



On New Syncope Guidelines, Low Back Pain, MSCT and Pulmonary Embolism, Infants with Bronchiolitis, Macroscopic Hematuria, and More

■ NAHUM KOVALSKI, BSc, MDCM

Each month, Dr. Nahum Kovalski will review 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.

Clinical Policy: Critical Issues in the Evaluation and Management of Adult Patients Presenting to the Emergency Department with Syncope

Key point: *Syncope is a common presentation to the emergency department. These recommendations help stratify low- versus high-risk patients.*

Citation: Huff JS, Decker WW, Quinn JV, et al. *Ann Emerg Med.* 2007;49:431-444.

American College of Emergency Physicians Issues Guidelines for Treatment of Syncope

Citation: Barclay L. *Medscape News.* April 30, 2007.

URL: <http://www.medscape.com/viewarticle/555843?src=mp>

Syncope accounts for 1% to 1.5% of visits to the ED annually, and up to 6% of hospital admissions. Causes include any process that transiently reduces cerebral perfusion. Difficulties encountered in the ED evaluation of patients with syncope may include missing, inaccurate, or conflicting historical information from observers; lack of memory of the event when patients arrive in the ED; and the often asymptomatic state pa-

tients are in by the time they reach the hospital.

The authors note that applying the level B recommendations of the 2001 American College of Emergency Physicians (ACEP) clinical policy on syncope would identify all patients with cardiac causes of syncope and reduce the admission rate from 57.5% to 28.5%. Those relatively few patients with life-threatening processes (such as dysrhythmias, pulmonary embolism, aortic dissection, subarachnoid hemorrhage, and acute coronary syndromes), and other patients who may benefit from urgent intervention (such as patients with bradycardia or medication-induced orthostatic hypotension), must still be identified.

When the ED evaluation of a patient presenting with syncope does not identify a clear etiology, the emergency clinician must determine which of these patients need additional diagnostic evaluation and monitoring—and in what setting that should take place. Similar to the process of chest pain evaluation, the role of the clinician managing syncope has shifted from an effort to determine a specific diagnosis to that of risk stratification.

Symptoms and complaints of the patient with syncope should be carefully considered after performing a complete history. Other associated symptoms (e.g., cardiac, neurologic, abdominal, or respiratory) may facilitate diagnosis of an underlying medical condition, such as an acute coronary event, aortic dissection, pulmonary embolism, seizure, ectopic pregnancy, or gastrointestinal hemorrhage.



Nahum Kovalski is an urgent care practitioner and assistant medical director/CIO at Terem Immediate Medical Care in Jerusalem, Israel.

The current update of the 2001 ACEP clinical policy on syncope does not attempt to outline the evaluation of patients presenting with syncope associated with specific diagnoses, but instead attempts to assist the clinician with three critical issues:

- What history and physical examination data help to risk-stratify patients with syncope?
- What diagnostic testing data help to risk-stratify patients with syncope?
- Who should be admitted to the hospital after an episode of syncope of unclear cause? ■

Strategies for Evaluation and Treatment of Acute Low Back Pain

Key point: A more thorough evaluation of back pain is required only in selected patients with 'red flag' findings.

Citation: Barclay L, Lie D. *Medscape News*. April 27, 2007.

URL: <http://www.medscape.com/viewarticle/555790?src=mp>

Evaluation and Treatment of Acute Low Back Pain

Citation: Kinkade S. *Am Fam Physician*. 2007;75:1181-1188.

URL: <http://www.aafp.org/afp/20070415/1181.html>

A review published in the April 15 issue of *American Family Physician* discusses evaluation and treatment of acute low back pain (LBP), including drug treatment and other physical therapies.

Acute low back pain with or without sciatica usually is self-limited and has no serious underlying pathology. For most patients, reassurance, pain medications, and advice to stay active are sufficient. A more thorough evaluation is required in selected patients with "red flags" associated with an increased risk of cauda equina syndrome, cancer, infection, or fracture.

Patients with these red flag findings also require closer follow-up, with urgent referral to a surgeon in some cases. For patients with nonspecific mechanical LBP, imaging can most often be delayed for at least four to six weeks, during which time the pain usually remits to some extent.

Physical examination findings may suggest specific nerve root impingements because of disk herniation at different levels. An L3-L4 disk herniation affecting the L4 nerve root is associated with sensory loss over the medial foot, weakness in knee extension (tested by squat and rise), and reduced patellar reflex.

An L4-L5 disk herniation impinging on the L5 root may be associated with sensory loss over the dorsal foot, and weakness of ankle and great toe dorsiflexion (tested by heel walking).

Signs of L5-S1 disk herniation affecting the S1 root are sensory loss over the lateral foot; weakness of plantar flexion of the ankle and toes (tested by walking on the toes), and reduced or absent Achilles reflex.

Treatments with good underlying evidence of efficacy include acetaminophen, nonsteroidal anti-inflammatory drugs (NSAIDs), skeletal muscle relaxants, heat therapy, physical therapy, and advice to stay active. Although spinal manipulative therapy may provide short-term benefits when compared with sham therapy, benefits are limited in comparison with standard treatments. Evidence for the benefit of acupuncture is conflicting, but no benefit has been proven in higher-quality trials. ■

Urine-Specific Gravity and Other Urinary Indices: Inaccurate Tests for Dehydration

Key point: Urinary indices are not useful diagnostic tests to identify the presence of dehydration.

Citation: Stiner MJ, Nager AL, Wang VJ. *Ped Emerg Care*. 2007;23(5):298-303.

URL: <http://www.pec-online.com/pt/re/pec/abstract.00006565-200705000-00005.htm;jsessionid=GZ3GyfX3NH9Lj2m-MopshRgvgx65RPPGfRLGp13CNLYGcB325y1J!959335381-949856145!8091!-1>

Urine output, specific gravity, and ketones (urinary indices) are commonly used as an objective means to assess for dehydration and gastroenteritis severity; however, their utility has not been established. The study was designed to evaluate the accuracy of urinary indices as diagnostic tests to identify acute dehydration.

The authors completed a prospective cohort study of 79 subjects ages 3 months to 36 months with gastroenteritis, clinically suspected moderate dehydration, and the need for intravenous rehydration in the emergency department of an urban pediatric hospital.

Urine-specific gravity ($r=-0.06$, $P=0.64$), urine ketones ($r=0.08$, $P=0.52$), and urine output during rehydration ($r=0.01$, $P=0.96$) did not correlate with the initial degree of dehydration present. Clinically useful cutoff values for urine-specific gravity and ketones to increase or decrease the likelihood of dehydration at the time of enrollment could not be identified. ■

Can Multislice CT Alone Reliably Rule Out Pulmonary Embolism? A Prospective Study

Key point: A negative MSCT enables omission of anticoagulation in patients with suspected PE.

Citation: Guilabert JP, Manzur DN, Tarrasa MJT, et al. *E J Rad*. 2007;62:220-226.

URL: [http://www.sciencedirect.com/science?_ob=ArticleURL&udi=B6T6F-4MVNo3J-1Q_user=10Q_coverDate=05%2F31%2F2007Q_rdoc=14Q_fmt=summaryQ_orig=browseQ_srch=d0c-info\(%23toc%235029%232007%23999379997%23649-654%23FLA%23display%23Volume\)Q_cdi=5029Q_sort=dQ_do](http://www.sciencedirect.com/science?_ob=ArticleURL&udi=B6T6F-4MVNo3J-1Q_user=10Q_coverDate=05%2F31%2F2007Q_rdoc=14Q_fmt=summaryQ_orig=browseQ_srch=d0c-info(%23toc%235029%232007%23999379997%23649-654%23FLA%23display%23Volume)Q_cdi=5029Q_sort=dQ_do)

canchor=&view=c&ct=27&acct=C000050221&version=1&urlVersion=0&userid=10&md5=25d1cc8527163e7b7fdebe0ae66dagb87

A total of 383 consecutive patients with suspected acute pulmonary embolism were studied prospectively. Patients underwent multislice computed tomography (MSCT) pulmonary angiography and lower-limb venography, as well as pulmonary scintigraphy and lower-limb ultrasound examination. Patients with negative MSCT results for both pulmonary embolism and venous thrombosis were not administered anticoagulants and were followed up for six months to rule out thromboembolism.

At MSCT, 156 patients were positive for pulmonary embolism, venous thrombosis, or both; 224 were negative; and findings were inconclusive in three. False-negatives included five patients with high probability scintigram and two with venous thrombosis detected at ultrasound. A total of 184 patients with negative MSCT and without anticoagulation were followed up for six months; during that time, just one recurrence of pulmonary embolism was detected.

The negative predictive value of MSCT pulmonary angiography plus lower-limb venography was 95.8% (183/191).

The authors concluded that MSCT is efficacious in diagnosing pulmonary embolism, with negative predictive values reported in the literature ranging from 94% to 100%. This enables omission of anticoagulation in patients with suspected pulmonary embolism after negative MSCT findings without the need for other diagnostic tests. ■

Should Infants with Bronchiolitis Have Chest X-Rays?

Key point: After viewing radiographs, physicians more than quintupled antibiotic use in bronchiolitic patients.

Published in *J Watch Infect Dis* May 2, 2007, <http://infectious-diseases.jwatch.org/cgi/content/full/2007/502/2?q=etoc>

Citation: Schuh S, Lalani A, Allen U, et al. Evaluation of the utility of radiography in acute bronchiolitis. *J Pediatr*. 2007;150:429-433.

URL: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&list_uids=17382126&dopt=Abstract

Acute bronchiolitis, characterized by tachypnea, cough, and wheezing, is generally viral. Recommendations for chest radiography vary. Some sources recommend it routinely; others, only in limited situations. Investigators at a Toronto pediatric hospital examined how routine chest radiography influences treatment decisions.

The researchers enrolled 265 infants ages 2 months to 23 months who came to the emergency department with typical presentations of acute bronchiolitis. All were treated with two or three nebulizations of albuterol before undergoing chest radiography. ED physicians were asked both before and

after viewing the radiographs whether hospital admission or antibiotic treatment was planned.

Radiographs were interpreted as simple bronchiolitis (prominent bronchial markings and peribronchial infiltrates, with or without hyperinflation or atelectasis), complex bronchiolitis (airway disease and adjacent airspace disease), or inconsistent with bronchiolitis (lobar consolidation, cardiomegaly, or other incompatible features).

Only two (0.8%) radiographs were read as inconsistent with bronchiolitis, and 17 (6.4%) were classified as complex. Thus, to detect one child with an incompatible chest x-ray or one child with a complex radiograph, 133 children and 16 children, respectively, would have to undergo radiography. ■

Management of Macroscopic Hematuria in the Emergency Department

Key point: In men >60 years, the positive predictive value of macroscopic hematuria for urological malignancy is 22.1%.

Citation: Hicks D, Li C-Y. *Emerg Med J*. 2007;24:385-390.

URL: <http://emj.bmj.com/cgi/content/abstract/24/6/385>

Macroscopic hematuria, which has a variety of causes, is a condition commonly seen in the emergency department. However, most importantly, macroscopic hematuria has a high diagnostic yield for urological malignancy; 30% of patients presenting with painless hematuria are found to have a malignancy.

In men aged >60 years, the positive predictive value of macroscopic hematuria for urological malignancy is 22.1%, and in women of the same age it is 8.3%. In terms of the need for follow-up, a single episode of hematuria is equally as important as recurrent episodes. Baseline investigation in the ED includes full blood count, urea and electrolyte levels, midstream urine dipstick, beta human chorionic gonadotrophin, and formal microscopy, culture and sensitivities.

Treatment of macroscopic hematuria aims at RESP—Resuscitation, Ensuring, Safe, and Prompt. Indications for admission include clot retention, cardiovascular instability, uncontrolled pain, sepsis, acute renal failure, coagulopathy, severe comorbidity, heavy hematuria, or social restrictions. Discharged patients should drink plenty of clear fluids and return for further medical attention if the following occur: clot retention, worsening hematuria despite adequate fluid intake, uncontrolled pain or fever, or inability to cope at home. Follow-up by a urological team should be promptly arranged, ideally within the two-week cancer referral target. ■

Chronic Cough? Consider Pertussis

Key point: At a Tennessee university, 27% of undergraduates with chronic cough had serologic evidence of pertussis.

Citation: Published in *J Watch Infect Dis* April 18, 2007, <http://infectious-diseases.jwatch.org/cgi/content/full/2007/>

***Credentialing,
Contracting,
Coding,
Billing/Collection
headaches seem to be getting
bigger each day?***



**Stop suffering and call
Urgent Care Billing and
Collections of America, LLC.**

Our Credentialing, Coding, Billing and Collection team members have been instrumental in bringing relief to our clients' Accounts Receivable pains. If you are a new start-up or have been open for years, we can assist you.

Contact us at 866-660-8089
and start feeling better!
www.ucbca.org



ABSTRACTS IN URGENT CARE

418/3?q=etoc

Citation: Craig AS, et al. Outbreak of pertussis on a college campus. *Am J Med.* 2007;120:364-368.

URL: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=retrieve&db=pubmed&list_uids=17398232&dopt=Abstract

Because of waning immunity, adolescents and young adults are at increased risk for pertussis. Presentation is often only a prolonged cough, in which case this diagnosis might not be considered. At Vanderbilt University, an increase in complaints of prolonged cough at the student health service during October and November prompted an epidemiologic investigation.

Thirty-seven students with prolonged cough were prospectively identified over a four-week period; all reported full childhood immunization. Serologic testing revealed evidence of pertussis in 10. These students differed from the 27 without serologic evidence of pertussis only in duration of cough at presentation (38 days vs. 24 days; $P=0.02$) and in total duration of cough (74 days vs. 47 days; $P=0.02$).

Eight of the 10 students with serologic evidence of infection were diagnosed based on a single high pertussis-antibody titer. None of the students had a positive nasopharyngeal swab culture or direct fluorescent antibody smear, and only one had a positive PCR result. An e-mail survey sent to a random sample of 500 Vanderbilt undergraduates revealed that 29% had had a cough for >2 weeks during the four-week study period.

This elegantly done study demonstrates the difficulties of recognizing and diagnosing pertussis. All cases were based on serologic evidence—most of them, on a single test. Some of the results could have been false-positive, leading to overestimation of the frequency of pertussis. However, students with positive serologies did have significantly prolonged duration of cough. As the authors note, a booster dose of acellular pertussis vaccine is now recommended for preadolescents, and for adults as part of their routine tetanus/pertussis immunization every 10 years. ■