



ABSTRACTS IN URGENT CARE

- Efficiency and Inefficiency in the ED
- Duration of Antibiotic Therapy
- Reducing Nicotine in Cigarettes
- Steroids in Acute Respiratory Tract Infection
- Detecting HIV During Routine Screening
- Are Saturated Fats Really So Bad?
- Boosting Immunization Rates
- Procalcitonin Testing and Antibiotic Use

■ GLENN HARNETT, MD

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.

Factors Influencing Provider Efficiency—or Inefficiency—in the ED

Key point: *Emergency department study on provider efficiency has relevance to urgent care.*

Citation: Bobb MR, Ahmed A, Van Heukelom P, et al. Which practices make for efficient emergency department providers? *Acad Emerg Med.* December 18, 2017. [Epub ahead of print]

This mixed-methods study published in *Academic Emergency Medicine* identified five practices/behaviors that increased provider efficiency in the emergency room and two practices that did not. What makes some ED providers more efficient than others is not always clear. The investigators' goal was to better identify particular practices associated with provider efficiency, a topic with scant published research. Methods included interviewing medical directors, providers, and nurses in order to generate a list of practices/behaviors presumed to be associated with provider efficiency. They then observed providers in four community EDs and calculated the time each provider spent on each practice/behavior. Then they determined the association between each practice and provider efficiency (as measured by relative value units/hour). They included carrying a higher patient load, using team member's names, having conversations with the team, visiting patient rooms, and "running the board" (systematically reviewing the status of current patients on an

electronic or handwritten tracker board). The two practices associated with significantly decreased provider efficiency included performing tasks (whether work-related or personal) not pertinent to current clinical load and failing to complete required documentation prior to patient discharge. Although both these efficient and inefficient practices may seem obvious to most, urgent care medical directors would be wise to share these data with their providers. ■

Keep an Eye on Duration of Antibiotic Prescriptions

Key point: *Even when appropriately prescribed, the duration of many antibiotic prescriptions for sinusitis exceeds IDSA guidelines.*
Citation: King LM, Sanchez GV, Bartoces M, et al. Antibiotic therapy duration in US adults with sinusitis. *JAMA Intern Med.* March 26, 2018. [Epub ahead of print]

JAMA Internal Medicine published a research letter detailing that even when antibiotics are appropriately prescribed for sinusitis, most courses exceeded the duration recommended by national guidelines. The Infectious Diseases Society of America (IDSA) currently recommends 5–7 days of treatment for sinusitis, when antibiotics are indicated, in patients who have a favorable response to initial therapy. This current research examined data from 3.7 million office visits in 2016 revealing that more than two-thirds of antibiotic courses and 91% of non-azithromycin antibiotic courses prescribed for the treatment of acute sinusitis in adults were ≥ 10 days. Prior research has shown that shorter durations (3–7 days) of antibiotic therapy for sinusitis have been associated with similar outcomes and fewer drug-related adverse events compared with longer durations. Also, >20% of



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“Use of corticosteroids for patients with acute respiratory tract infections likely represents high-cost, potentially harmful care.”

the total prescriptions were for 5 days of azithromycin, despite the fact that the IDSA explicitly recommends against the use of azithromycin for the treatment of sinusitis because of its known association with the development of drug resistance. Due to the high and persistent concentrations of azithromycin in tissue, a 5-day course of azithromycin approximates a 10-day course of erythromycin; this means that a 5-day course of

azithromycin does not actually involve a shorter duration of antibiotic exposure. These data present another opportunity for urgent care providers to reduce the unnecessary use of antibiotics even when therapy with antibiotics is indicated. ■

FDA Plan for Reducing Nicotine in Cigarettes

Key Point: Nicotine may not cause most cigarette-related disease, but it makes it harder to quit smoking.

Citation: Apelberg BJ, Feirman SP, Salazar E, et al. Potential public health effects of reducing nicotine levels in cigarettes in the United States. N Engl J Med. March 15, 2018. [Epub ahead of print]

Tobacco is addictive, primarily because of the presence of nicotine. Although nicotine itself is not the direct cause of most smoking-related diseases, addiction to nicotine in tobacco is recognized as the proximate cause of these diseases because it sustains smoking behavior. On July 28, 2017 the FDA announced a new comprehensive plan that places nicotine, and the issue of addiction, at the center of the agency’s tobacco



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regulation efforts. By enacting a policy to lower nicotine in cigarettes to a minimally or nonaddictive level, the FDA hopes to decrease the likelihood that future generations become addicted to cigarettes and allow more who are currently addicted smokers to quit. This paper, published in *The New England Journal of Medicine*, used a simulation model with inputs derived from empirical evidence and expert opinion to estimate the effect of such a policy on the prevalence of tobacco use. According to their models, smoking prevalence would decline from a median of 12.8% in the baseline scenario to a median of 10.8% in the policy scenario within a year after the implementation of the policy. They estimated that approximately 5 million additional smokers would quit smoking within a year after implementation of the hypothetical policy, a number that would increase to a total of 13 million additional former smokers within 5 years. In subsequent years, the difference in smoking prevalence would continue to grow because of sustained increases in cessation and decreases in initiation in the policy scenario. They estimate that by 2060, smoking prevalence would drop from 7.9% in the baseline scenario to 1.4% in the policy scenario, leading to a substantial reduction in tobacco-related mortality. ■

Steroids May Be Overused in Acute Respiratory Tract Infection

Key point: Steroids continue to be commonly used for acute respiratory tract infections (eg, otitis, URI, sinusitis, bronchitis, allergic rhinitis, influenza, and pneumonia) despite the lack of demonstrated clinical efficacy.

Citation: Dvorin EL, Lamb MC, Monlezun DJ, et al. High frequency of systemic corticosteroid use for acute respiratory tract illnesses in ambulatory settings. *JAMA Intern Med.* February 26, 2018. [Epub ahead of print]

Clinical practice guidelines, based on best available evidence, do not recommend systemic steroids in the treatment of acute respiratory tract infections (ARTIs). While some studies have shown earlier symptom resolution with steroids given for pharyngitis, clinical trials show no efficacy of systemic steroids for sinusitis and bronchitis. Despite this fact, patients presenting with ARTIs are still commonly treated with systemic corticosteroids. This research letter published in *JAMA Internal Medicine* examined nearly 40,000 adults with an outpatient diagnosis of ARTI across the U.S. The retrospective observational study revealed significant regional variation in prescribing steroids for ARTI diagnoses, ranging from a prevalence of 13.6% in the South to 8.3% in the Midwest. In Louisiana, 23% of adult primary care encounters for ARTI included steroid injections. They found significantly higher odds for steroid prescriptions among individuals with a medical history of COPD or asthma, visit diagnosis of bronchitis, and an encounter with a nurse practitioner

“HIV screening in urgent care centers could be of public health benefit, considering that 15% of people infected in the U.S. are unaware of their infection.”

or physician assistant. One commenter, Dr. Matthew J. Thompson from the University of Washington, told Reuters Health, “Inappropriate use of not only steroids, but also antibiotics, seems ‘the norm’ for acute bronchitis/acute respiratory tract infections. There can be few conditions in healthcare where the mismatch between what is done in clinical practice versus what the evidence shows is so stark.” The authors of this study concluded that future research is needed to further explore regional and national trends in use of corticosteroids for patients with ARTIs, as it likely represents high-cost, potentially harmful care. ■

New Tests Improve Chance for Earlier Detection of HIV

Key point: New “4th generation” HIV antigen-antibody tests lead to higher rates of HIV detection in an emergency department setting.

Citation: White DAE, Giordano TP, Pasalar S, et al. Acute HIV discovered during routine HIV screening with HIV antigen-antibody combination tests in 9 US emergency departments. *Ann Emerg Med.* January 5, 2018. [Epub ahead of print]

Newer “4th generation” HIV tests are able to detect not only HIV antibodies but also the HIV-1 p24 antigen, which is present in the blood before antibodies, making these tests able to detect infection earlier than ever before. The CDC recommends nontargeted screening (ie, screening everyone, not just those with risk factors) for HIV infection in the ED setting when the diagnosis rate is at least 0.1% of patients tested. This retrospective study published in the *Annals of Emergency Medicine* included data from nine EDs in six U.S. cities over a 3-year period. In total, 214,524 patients were screened for HIV and 839 (0.4%) received a new diagnosis, of which 122 (14.5%) were acute HIV infection and 717 (85.5%) were established HIV infection. Some of these new diagnoses likely would have been missed by older HIV tests. Compared with patients with established HIV infection, patients with acute HIV infection were younger and had higher RNA and CD4 counts. They were also more likely to have symptoms of viral syndrome (41.8% vs 6.5%) or fever (14.3% vs 3.4%) as their reason for visit. HIV screening in some urgent care centers could be of public health

benefit, especially considering the fact that 15% of people infected with HIV in the U.S. are unaware of their infection. ■

Reconsidering the Dangers of Saturated Fats

Key point: Saturated fat consumption has no association with all-cause mortality, coronary artery disease, stroke, or type 2 diabetes.

Citation: Malhotra A, Redberg RF, Meier P. Saturated fat does not clog the arteries: Coronary heart disease is a chronic inflammatory condition, the risk of which can be effectively reduced from healthy lifestyle interventions. *Br J Sports Med.* 2017;51(15):1111-1112.

Dietary guidelines recommend that saturated fats should be limited to <10% (5%–6% for those who would benefit from lowering of LDL cholesterol), and trans fats to <1% of energy or as low as possible, primarily to reduce risk of ischemic heart disease and stroke. The authors of this paper published in the *British Journal of Sports Medicine* review a recent landmark systematic review and meta-analysis of observational studies that showed little to no association between saturated fat consumption and all-cause mortality, coronary heart disease, CHD mortality, ischemic stroke, or type 2 diabetes in healthy adults. They also noted that in the secondary prevention of CHD there is no benefit from reduced fat, including saturated fat, on myocardial infarction, or cardiovascular or all-cause mortality. In contrast, industrial or commercial trans-fats were associated with increased CHD and mortality. Ruminant trans-fats were not associated with increased CHD or mortality; in fact, ruminant trans-oleic acid was inversely associated with type 2 diabetes incidence. The authors suggest that despite popular belief among doctors and the public, the conceptual model of dietary saturated fat clogging arteries is flawed. ■

Reminders of Any Kind Boost Immunization Rates

Key point: Texting and even good old fashioned “snail mail” patient reminders can improve vaccination rates.

Citation: Jacobson Vann JC, Jacobson RM, Coyne-Beasley T, et al. Patient reminder and recall interventions to improve immunization rates. *Cochrane Database Syst Rev.* 2018 Jan 18;1:CD003941.

An updated Cochrane review revealed that patient reminders or recall interventions, including telephone and auto-dialer calls, letters, postcards, text messages, combination of mail or telephone (such as postcards and text messages) improve vaccination rates. As immunization schedules become increasingly complex and demands on primary care providers grow, it is more important than ever to understand and promote interventions that increase immunization coverage in acute care settings. This review included data from 75 studies on

reminders sent to primary care patients. The evidence showed that postcards, text messages, and automated phone calls each improved vaccination rates with high certainty as compared with no reminders. There was moderate-certainty evidence that nonautomated phone calls and letters to patients increased immunizations. The evidence was strongest for childhood and adolescent vaccinations, but benefits were also shown for adult vaccination rates. Patient reminders were not shown to be as effective in increasing rates of child and adult influenza infections. Overall, reminders increased vaccination rates by about 8 percentage points. ■

Procalcitonin Testing May Help Optimize Antibiotic Use

Key point: JAMA provides evidence synopsis on procalcitonin testing to guide antibiotic therapy for respiratory infections.

Citation: Schuetz P, Wirz Y, Mueller B. Procalcitonin testing to guide antibiotic therapy in acute upper and lower respiratory tract infections. *JAMA.* 2018;319(9):925-926.

In February 2017, the U.S. Food and Drug Administration approved procalcitonin to guide clinical decisions regarding antibiotic use for patients with respiratory tract infections who are hospitalized or treated in the emergency department. In acute upper and lower respiratory tract infections, a low procalcitonin level is associated with a lower likelihood of bacterial infection and may help identify patients who do not need antibiotics. In patients prescribed antibiotics, a decline in procalcitonin levels over time may help guide decisions about stopping antibiotic therapy, thereby reducing antibiotic exposure. This *JAMA* Clinical Evidence Synopsis summarizes a Cochrane review of 27 RCTs that assessed clinical outcomes associated with procalcitonin testing for patients with acute upper and lower respiratory tract infections. Procalcitonin testing was associated with a shorter duration of antibiotic exposure (from a median of 7 days to 5 days), shorter mean duration of infection (2.4 days), and a 25% reduction in antibiotic-related adverse effects (16.3% with procalcitonin testing vs 22.1% with controls). Procalcitonin testing was associated with lower 30-day mortality (patients with procalcitonin testing [8.6%] vs controls [10%]). Procalcitonin testing for antibiotic guidance was associated with lower rates of antibiotic use, fewer antibiotic-related adverse effects, and improved overall survival. This favorable association was similar for distinct types of respiratory infections (ie, community-acquired pneumonia, exacerbation of chronic obstructive pulmonary disease, bronchitis, upper respiratory infections) and across subgroups by clinical setting (emergency department, medical ward, intensive care). Currently, the procalcitonin test is only approved by the FDA for use in the hospital or ED, and further research is needed in primary care using rapid point-of-care procalcitonin tests. ■