On Uninsured Patients, Remote Orthopedic Consultation, MRSA and Healthcare Workers, UTI in Non-pregnant Women, and Active Bed Management

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Each month, Dr. Nahum Kovalski reviews a handful of abstracts from, or relevant to, urgent care practices and practitioners. For the full reports, go to the source cited under each title.

Assumptions About Uninsured Patients in U.S. EDs: More Fiction Than Fact

Key point: Commonly held beliefs were either debunked or found to be equally true for insured patients.

Citation: Newton MF, Keirns CC, Cunningham R, et al. Uninsured adults presenting to U.S. emergency departments: Assumptions vs. data. *JAMA*. 2008;300:1914-1924.

Recent physician testimony before Congress asserts that uninsured and underinsured patients unnecessarily drain emergency department medical resources. To evaluate the evidence for this and other common assumptions about uninsured ED patients, researchers conducted a MEDLINE search for citations published from 1950 to 2008 that focused on uninsured adult patients (age range, 18 to <65) who were treated in U.S. EDs.

The following three assumptions were *not supported*:

- 1a - uninsured patients present with non-urgent problems
- 1b - cause ED crowding
- 1c - present more often than insured patients

The following three were equally true for uninsured and insured patients:

- 2a - patients lack access to primary care
- 2b - are presenting to EDs with increasing frequency
- 2c - are more expensive to treat in the ED than elsewhere

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The following three, less widely held assumptions were supported by the literature:

- 3a - uninsured patients present with higher illness acuity
- 3b - delay getting care
- 3c - receive less care

Both insured and uninsured patients reported that they prefer to use the ED for care because they perceive that the ED has more highly skilled practitioners.

Unquestionably, EDs face enormous challenges, including overcrowding; an aging population; new responsibilities for surveillance and disaster preparedness; and more-complex diagnostic and management strategies for syndromes such as acute myocardial infarction, stroke, sepsis, trauma, and resuscitation. According to this study, conventional "wisdom" about the burden of uninsured patients on some aspects of ED care lacks credibility. Healthcare-delivery policies that are predicated on inaccurate assumptions can further compromise the ability to provide emergency care and unfairly blame an already vulnerable population, with the potential to widen health disparities.

[Published in *J Watch Emerg Med,* December 12, 2008—John A. Marx, MD, FAAEM, FACEP.]

Effect of Remote Orthopedic Consultation on Hospital Referrals in a Community-Based Urgent Care Facility

Key point: The referral rate for fractures decreased from 24% to 14% after introduction of the technology.

Citation: Kovalski N, Zimmerman D, Fields S, et al. *Israeli J Emerg Med*. 2008;8(3):29-33.

The purpose of this study was to describe the contribution of a remote messaging and x-ray viewing tool integrated into the emergency medical records of a chain of privately run urgent care clinics in order to facilitate orthopedic consultation and decrease orthopedic referrals to hospital emergency departments.

Non-orthopedic physicians were trained in simple splinting and casting techniques and given access to a remote telecommunications tool. Hospital referral rates for orthopedic traumatic injury were compared between three-month periods before and after implementation of the technology and, after its implementation, between times with and without physician access to remote orthopedic consultation.

The referral rate for fractures decreased from 24% to 14% after introduction of the technology ($p<.0001$). During the 14 months of the tool's implementation, the mean referral rate was 4.3% when it was available and 6.3% when it was not ($p<.0001$). Survey of the physicians involved yielded 100% satisfaction with the ability to obtain virtual orthopedic consultations. ■

Healthcare Workers and MRSA

Key point: In a single-site study, nasal samples from 15% of ED workers tested positive for MRSA.

Citation: Bisaga A, Paquette K, Sabatini L, et al. A prevalence study of methicillin-resistant *Staphylococcus aureus* colonization in emergency department health care workers. *Ann Emerg Med*. 2008;52:525-528.

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a common cause of morbidity and mortality in institutionalized patients, and community-acquired MRSA is now the most common cause of purulent skin and soft-tissue infections in adults. Healthcare workers colonized with MRSA can transmit it to patients and colleagues, as well as develop clinical infections.

In a prospective cohort study, researchers assessed MRSA nasal-colonization rates in a convenience sample of 105 emergency department attending physicians, nurses, and technicians at a single institution in Illinois. Nasal samples from 16 workers (15%) were MRSA-positive.

The prevalence of MRSA colonization among ED healthcare workers in this single-site study is alarming and highlights the importance of following infection control practices.

[Published in *J Watch Emerg Med*, December 24, 2008—Richard D. Zane, MD, FAAEM.] ■

New Guidelines for Management of Urinary Tract Infection in Non-pregnant Women

Key point: A new ACOG practice bulletin offers recommendations and weights evidence regarding a problem that affects approximately 11% of U.S. women annually.

Citation: ACOG Practice Bulletin No. 91: Treatment of Urinary Tract Infections in Non-pregnant Women. *Obstet Gynecol*.

2008;111(3):785-794.

The American College of Obstetricians and Gynecologists (ACOG) has issued a practice bulletin to address the diagnosis, treatment, and prevention of uncomplicated acute bacterial cystitis and acute bacterial pyelonephritis in non-pregnant women. An estimated 11% of U.S. women report at least one physician-diagnosed urinary tract infection (UTI) per year, and the lifetime probability that a woman will have a UTI is 60%.

Acute bacterial cystitis usually presents with dysuria, urinary frequency and urgency, sometimes with suprapubic pain or pressure, and rarely with hematuria or fever. The symptoms of acute urethritis from *Neisseria gonorrhoeae* or *Chlamydia trachomatis* infection, or genital herpes simplex virus type 1 and herpes simplex virus type 2, may be similar, and these conditions should be ruled out.

These guidelines do not address management of complicated UTIs (e.g., those occurring in patients with diabetes mellitus, abnormal anatomy, previous urologic surgery, a history of kidney stones, an indwelling urinary catheter, spinal cord injury, immunocompromise, or pregnancy). Upper UTI or acute pyelonephritis often presents with fever, chills, flank pain, and varying degrees of dysuria, urgency, and frequency.

Specific practice recommendations and their accompanying level of scientific evidence are as follows:

- In non-pregnant, premenopausal women, screening for and treatment of asymptomatic bacteriuria is not recommended (level of evidence, A).
- Antibiotic class should be changed when resistance rates are higher than 15%–20% (level of evidence, A).
- Patients with acute pyelonephritis should complete 14 days of total antimicrobial therapy, regardless of whether treatment is on an inpatient or outpatient basis (level of evidence, A).
- For uncomplicated acute bacterial cystitis in women, including women ≥65 years of age, antibiotics should be administered for three days (level of evidence, A).
- Urine culture is not required for the initial treatment of a symptomatic lower UTI with pyuria or bacteriuria, or both (level of evidence, B).
- For the treatment of acute uncomplicated cystitis, beta-lactams, including first-generation cephalosporins and amoxicillin, are less effective than the preferred antimicrobials listed as treatment regimens (level of evidence, C).
- For the diagnosis of bacteriuria in symptomatic patients, decreasing the colony count to 1,000 to 10,000 bacteria per mL will improve sensitivity without significantly reducing specificity (level of evidence, C).
- A proposed performance measure is the percentage of women diagnosed with acute pyelonephritis who receive antimicrobial treatment for 14 days.

For uncomplicated acute bacterial cystitis, recommended treatment regimens are as follows:

- Trimethoprim–sulfamethoxazole: One tablet (160 mg trimethoprim–800 mg sulfamethoxazole) twice daily for three days. Adverse effects may include fever, rash, photosensitivity, neutropenia, thrombocytopenia, anorexia, nausea and vomiting, pruritus, headache, urticaria, Stevens-Johnson syndrome, and toxic epidermal necrosis.
- Trimethoprim 100 mg twice daily for three days. Adverse effects may include rash, pruritus, photosensitivity, exfoliative dermatitis, Stevens-Johnson syndrome, toxic epidermal necrosis, and aseptic meningitis.
- Ciprofloxacin 250 mg twice daily for three days, levofloxacin 250 mg once daily for three days, norfloxacin 400 mg twice daily for three days, or gatifloxacin 200 mg, once daily for three days. Adverse effects may include rash, confusion, seizures, restlessness, headache, severe hypersensitivity, hypoglycemia, hyperglycemia, and Achilles tendon rupture (in patients >60 years old).
- Nitrofurantoin macrocrystals 50 mg to 100 mg four times daily for seven days, or nitrofurantoin monohydrate 100 mg twice daily for seven days. Adverse effects may include anorexia, nausea, vomiting, hypersensitivity, peripheral neuropathy, hepatitis, hemolytic anemia, and pulmonary reactions.
- Fosfomycin tromethamine, 3 g dose (powder) single dose. Adverse effects may include diarrhea, nausea, vomiting, rash, and hypersensitivity. ■

Active Bed Management by Hospitalists and Emergency Department Throughput

Key point: It was possible to decrease the average time that admitted patients spent in the emergency department by over 90 minutes.

Citation: Howell E, Bessman E, Kravet S, et al. Active Bed Management by Hospitalists and Emergency Department Throughput. *Ann Int Med*. 2008;149(11):804-810.

Active bed management by hospitalists can improve emergency department throughput and decrease ambulance diversion, according to a single-institution study.

The study found that a four-month hospitalist intervention decreased the average time that admitted patients spent in the emergency department by over 90 minutes. The percentage of hours that ambulances had to be diverted because of crowding or a lack of ICU beds also fell substantially.

The program involved a hospitalist assessing the real-time availability of inpatient beds, regularly visiting the emergency department, and helping to triage admitted patients, among other things. ■