The Year in Abstracts: Top Papers of 2018 for the Urgent Care Clinician

SELECTED AND REVIEWED BY ANDY S. BARNETT, MD, FAAFP, FACEP

This has been an eventful year in the urgent care marketplace. Then again, you could say that at the end of most years in our dynamic, ever-growing industry. That begs the question, what *did* set 2018 apart from other years? Mergers and acquisitions, evolving technologies, and workplace trends certainly impact what you do every day. But at the end of that day, it's all about the patients. With that in mind, here we summarize some of the top papers with the most significance for urgent care providers over the past 12 months.

Ice, Ice, Baby to Minimize Pain Injections in Laceration Wounds

Key point: Injection into laceration wounds can be so painful as to complicate repair. Simple methods to minimize pain would improve the patient experience while also improving the chances for a smooth procedure, presumably with lower risk for complications.

Citation: Song J, Kim H, Park E, et al. Pre-emptive ice cube cryotherapy for reducing pain from local anaesthetic injections for simple lacerations: a randomised controlled trial. ***Emerg Med J*****. 2018;35(2):103-107.**

The authors conducted a prospective, randomized controlled trial to evaluate the effect of applying an ice cube to the injection site prior to injection in patients visiting the emergency room for simple lacerations—cryotherapy in its most organic form. Subjects were 50 patients who presented to a single emergency room between April and July 2016. They were randomly assigned to either the cryotherapy group or the control group (standard care; no cryotherapy or other pretreatment of the injection site). In cryotherapy group subjects, providers applied an ice cube (size: 1.5×1.5×1.5 cm) placed inside a sterile glove on the wound at the anticipated subcutaneous lidocaine injection site for 2 minutes prior to injection. The primary outcome was a subjective numeric rating of the perceived pain from the subcutaneous local anesthetic injections. Secondary outcomes were perceived pain on a numeric scale for cryotherapy itself (ie, pain from contact of the ice cube/glove with the skin) and the rate of complications after primary laceration repair. The numeric rating scale for subcutaneous anesthetic injections was median, IQR, 95% CI 2.0 (1 to 3.5), 1.81 to 3.47, respectively, in the cryotherapy group and 5.0 (3 to 7), 3.91 to 6.05 in the control group (Mann-Whitney U=147.50, p=0.001). No wound complications occurred in either group. The numeric rating scale for cryotherapy itself was median, IQR, 95% CI: 2.0 (1 to 3.5), 1.90 to 3.70. The authors concluded that "pre-emptive topical injection site cryotherapy lasting 2 min before subcutaneous local anesthetic injections can significantly reduce perceived pain from subcutaneous local anesthetic injections in patients presenting for simple laceration repair." ■

Andy S. Barnett, MD, FAAFP, FACEP is Medical Director for Legacy – GoHealth Urgent Care.

A Look at Antibiotic Prescribing Trends in Various Settings

Key point: The need for provider and patient education on ensuring antibiotics are prescribed only when necessary continues to grow.

Citation: Palms DL, Hicks LA, Bartoces M, et al. Comparison of antibiotic prescribing in retail clinics, urgent care centers, emergency departments, and traditional ambulatory care settings in the United States. ***JAMA Intern Med*****. 2018;178(9):1267-1269.**

Starting from the perspective of a well-established fact—that antibiotic use contributes to antibiotic resistance, with unnecessary prescriptions raising that risk unnecessarily—the authors

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examined data from multiple settings to see where improvements could be made. In doing so, they also saw distinctions between "traditional" settings such as primary care offices and hospitals (which are the source of 60% of antibiotic prescriptions) and emerging settings, including urgent care and retail clinics (the remaining 40% of prescriptions, roughly.) Higher-acuity settings tended to produce more antibiotic prescriptions for some diagnoses; for example, urgent care centers and emergency rooms accounted for more unsupported prescriptions than did medical offices and retail clinics for patients with respiratory diagnoses. Broadening the scope, the authors noted that 39% of urgent care visits, 36% of retail visits, 14% of ED visits, and 7% of medical office visits culminated with an antibiotic prescription (including both warranted and unwarranted). Despite public health campaigns and multiple medical society statements aimed at curbing unnecessary antibiotic prescriptions—thereby lowering risk for potentially deadly resistance—there continues to be an alarmingly high rate of scripts written for antibiotics that are not warranted. That must be matched by efforts to educate patients who "demand" an antibiotic for a viral infection, and to help providers be prepared to conduct that education while maintaining good patient relationships. ■

Is It Safe to Send Corneal Abrasion Patients Home with 24 Hours of Topical Tetracaine?

Key point: Referrals to ophthalmologists were decreased, but relative risk of ED rechecks and fluorescein staining increased when patients who had incurred simple corneal abrasion were sent home with a 24-hour supply of topical tetracaine.

Citation: Waldman N, Winrow B, Densie I, et al. An observational study to determine whether routinely sending patients home with a 24-hour supply of topical tetracaine from the emergency department for simple corneal abrasion pain is potentially safe. *Ann Emerg Med*. 2018;71(6):767-778.

Researchers conducted a retrospective cohort study to assess the efficacy and safety of sending patients with simple corneal abrasions (SCAs) home from the emergency room with a 24-hour supply of topical tetracaine hydrochloride 1% eye drops for pain. Outcomes—serious complications or uncommon adverse event attributed to tetracaine; ED rechecks; and the need for fluorescein staining—were compared between patients who did and did not receive tetracaine. Out of 1,576 initial ED presentations, 532 were SCAs, with 1,044 deemed nonsimple corneal abrasions (NSCAs). Tetracaine was dispensed for 303 SCA presentations (57%) and (inappropriately) for 141 NSCA presentations (14%). No serious complications or uncommon adverse events were attributed to tetracaine in any patients. Relative risks (RR) of ED recheck and fluorescein staining were higher among patients who received tetracaine (RR 1.67, 95% CI 1.25 to 2.23; and RR 1.65, 95% CI 1.07 to 2.53 for recheck and staining, respectively). However, the RRs for only SCAs receiving tetracaine were 1.16 (95% CI 0.69 to 1.93) and 0.77 (95% CI 0.37 to 1.62), respectively. Referrals to ophthalmology were significantly decreased for all patients (SCAs and NSCAs) who were dispensed tetracaine (relative risk 0.33; 95% CI 0.19 to 0.59). The authors reported no evidence that up to 24-hour topical tetracaine for the treatment of pain caused by SCA was unsafe; however, CIs were wide and some increased risks were observed for NSCAs. ■

Comparing New and Standard Methods to Stem Epistaxis in Patients Taking Antiplatelets

Key point: Tranexamic acid has emerged as the preferred treatment for epistaxis. Researchers tested whether topical application, as opposed to injection, offers advantages compared with other methods in patients who are taking antiplatelets.

Citation: Zahed R, Mousavi Jazayeri MH, Nederi A, et al. Topical tranexamic acid compared with anterior nasal packing for treatment of epistaxis in patients taking antiplatelet drugs: randomized controlled trial. *Acad Emerg Med*. 2018;25(3):261-266.

The authors evaluated the efficacy of topical application of the injectable form of tranexamic acid (TXA) vs anterior nasal packing (ANP) for the treatment of epistaxis in patients taking aspirin, clopidogrel, or both in two emergency rooms. Of the 124 patients studied, 62 were assigned to receive either topical TXA (500 mg in 5 mL) or ANP. The primary outcome was the proportion of patients in each group whose bleeding had stopped at 10 minutes. Secondary outcomes were the rebleeding rate at 24 hours and 1 week, ED length of stay (LOS), and patient satisfaction. Bleeding was stopped within the 10-minute window in 73% of patients in the TXA group, compared with 29% in the ANP group. Rebleeding was reported in 5% and 10% of patients during the first 24 hours in the TXA and the ANP groups, respectively. At 1 week, 5% of patients in the TXA group and 21% of patients in the ANP group reported recurrent bleeding. Patient satisfaction was higher in the TXA group than in the ANP group (median [interquartile range {IQR}], 9 [8-9.25]) vs median [IQR] = 4 [3-5]; $p < 0.001$). Discharges from the ED in <2 hours were higher in the TXA group than in the ANP group (97% vs 13%). There were no adverse events in either group. ■

Adding Prednisone to a Course of Levocetirizine for Relief in Acute Urticaria: Not Superior

***Key point:** The quest for maximum relief in the shortest span of time possible is what drives patients with symptoms of acute urticaria to the urgent care center to begin with. Validated treatments that provide that relief while minimizing risk for side effects or additional cost serve the needs of all stakeholders, starting with the patient.*

Citation: Barniol C, Dehours E, Mallet J, et al. Levocetirizine and prednisone are not superior to levocetirizine alone for the treatment of acute urticaria: a randomized double-blind clinical trial. *Ann Emerg Med*. 2018;71(1):125-131.

This double-blind randomized trial evaluated the efficacy of a 4-day course of prednisone added to an antihistamine (levocetirizine) for the management of acute urticaria in an emergency room setting. Patients were at least 18-years-old with acute urticaria of no more than 24 hours' duration; patients with anaphylaxis or who had received antihistamines or glucocorticoids in the previous 5 days were excluded. In addition to taking 5 mg of levocetirizine orally for 5 days, patients were assigned to receive prednisone (40 mg orally for 4 days) or placebo. The primary endpoint of the study was itching relief 2 days after the ED visit, rated on a numeric scale of 0 to 10. Secondary endpoints were rash resolution, relapses, and adverse events. There were 50 patients included in each group. Seven patients in the prednisone group and eight in the placebo group discontinued treatment. At 2-day follow-up, 62% of patients in the prednisone group reported an "itch score" of 0, vs 76% of those in the placebo group. Thirty percent of patients in the prednisone group and 24% in the placebo group reported relapses. Mild adverse events were reported by 12% of patients in the prednisone group and 14% in the placebo group. The authors concluded that the addition of prednisone did not improve symptomatic and clinical response to levocetirizine. As such, the study does not support the addition of corticosteroid to H_1 antihistamine as first-line treatment of acute urticaria without angioedema. ■