich is Getting Trich-ier

Key point: While single-dose metronidazole (2 g PO) has long been considered standard therapy for trichomoniasis in healthy

“While keeping up-to-date on current research relevant to urgent care is highly valuable, it is equally important to be familiar with the landmark studies of recent decades.”

women, a 7-day course (500 mg PO BID) resulted in significantly fewer treatment failures in this study. The number needed to treat (NNT) with a 7-day course to prevent one treatment failure was 12. Single-dose metronidazole therapy is still not recommended in women with HIV.

Citation: Kissinger P, Muzny CA, Mena LA, et al. Single-dose versus 7-day-dose metronidazole for the treatment of trichomoniasis in women: an open-label, randomised controlled trial. *Lancet Infect Dis*. 2018;18(11):1251-1259.

Forgive the pun, but *Trichomonas vaginalis* is indeed among the trickiest STIs. Testing is unreliable and symptoms are often subtle or nonexistent, especially in males. Consequently, trich is commonly passed between partners multiple times prior to eradication. Untreated *Trichomonas* infections can lead to serious reproductive system pathology and poor birth outcomes in pregnant women. The recommended mainstay of treatment for *Trichomonas* has long been a single dose of 2 g of metronidazole in healthy patients. However, in this recent multicenter, RCT of over 1,000 women, single-dose metronidazole was compared with BID dosing for 7 days. The researchers found significantly fewer treatment failures in the women receiving 1 week of therapy (11% vs 19%). The longer course of metronidazole was similarly well tolerated. While “one-and-done” therapies for STI treatment are appealing for providers and patients, it is worth strongly considering a longer course of therapy when treating women with *Trichomonas* infections. ■

Another Strike Against the Quinolones

Key point: *There is mounting evidence that even short courses of fluoroquinolones can predispose patients to significant increases in the short-term risk for aortic catastrophes.*

Citation: Lee CC, Lee MG, Hsieh R, et al. Oral fluoroquinolone and the risk of aortic dissection. *J Am Coll Cardiol*. 2018;72(12):1369-1378.

It wasn't long after the development of the fluoroquinolone class of antibiotics that the FDA took note of a disproportionately large number of patients who developed musculoskeletal symptoms, most commonly in the Achilles tendons, after a course of these novel drugs. Initially, however, additional side effects were felt to be relatively rare and during the 1990s and early 2000s, pharmaceutical companies developed a

number of quinolones, marketing them for a wide array of bacterial diseases. For a time, quinolones seemed to be something of a Holy Grail for clinicians and patients alike—a broadly effective class of oral antibiotics with convenient dosing schedules. In the last decade, however, we have begun learning of a variety of more severe adverse reactions associated with quinolone use. Despite numerous black box warnings, quinolones remain among the most widely prescribed antibiotics in the outpatient setting. Further concerns continue to emerge regarding the safety of quinolones (beyond the black box warnings) and their toxicity to various systems.

In this retrospective case-crossover study, researchers identified over 1,000 cases of aortic aneurysm and dissection and compared the odds of being exposed to a systemic quinolone antibiotic in the 60 days before their aortic event to a different, random, earlier 60-day period. They found that the odds of having symptomatic/ruptured aortic aneurysm or dissection to be 270% greater in the months following quinolone use. Longer courses of quinolones (>14 days) seemed to confer an even higher short-term risk of aortic disaster. While this is observational data, it is worth taking note of. Fluoroquinolones are known to disrupt collagen synthesis, which could predispose to acute aortic pathology. The researchers estimated that the number needed to harm (NNH) with aneurysm or dissection for individuals over 65 who are prescribed a quinolone is only about 500. ■

THE GREATEST HITS

While keeping up-to-date on the most recent research relevant to urgent care medicine is highly valuable, it is equally important to be familiar with the landmark studies of recent decades that have defined sound, evidence-based acute care practice. In this section, we will regularly highlight such studies worth knowing about and discuss their impact for our field. To begin, our first “greatest hit” study will be the original trial by Dr. Nate Kuppermann and his colleagues from the Pediatric Emergency Care Applied Research Network (PECARN).

Which Pediatric Head Injuries Can Be Safely Sent Home from Urgent Care?

Key point: *Clinical decision rules for head injury are highly valuable to the urgent provider given the low availability of advanced imaging. The PECARN pediatric head CT rules are among the most useful in urgent care. Clinically important traumatic brain injury is, thankfully, very rare in children. Using a defined list of clinical criteria for children ages 0-2 and >2 years, the vast majority of pediatric patients presenting with acute head injury can be reliably cleared without need for CT imaging.*

Citation: Kuppermann N, Holms JF, Dayan PS, et al. Identification of children at very low risk of clinically important brain injuries after head trauma: a prospective cohort study. *Lancet*. 2009;374(9696):1160-1170.

Pediatric head injury is among the most common trauma presentations to urgent care. Kids have large heads and they tend to hit them often. There's a lot at stake, too, so parents who bring their child in after a head injury are understandably anxious. Mounting evidence exists to suggest the potential for adverse effects of diagnostic ionizing radiation, especially in younger patients. However, despite this, CT use in the U.S. doubled from 1995-2005. With this backdrop, Kuppermann, et al sought to find a set of clinical criteria that could reliably exclude TBI requiring intervention (eg, subdural, epidural hematoma, skull fracture, etc.) in pediatric patients, thereby offering parents the reassurance they seek without exposing their children to dangerous (and unnecessary) radiation.

In this prospective cohort study, investigators followed over 40,000 children presenting to more than 25 EDs across the county for evaluation of acute head injury. Patients were followed for 90 days after their initial presentation by phone follow-up. Among this large group of children presenting to an ED for head injury, only 60 (0.1%) required neurosurgery.

Using the defined criteria for each age group, the PECARN Pediatric Head CT Rule was found to be 100% sensitive for excluding clinically important TBI (ciTBI) in children <2 years and 96.8% sensitive in those older than 2 years. The slightly lower sensitivity of the decision rule in the older children is due to two missed cases of ciTBI identified on phone follow-up, neither of which required surgery.

Since the development of the PECARN rule, several other clinical decision rules (CDRs) for ciTBI in children have been developed, namely CATCH and CHALICE. In a 2014 study, however, the PECARN head CT rule outperformed these other CDRs in identifying children at very low risk of ciTBI who could safely forgo CT imaging. To minimize unnecessary ED referrals, parent anxiety, and pediatric radiation exposure, the urgent care clinician should be intimately familiar with the PECARN Head CT Rule—or at least remember to go to MDCalc and look it up—when caring for children with minor head injuries. ■

Call for Authors

JUCM, The Journal of Urgent Care Medicine has built a reputation as the voice of the urgent care community by engaging urgent care professionals at every level.

In fact, we thrive on contributions from the urgent care community. The process tends to work out pretty well for our authors at times, too. For example:

- **January 2017:** Ralph Mohty, MD, MPH and Michael Esmay, MD submit an article on a real-life patient for consideration in our Case Report department
- **May 2018:** Drs. Mohty and Esmay are bestowed with a Silver Award in the American Society of Healthcare Publication Editors 2018 Awards Competition—the 15th time *JUCM* has taken home a prize in our history

Might you be next?

If you have an idea, or even a completed article, email it to us at editor@jucm.com.

Help us continue to present excellent, timely content that informs the urgent care industry!



JUCM
THE JOURNAL OF URGENT CARE MEDICINE®

AMERICAN SOCIETY OF
HEALTHCARE PUBLICATION EDITORS
ASHPE
2018 AWARD WINNER