



ABSTRACTS IN URGENT CARE

- Low-back Pain
- Head Injury and Concussion
- Acute Bronchitis in Infants
- Herpes Transmission Risk
- Pediatric Epididymitis
- Acute Coronary Syndrome
- ED Verbal Discharge Instructions

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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.

When Should Diagnostic Imaging Be Used for Patients With Low-back Pain?

Key point: *With low-back pain, the risks associated with X-rays and MRIs often outweigh the benefits.*

Citation: Daily POEM: imaging for low-back pain: rarely indicated, often harmful. Available at: www.essentialvidenceplus.com.

These guidelines are based on a systematic review and meta-analysis of research investigating the usefulness of various imaging studies in patients with low-back pain. Based on a meta-analysis of six studies, routine imaging with x-ray, MRI, or computed tomography in patients without underlying conditions does not have any effect on pain, function, quality of life, or patient-rated improvement, and, contrary to common wisdom, does not alleviate patients' anxieties about back pain.

These studies were done in patients with and without radiculopathy. Several studies have demonstrated that patients who had routine imaging will have more pain and worse overall health status. That is not to say that imaging won't pick up abnormalities; herniated or bulging discs and spinal stenosis are commonly found in asymptomatic patients, as well as in those with back pain, with up to 90% of asymptomatic individuals older than 60 years having a degenerated or bulging disc. Abnormal findings can lead to surgery that will not be effective since the exposed abnormality is simply coincident to the real cause of the pain.

The guidelines suggest plain films, along with erythrocyte

sedimentation rate determination, for patients with major risk factors for cancer, and MRI for patients at risk for spinal infection (low-back pain, fever, intravenous drug use), signs of cauda equina syndrome, or severe neurologic deficits, such as progressive weakness or motor deficits at multiple neurologic levels.

X-rays and magnetic resonance imaging (MRI) for patients with low-back pain are associated with increased cost, poorer health in recipients, and an increased risk for surgery. Routine imaging of back patients is not warranted and, moreover, the indications for imaging are few: major risk factors for cancer, signs of cauda equina syndrome, and severe neurologic deficits. Radiography recommendations after a trial of therapy include weak risk factors for cancer, signs of ankylosing spondylitis in young patients, or vertebral fracture risk factors in older people. MRI should be limited to patients with radiculopathy or symptoms of spinal stenosis who don't respond to therapy. Using diagnostic tests for a putative therapeutic effect does not decrease patients' anxiety. ■

Symptoms Persist After Minor Head Injury and Concussion

Key point: *Post-concussive symptoms persist for at least 1 month in most patients.*

Citation: Cunningham J, Brison RJ, Pickett W. Concussive symptoms in emergency department patients diagnosed with minor head injury. *J Emerg Med.* 2011;40(3):262-266.

The prevalence and management of concussion in patients with head injury have received much attention in the medical literature and lay press. Researchers prospectively assessed the prevalence and patterns of concussive symptoms at 1 month in a convenience sample of 94 patients who presented to two Canadian emergency departments after minor head injury (defined



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as any acute traumatic head injury in a patient with a transient loss of brain function and Glasgow Coma Scale score of 15 at presentation).

Overall, 68 patients (72%) reported concussive symptoms at presentation, and 59 (63%) reported persistent concussive symptoms at one-month follow-up. The most persistent symptoms were headache (42%), dizziness (29%), fatigue (28%), and cognitive impairment (28%).

Published in *J Watch Emerg Med*, April 29, 2011 — Richard D. Zane, MD, FAAEM. ■

Steroids and Bronchodilators for Acute Bronchitis in Infants

Key point: Evidence shows the effectiveness and superiority of adrenaline. Citation: Hartling L, Fernandes RM, Bialy L, et al. Steroids and bronchodilators for acute bronchiolitis in the first two years of life: systematic review and meta-analysis. *BMJ*. 2011;342:d1714.

The objective of this review was to evaluate, via systematic review and meta-analysis, and compare the efficacy and safety of bronchodilators and steroids, alone or combined, for the acute management of bronchiolitis in children aged less than 2 years. forty-eight trials (4897 patients, 13 comparisons) were included.

Only adrenaline (epinephrine) reduced admissions on day 1 (compared with placebo: pooled risk ratio 0.67). Unadjusted results from a single large trial showed that combined dexamethasone and adrenaline reduced admissions on day 7 (risk ratio 0.65). A mixed treatment comparison supported adrenaline alone or combined with steroids as the preferred treatments for outpatients.

The incidence of reported harms did not differ. None of the interventions examined showed clear efficacy for length of stay among inpatients.

Evidence shows the effectiveness and superiority of adrenaline for outcomes of most clinical relevance among outpatients with acute bronchiolitis, and evidence from a single precise trial for combined adrenaline and dexamethasone. ■

Transmission Risk High for Herpes Shedding

Key point: Among patients seropositive for herpes simplex virus type 2, genital shedding is likely universal, regardless of symptoms.

Citation: Tronstein E, Johnston C, Huang M L, et al. Herpes shedding patterns show wide risks for transmission. *JAMA*. 2011;305(14):1441-1449.

Researchers followed some 500 seropositive individuals for 2 months, during which the subjects collected daily swabs from the genital area. Rates of viral shedding were twice as high among symptomatic participants, but even asymptomatic subjects showed shedding on 10% of days. In addition, the number of virus copies shed was similar between symptomatic and asymptomatic participants.

The authors say their findings suggest that clinical management of seropositive—but asymptomatic—patients should include anticipatory guidance on recognizing genital symptoms as well as counseling on condom use, valacyclovir therapy, and the need to disclose serostatus to sexual partners. ■

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Bacteria Are an Uncommon Cause of Pediatric Epididymitis

Key point: Antibiotics rarely are indicated for pediatric epididymitis.

Citation: Santillanes G, Gausche-Hill M, Lewis RJ. Are antibiotics necessary for pediatric epididymitis? *Pediatr Emerg Care.* 2011;27(3):174-178.

Adult epididymitis is usually caused by enteric or sexually transmitted organisms, whereas pediatric epididymitis is thought to be caused by ascending urinary pathogens. To determine the frequency of bacterial causes of pediatric epididymitis, investigators reviewed charts of patients aged ≤18 years with epididymitis diagnosed at an urban pediatric emergency department in California from 1996 to 2006. The cause was considered to be bacterial if urine cultures were positive.

Of 140 patients who met inclusion criteria, 124 (89%) underwent urinalysis, urine culture, or both. Although only nine patients had positive results on one or both tests, 91% of all patients were treated empirically with antibiotics, most often cephalexin or co-trimoxazole. Urine cultures were positive in four of 97 patients (4.1%) who were tested. Age, maximum temperature, and urine white blood cell count did not differ significantly between patients with negative urine cultures and those with positive cultures. Of 54 adolescent boys (age: ≥12 years), only 12 (37%) were tested for sexually transmitted pathogens, with one positive result.

Published in *J Watch Emerg Med*, April 22, 2011—Katherine Bakes, MD. ■

BNP for Diagnosis and Management of Emergency Department Patients With Suspected Acute Coronary Syndrome?

Key point: A single B-type natriuretic peptide level obtained within four hours of presentation is not useful for identifying risk for acute myocardial infarction, revascularization, or death within 30 days.

Citation: Hubbard BL, Newton CR, Carter PM, et al. The inability of B-type natriuretic protein to predict short-term risk of death or myocardial infarction in non-heart-failure patients with marginally increased troponin levels. *Ann Emerg Med.* 2010;56(5):472-480.

Although B-type natriuretic peptide (BNP) has been demonstrated to be a useful diagnostic and prognostic marker for patients with congestive heart failure, it has not been shown to aid management or diagnosis in the emergency department, except in patients who present with dyspnea, for whom acute decompensated heart failure is a consideration.

In a prospective study, researchers assessed the association between BNP level and outcome in 348 adult patients who pre-

sented to a single ED with symptoms suggestive of acute coronary syndrome, non-diagnostic but detectable troponin levels (0.04 to 0.4 ng/mL), and non-diagnostic electrocardiograms.

BNP levels were obtained within four hours of presentation; clinicians were blinded to the results. Exclusion criteria were ECG results suggestive of acute myocardial injury, left bundle branch block, atrial fibrillation, or ventricular tachycardia or fibrillation; syncope or focal neurological symptoms; and history or current diagnosis of heart failure or pulmonary edema.

Using the standard threshold of ≥80 pg/mL, the authors found that BNP had a negative predictive value of 80% for the primary outcome of acute myocardial infarction (AMI) or death within 30 days. Sensitivity was 38%, specificity was 48%, and positive predictive value was 12%.

For the secondary outcome—the composite of AMI, death, percutaneous coronary intervention, or coronary artery bypass grafting within 30 days—negative predictive value was 69%, sensitivity was 43%, specificity was 48%, and positive predictive value was 24%.

On the basis of the results from this study and others, BNP measurement is not a useful test for guiding the diagnosis or management of ED patients with suspected acute coronary syndromes and should not be used for this purpose.

Published in *J Watch Emerg Med*, December 17, 2010—Richard D. Zane, MD, FAAEM. ■

Verbal Discharge Instructions Are Often Incomplete

Key point: Few ER patients received full discharge instructions, and patients' understanding of them was rarely assessed.

Citation: Vashi A, Rhodes KV. "Sign right here and you're good to go": a content analysis of audiotaped emergency department discharge instructions. *Ann Emerg Med.* 2011;57(4):315-322.e1.

Researchers analyzed audio-recorded verbal discharge instructions for 477 adult female patients at two EDs to assess inclusion of nine components of the instructions and to evaluate the quality of each component (minimal, adequate, or excellent).

Most patients were given an opportunity to ask questions (91%), although the quality of the interaction was usually minimal. Most patients also were given instructions about medications (80%), an explanation of their symptoms (76%), instructions about follow-up care (73%), and instructions about self-care (69%). Fewer patients received an explanation of their expected course of illness (51%), recommendations for a specific time for follow-up (39%), or instructions about symptoms that should prompt return to the ED (34%). Patients were rarely given an opportunity to confirm understanding of the instructions (22%), and, when they were, the quality of the interaction was usually minimal.

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