



ABSTRACTS IN URGENT CARE

- ‘Choosing Wisely’ initiative
- Diagnosing Strep Throat
- Backpacks and Back Pain
- TMP-SMX-Associated Renal Toxicity
- Complex Febrile Seizure and Risk of Intracranial Pathology
- Steroids for Pediatric Asthma
- Guidelines on Migraine Prevention

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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.

Doctor Panels Recommend Fewer Tests for Patients

Key point: The American Board of Internal Medicine, in partnership with nine medical specialty groups, is urging physicians to perform 45 common tests and procedures less frequently.

Citation: http://www.nytimes.com/2012/04/04/health/doctor-panels-urge-fewer-routine-tests.html?_r=1

An article in the *New York Times* notes that unnecessary treatment accounts for an estimated one third of medical spending in the United States.

The initiative, called Choosing Wisely, is aimed at both physicians and patients. Among the tests and treatments being cited:

- Routine EKGs during physicals
- MRIs for back pain
- Antibiotics for mild sinusitis
- Routine stress cardiac imaging in asymptomatic patients
- Imaging scans for simple headaches

<http://choosingwisely.org/> is a website that discusses evidence-based recommendations that should be discussed to help make wise decisions about the most appropriate care based on a patients’ individual situations. ■



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Can You Diagnose Strep Throat Without a Culture?

Key point: Compared with culture or rapid diagnostic tests, clinical criteria for diagnosing streptococcal pharyngitis are not sufficiently specific.

Citation: Shaikh N, Swaminathan N, Hooper EG. Accuracy and precision of the signs and symptoms of streptococcal pharyngitis in children: A systematic review. *J Pediatr.* 2012;160(3):487-493.

Most often, pharyngitis in children is caused by viruses and does not require antibiotic treatment. Confirmatory diagnosis of group A streptococcal (GAS) pharyngitis generally requires a throat culture or rapid diagnostic test (RDT), which takes additional time and increases cost. Can GAS be differentiated from other causes of pharyngitis solely on the basis of clinical criteria?

To find out, researchers searched MEDLINE (1950–2011) and Embase (1966–2011) for articles containing data on the accuracy of symptoms or signs for ruling in or ruling out GAS pharyngitis in children aged 3 to 18 years. Thirty-four articles (including 24,418 children) contained data on specific symptoms and signs, and 15 had data on prediction rules.

Historically, the prevalence of GAS pharyngitis has been 37% among children presenting with sore throat. The authors posited that, to be useful for ruling in disease, a test must increase the probability of GAS pharyngitis to >85% — nearly the performance of RDTs (92%) — which translates to a likelihood ratio (LR) >9.6.

Although the finding of scarlatiniform rash, palatal petechiae, pharyngeal exudate, vomiting, or tender cervical

nodes increased the probability of GAS pharyngitis to >50%, none met the authors' performance criteria, and no symptom or sign was sufficient to rule out GAS pharyngitis. Data on combinations of findings (such as exudate plus tender nodes) were limited, but no combination increased the LR sufficiently. None of the prediction rules had an LR adequate for ruling in the diagnosis.

Published in *J Watch Infect Dis*. April 4, 2012 — Robert S. Baltimore, MD. ■

Heavy Backpacks Are Associated with Back Pain in Teens

Key point: Risk for back pain was 50% higher among those with the heaviest versus lightest backpacks.

Citation: Rodriguez-Oviedo P, Ruano-Ravina A, Perez-Rios M, et al. School children's backpacks, back pain and back pathologies. *Arch Dis Child* 2012 Mar 10; [e-pub ahead of print]. (<http://dx.doi.org/10.1136/archdischild-2011-301253>)

Although experts recommend schoolchildren carry backpacks that weigh less than 10% of their body weight, many carry loads that are heavier. In a cross-sectional study of 1403 children (age range, 12–17 years) at 11 schools in Spain, researchers examined the relation between the weight of children's backpacks and the presence of back pain lasting longer than 15 days during the prior year and previously diagnosed back pathology (e.g., scoliosis or kyphosis). Students were grouped into quartiles by backpack weight.

Mean backpack weight was 7 kg. More than half the children (61%) carried backpacks that weighed more than 10% of their body weight, and 18% carried backpacks that exceeded 15% of their body weight. One quarter of the cohort reported >15 days of back pain in the previous year. In analysis adjusted for body-mass index and sports activity, students carrying the heaviest backpacks had a 50% higher risk for back pain than those who carried the lightest backpacks. Girls had higher risk for back pain than boys, and risk increased with age. Back pathology was not significantly associated with backpack weight.

Published in *J Watch Ped Adol Med*. April 4, 2012 — F. Bruder Stapleton, MD. ■

TMP-SMX–Associated Renal Toxicity

Key point: Acute kidney injury occurred in 11% of TMP-SMX recipients but nearly always resolved after drug discontinuation.

Citation: Fraser TN, Avellaneda AA, Graviss EA, Musher DM. Acute kidney injury associated with trimethoprim/sulfamethoxazole. *J Antimicrob Chemother*. 2012;67(5):1271-1277.

Trimethoprim-sulfamethoxazole (TMP-SMX) is widely used to treat urinary tract and soft-tissue infections. Despite anecdotal reports indicating the possibility of TMP-SMX–associated

renal toxicity, systematic investigation has been lacking.

To remedy this situation, researchers reviewed the records of consecutive male inpatients at a who, during a 3-year period, had received TMP-SMX for >6 days to treat urinary tract or soft-tissue infections. All had blood urea nitrogen (BUN) and serum creatinine levels measured both <7 days before starting and <3 days after completing therapy.

Among 573 patients, 64 (11%) had increases in both BUN and serum creatinine levels that met predetermined criteria for acute kidney injury. The kidney injury was classified as probably caused by TMP-SMX in 33 patients (6%), possibly caused by TMP-SMX in 28 (5%), and probably unrelated to the drug in 3.

No relation was found between the dose of TMP-SMX — or the duration of treatment — and the likelihood of acute kidney injury. On multivariate analysis, hypertension and diabetes were the only independent risk factors for such injury. Fifty-four of the 64 patients with kidney injury had follow-up testing <1 month after TMP-SMX discontinuation; in 52 (93%), renal function had returned to baseline. One patient required dialysis.

Published in *J Watch Infect Dis*. April 4, 2012 — Thomas Glück, MD. ■

First Complex Febrile Seizure Portends Low Risk for Intracranial Pathology

Key point: Fewer than 1% of children with first complex febrile seizure and a normal neurological examination have clinically important intracranial pathology.

Kimia AA, Ben-Joseph E, Prabhu S, et al. Yield of emergent neuroimaging among children presenting with a first complex febrile seizure. *Pediatr Emerg Care*. 2012;28(4): 316-321.

Investigators retrospectively assessed risk for clinically important intracranial pathology detected on neuroimaging in previously healthy children ages 6 to 60 months with first complex febrile seizures. The study involved a cohort of 526 patients (median age, 17 months) who presented to a tertiary pediatric emergency department (ED) between 1995 and 2008 within 12 hours of the seizure. Patients with trauma, ventriculoperitoneal shunts, or prior seizure disorders were excluded. Seizures were defined as complex if they lasted >15 minutes, presented as a series, recurred within 24 hours, or if clinical findings suggested focality. Imaging findings were considered clinically important if emergent neurosurgical or medical intervention were required.

Overall, 268 patients underwent head computed tomography (CT), 6 underwent magnetic resonance imaging (MRI), and 8 underwent both. Four patients (1.5%) had clinically important intracranial findings: two intracranial bleeds identified on CT, one right-sided low-density cerebellar lesion identified on CT, and one disseminated encephalomyelitis found only on MRI. Only one patient with clinically important findings (a 4-year-

old boy with frontoparietal hematoma that did not require surgery or intracranial pressure monitoring) was otherwise well-appearing and had a normal neurologic exam. Among patients who did not undergo neuroimaging, none returned to the study site within the next 7 days; however, other EDs were not queried. When the analysis included patients who were not imaged but were presumed to be well because they did not return to the ED within 7 days, the risk of clinically important intracranial findings was 0.8%.

Published in *J Watch Emerg Med.* April 13, 2012 — Katherine Bakes, MD. ■

Benefits of Initiating Steroids at Triage for Pediatric Asthma

Key point: *Initiation of oral steroids at triage decreased admissions and expedited clinical improvement in children with moderate to severe asthma exacerbations.*

Citation: Zemek R, Plint A, Osmond MH, et al. Triage nurse initiation of corticosteroids in pediatric asthma is associated with improved emergency department efficiency. *Pediatrics.* 2012;129(4):671-680.

To evaluate the effect of initiating steroids at triage for children presenting to a pediatric emergency department with moderate to severe asthma exacerbations, investigators compared outcomes before and after introduction of a medical directive allowing triage nurses to administer steroids. Prior to the directive, physicians initiated steroids. Triage nurses administered inhaled β -agonists during both periods. Clinicians used the Pediatric Respiratory Assessment Measure (PRAM) to determine asthma severity; the PRAM is a validated 12-point clinical scoring system that discriminates severity based on five attributes: suprasternal retractions, scalene contractions, wheezing, air entry, and oxygen saturation.

Researchers reviewed charts of 644 patients (age range, 2 to 17 years; mean age, 6) who received oral steroids during the two 4-month study phases; 336 patients presented during the physician phase and 308 during the nurse phase. Time to clinical improvement (defined as a reduction in PRAM score of >3 points over 2 consecutive hours) was significantly shorter in the nurse phase than the physician phase (median difference, 24 minutes). Secondary outcome measures also significantly favored triage-initiated steroids: time to receipt of steroids (median difference, 44 minutes); time to mild status (median difference, 51 minutes); time to discharge (median difference, 44 minutes); and hospital admission rate (12% vs. 19%, odds ratio for admission, 0.56). There were no differences between groups in rates of return emergency department visits for asthma or subsequent admissions over the following 7 days.

Published in *J Watch Emerg Med.* April 13, 2012 — Katherine Bakes, MD. ■

The American and the American Headache Society have released updated guidelines on migraine prevention

Key point: *Keeping abreast of the most effective medications for migraine is important.*

Citation: Silberstein SD, Holland S, Freitag F, et al. Evidence-based guideline update: Pharmacologic treatment for episodic migraine prevention in adults Report of the Quality Standards Subcommittee of the American Academy of Neurology and the American Headache Society. *Neurology.* 2012;78(17):1337-1345.

Among the recommendations for prescription pharmacologic agents:

- Most antiepileptic drugs (divalproex sodium, topiramate, sodium valproate), certain beta-blockers (metoprolol, propranolol, timolol), and one triptan (frovatriptan) are effective and should be offered to patients.
- Certain antidepressants (amitriptyline, venlafaxine), other beta-blockers (atenolol, nadolol), and other triptans (narrow-spectrum triptan, zolmitriptan) are probably effective and should be considered.
- Lamotrigine is not effective and should not be given.

Among the guidance on NSAIDs and complementary therapies:

- Petasites (butterbur) is effective and should be offered.
- Several NSAIDs (fenoprofen, ibuprofen, ketoprofen, naproxen), riboflavin, magnesium, feverfew, and histamine SC are probably effective and should be considered.
- Montelukast is probably ineffective and should not be considered. ■

Had Any Interesting Cases Lately?

Case Reports are one of *JUCM's* most popular features. Case Reports are short, didactic case studies of 1,000-1,500 words. They are easy to write and *JUCM* readers love them. If you've had some interesting cases lately, please write one up for us. Send it to Judith Orvos, ELS, *JUCM's* editor, at jorvos@jucm.com.

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