



ABSTRACTS IN URGENT CARE

- New Rapid Flu Tests
- PCI in Patients with Angina, Stenosis
- New Herpes Vaccine Recommendation
- Trimethoprim-Sulfamethoxazole in Skin Abscesses
- Low-Dose Corticosteroid for Sore Throat
- Preventing Disease in Organized Sports
- Contraindicated Drops Common in Conjunctivitis

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Each month the College of Urgent Care Medicine (CUCM) provides a handful of abstracts from or related to urgent care practices or practitioners. Glenn Harnett, MD leads this effort.

Innovative Rapid Tests Show Promise in Influenza

Key point: Novel DIAs and rapid NAATs had markedly higher sensitivities for influenza A and B in both children and adults than did traditional RIDTs, with equally high specificities.

Citation: Merckx J, Wali R, Schiller I et al. Diagnostic accuracy of novel and traditional rapid tests for influenza infection compared with reverse transcriptase polymerase chain reaction: a systematic review and meta-analysis. *Ann Intern Med.* 2017;167(6):394-409.

This meta-analysis of 162 studies summarized and compared accuracy of traditional rapid influenza diagnostic tests (RIDTs), digital immunoassays (DIAs), and rapid nucleic acid amplification tests (NAATs) in children and adults with suspected influenza. Pooled sensitivities for detecting influenza A from Bayesian bivariate random-effects models were 54.4% for RIDTs, 80.0% for DIAs, and 91.6% for NAATs. Those for detecting influenza B were 53.2% for RIDTs, 76.8% for DIAs, and 95.4% for NAATs. Pooled specificities were uniformly high (>98%) for all three types of testing. Of note, few NAAT studies reported adult-specific data, and none evaluated point-of-care testing. The data in this analysis are important, as sometimes appropriate antiviral therapy is withheld due to uncertainty in the diagnosis of influenza. This same uncertainty in diagnosis leads to higher usage of antibiotics. An

editorial accompanying the article pointed out that the superiority of the newer rapid tests seems clear, and that their use in replacement of traditional tests is warranted. The authors went on to note that the rapid NAATs are more expensive than the other tests, and cost would need to be brought down to encourage wider use. They closed stating that the use of rapid NAATs may allow us to rationally increase the use of antivirals and decrease the unnecessary use of antibiotics. ■

No Improved Exercise Time with PCI vs Sham Procedure

Key point: Percutaneous coronary intervention (PCI) didn't improve exercise time relative to a sham procedure in patients with stable angina and coronary stenosis.

Citation: Al-Lamee R, Thompson D, Dehbi H-M, et al. Percutaneous coronary intervention in stable angina (ORBITA): a double-blind, randomized controlled trial. *Lancet.* 2017;6736(17)32714-32719.

This double-blind, randomized controlled trial studied 230 patients with stable angina who had at least one significant lesion (70% blockage or more) in a single vessel. The results published in *Lancet* were presented at the 2017 Transcatheter Cardiovascular Therapeutics conference. All patients received 6 weeks of optimized antianginal medication prior to intervention. They also underwent treadmill exercise testing until they developed limiting symptoms, heart rhythm or blood pressure abnormalities, or significant ST-segment deviations. Patients were then randomized to undergo PCI with drug-eluting stents, or to receive a sham procedure in which they were sedated for at least 15 minutes and had their coronary catheter withdrawn



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“Analysis suggests a single low-dose corticosteroid can relieve sore throat, with no increase in serious adverse effects.”

without intervention.

Six weeks after PCI or sham, patients repeated the treadmill test. Patients had similar improvements in exercise time (28.4 more seconds with PCI vs 11.8 more seconds with placebo, $P=0.200$). The bulk of other endpoints yielded no differences between groups, either. The results show that even with severe coronary stenosis, exercise capacity and symptoms are not improved significantly compared with a placebo intervention vs PCI. PCI's sole significant advantage was the greater improvement of a patient's dobutamine stress echocardiography (DSE) peak stress wall motion score index (-0.08 vs $+0.02$, $P=0.0011$). This small study questions some key assumptions about the benefit of PCI in patients with stable angina. The researchers did emphasize that this study has no bearing on the treatment of acute coronary syndrome, for which PCI has been proven effective. However, an accompanying editorial urged that, based on these data, medical societies revise all cardiology guidelines to downgrade the recommendation for PCI in patients with angina despite use of medical therapy. The study also provokes questions about the need to evaluate interventions and devices with sham controls. ■

ACIP Weighs in on Herpes Zoster Vaccines

Key point: CDC immunization practice committee recommends new herpes zoster vaccine in a close vote.

Citation: Meeting of the Advisory Committee on Immunization Practices (ACIP), Centers for Disease Control and Prevention, October 25-26, 2017, Atlanta, GA.

The CDC's Advisory Committee on Immunization Practices (ACIP) voted in November to recommend use of a newly approved herpes zoster vaccine, called Shingrix (GlaxoSmithKline). This vaccine, an inactivated, recombinant subunit, is given in two doses. The committee recommended its use for adults aged 50 years and older, after a 12-1 vote in its favor. In comparison, Zostavax, the other shingles vaccine currently available, is only recommended for patients 60 and older. A second vote on whether or not they should recommend Shingrix over Zostavax narrowly passed 8-7. The recommendations came after the committee reviewed data that showed Shingrix was more efficacious than Zostavax, particularly for older adults. Shingrix had 97% efficacy in those aged 50-69 and 91% efficacy in older adults and, importantly, efficacy was at least 85%

at 4 years postvaccination in those patients aged 70 and older. Dissenters expressed concerns about supply, unknown long-term safety issues, and lack of head-to-head comparisons. The committee also voted to recommend Shingrix for patients who had previously received Zostavax, with at least 8 weeks between vaccines. The number of patients in their 60s who would need to be vaccinated in order to prevent one zoster case was only 11. ■

Improved Outcomes in Skin Abscesses with Trimethoprim-Sulfamethoxazole

Key point: Treatment of skin abscesses with trimethoprim-sulfamethoxazole was associated with improved outcomes regardless of lesion size or guideline antibiotic criteria.

Citation: Talan DA, Moran GJ, Krishnadasan A, et al. Subgroup analysis of antibiotic treatment for skin abscesses. *Ann Emerg Med.* October 5, 2017. [Epub ahead of publication].

This article provided a subgroup analysis of a double-blind randomized trial performed at 5 U.S. emergency departments that recently demonstrated efficacy of methicillin-resistant *Staphylococcus aureus* (MRSA)-active antibiotics for drained skin abscesses. Among the 1,057 mostly adult participants, median abscess cavity and erythema diameters were 2.5 cm and 6.5 cm, respectively; 44.3% grew MRSA. Overall, for the trimethoprim-sulfamethoxazole and placebo groups, clinical cure rates at 7 to 14 days were 92.9% and 85.7%, respectively. The data were analyzed by subgroup across a variety of characteristics, including abscess cavity dimension <5 cm, erythema dimension <5 cm, past MRSA infection, fever, diabetes, or a major comorbidity. Trimethoprim-sulfamethoxazole was associated with improved outcomes across lesion sizes and among subgroups, including those who did and did not meet guideline antibiotic criteria. The treatment effect was greatest in patients with a history of MRSA infection, fever, or a positive MRSA culture. ■

New Trials on Corticosteroids in Sore Throat

Key point: A single dose of a corticosteroids improved pain relief in patients with acute sore throat.

Citation: Sadeghirad B, Siemieniuk RAC, Brignardello-Peterson R, et al. Corticosteroids for treatment of sore throat: systematic review and meta-analysis of randomised trials. *BMJ.* 2017;358:j3887.

This meta-analysis examined 10 trials that compared corticosteroids with standard care or placebo in about 1,400 patients (age 5 years and older) presenting with clinical signs of acute tonsillitis, pharyngitis, or the clinical syndrome of sore throat to either the emergency department or a primary care office. Single-dose oral dexamethasone (10 mg for adults, 0.6 mg/kg for children) was the most common steroid intervention. The stan-

dard of care frequently involved antibiotics, analgesics, or both. Complete resolution of pain at 24 hours was more common with than without corticosteroids (22% vs 10% of patients, relative risk 2.2, 95% confidence interval). Results were similar at a 48-hour interval (61% vs 43%). The mean time to onset of pain relief in patients treated with corticosteroids was 4.8 hours earlier, and the mean time to complete resolution of pain was 11.1 hours earlier than in those treated with placebo. The absolute pain reduction at 24 hours was greater in patients treated with corticosteroids. Adverse events were uncommon and did not differ between groups. This analysis suggests that a single low-dose corticosteroid can provide pain relief in patients with sore throat, with no increase in serious adverse effects. ■

Inhibiting Infectious Disease in Organized Sports

Key point: *The American Academy of Pediatrics (AAP) offers new guidance on preventing spread of infectious diseases associated with organized sports.*

Citation: Davies HD, Jackson MA, Rice SG. Infectious diseases associated with organized sports and outbreak control. *Pediatrics*. 2017;140(4):e20172477;2017-2477.

In a recently published article in *Pediatrics*, the AAP has offered guidance on preventing and managing various infections associated with organized sports and details the types, treatments, and risk factors of infection, which are especially prevalent in close-contact sports such as football and wrestling. Infectious pathogens include those spread by skin contact, by contaminated food or water, by respiratory droplet, and by airborne particles and includes discussion of methicillin-resistant *Staphylococcus aureus* (MRSA), group A streptococcus, herpes simplex virus, tinea capitis, tinea pedis, scabies, and lice. About 10% to 15% of injuries that force college-level athletes to take time off from playing a sport are due to infectious disease, according to the AAP. Although biologically plausible, there have been no validated reports of infections from transmission of bloodborne pathogens, including hepatitis B, hepatitis C, or HIV during athletic competitions.

The clinical report says that pediatricians can help identify skin conditions and other infections during the preparticipation physical required for some athletes. They can also use the physical to educate student athletes about the importance of proper hygiene and of not sharing items like water bottles or razors. Besides showering and washing hands, athletes should also be discouraged from sharing their water bottles, towels, mouth guards, and other personal items.

They recommend routinely screening athletes for skin infections before and after competitions and during practices, and also state that coaches and trainers should develop a plan for proper cleaning and maintenance of all sporting facilities and equipment. They also point out that student athletes should

"Patients were more likely to fill antibiotic prescriptions if they were first diagnosed by an optometrist, urgent care physician, internist, pediatrician, or family practitioner, vs ophthalmologist."

be up to date on their vaccinations. The article includes guidelines on return-to-practice and competition for infected athletes, which gives providers suggestions specific to each type of infection. ■

Contraindicated Drops Used Often in Acute Conjunctivitis

Key point: *One out of every five patients who was diagnosed with acute conjunctivitis in this retrospective study filled prescriptions for antibiotic-corticosteroid combination drops, which are contraindicated for this condition.*

Citation: Shekhawat NS, Shtein RM, Blachley TS, Stein JD. Antibiotic prescription fills for acute conjunctivitis among enrollees in a large United States managed care network. *Ophthalmology*. 2017;124(8):1099-1107.

Antibiotics are seldom necessary to treat acute conjunctivitis, but are very widely prescribed. This retrospective, observational cohort study examined a total of 340,372 enrollees in a large nationwide United States managed care network with newly diagnosed acute conjunctivitis, from 2001 through 2014. They identified patients diagnosed with acute conjunctivitis and calculated the proportion filling one or more topical antibiotic prescriptions. They also assessed sociodemographic, medical, and other factors associated with antibiotic prescription fills in acute conjunctivitis. Geographic variation in prescription fills also was studied. Of the 340,372 enrollees with acute conjunctivitis, 58% filled ≥ 1 topical antibiotic prescriptions. Of note, one out of every five antibiotic users filled prescriptions for antibiotic-corticosteroids, which are contraindicated for acute conjunctivitis. Also of note, patients had considerably higher odds of antibiotic prescription fills if they were first diagnosed by an optometrist, urgent care physician, internist, pediatrician, or family practitioner, compared with first diagnosis by an ophthalmologist. Antibiotic prescription fills did not differ for persons with risk factors vs without risk factors for development of serious infections, such as contact-lens wearers or patients with human immunodeficiency virus infection or AIDS. Filling antibiotic prescriptions was driven more by sociodemographic factors and type of provider diagnosing the enrollee than by medical indication. ■