



On Radiography in Acute Bronchitis, Rehydrating Children with AGE, Declining Antibiotic Scripts in URIs, and Diagnosing Venous Thromboembolism

■ 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.

Evaluation of the Utility of Radiography in Acute Bronchiolitis

Key point: Infants with typical bronchiolitis (clinically $O_2sat > 92\%$ and mild/moderate distress) do not need imaging.

Citation: Schuh S, Lalani A, Allen U, et al. *J Pediatr*. 2007;150:429-433.

URL: http://sitemaker.umich.edu/emjournalclub/article_database/da.data/1619753/PDF/bronchiolitis_xray_j_pediatrics.pdf

The purpose of this study was to determine the proportion of radiographs inconsistent with bronchiolitis in children with typical presentation of bronchiolitis and to compare rates of intended antibiotic therapy before radiography versus those given antibiotics after radiography.

The authors conducted a prospective cohort study in a pediatric emergency department of 265 infants aged 2 to 23 months with radiographs showing either airway disease only (simple bronchiolitis), airway and airspace disease (complex bronchiolitis), or inconsistent diagnoses (e.g., lobar consolidation).

The rate of inconsistent radiographs was 0.75% (two of 265

cases). A total of 246 children (92.8%) had simple radiographs, and 17 radiographs (6.9%) were complex. To identify one inconsistent and one complex radiograph requires imaging 133 and 15 children, respectively.

Of 148 infants with oxygen saturation $> 92\%$ and a respiratory disease assessment score < 10 of 17 points, 143 (96.6%) had a simple radiograph, compared with 102 of 117 infants (87.2%) with higher scores or lower saturation (odds ratio, 3.9). Seven infants (2.6%) were identified for antibiotics pre-radiography; 39 infants (14.7%) received antibiotics post-radiography.

Infants with typical bronchiolitis do not need imaging because it is almost always consistent with bronchiolitis. Risk of airspace disease appears particularly low in children with saturation higher than 92% and mild to moderate distress. ■

Intravenous Dextrose During Outpatient Rehydration in Pediatric Gastroenteritis

Key point: Patients who received no IV dextrose had 3.9 times the odds of having a return visit with admission than those who received some dextrose.

Citation: Levy JA, Bachur RG. *Acad Emerg Med*. Volume 14, Number 4:324-330 (published online before print February 12, 2007).

URL: <http://www.aemj.org/cgi/content/abstract/14/4/324>

The point of this study was to determine whether the amount



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

of IV dextrose administered is related to a return visit with admission (RVA) in children with acute gastroenteritis (AGE) and dehydration, and to determine which clinical, laboratory, and treatment parameters are associated with an RVA.

The investigators performed a case control study of children aged 6 months to 6 years who presented to an urban ED with AGE and dehydration and who received IV rehydration before discharge from the ED. Cases were defined as those patients who had an RVA within 72 hours of an original visit for ongoing symptoms. Controls were defined as those patients who met inclusion criteria, but who did not have an RVA. The authors studied whether the amount of IV dextrose administered at the initial visit was related to an RVA, as well as which other clinical and treatment parameters were associated with an RVA.

A total of 56 cases and 112 controls were studied. Patients who had an RVA received significantly less IV dextrose (mean: 399 mg/kg vs. 747 mg/kg, $p < 0.001$) than those who did not have an RVA. Patients who received no IV dextrose had 3.9 times greater odds of having a return visit with admission than those who received some dextrose. Controlling for fluid volume, the amount of dextrose administered remained statistically significant by logistic regression; for every 500 mg/kg of IV dextrose administered, the patient was 1.9 times less likely to have an RVA. Patients with length of symptoms less than or equal to one day were more likely to have an RVA than were those with symptom length of two or more days.

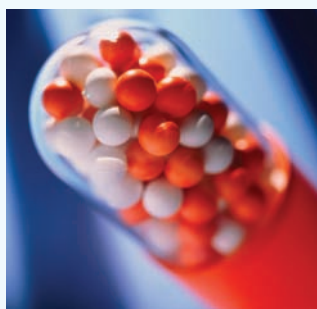
Administration of larger amounts of IV dextrose is associated with fewer return visits requiring admission in children with gastroenteritis and dehydration. ■

Declining Antibiotic Prescriptions for Upper Respiratory Infections, 1993–2004

Key point: Antibiotic prescribing for URIs continues to decrease.

Citation: Vanderweil SG, Pelletier AJ, Hamedani AG, et al. *Acad Emerg Med*. Volume 14, Number 4:366-369 (published online before print February 12, 2007).

URL: www.aemj.org/cgi/content/abstract/14/4/366



Data were compiled from the National Hospital Ambulatory Medical Care Survey (NHAMCS). URI visits were identified by using ICD-9-CM code 465.9, whereas antibiotics were identified using the National Drug Code Directory class “Antimicrobials.”

Approximately 23.4 million ED visits resulted in a diagnosis of URI between 1993 and 2004. Although the proportion of URI diagnoses remained relatively stable, a significant decrease in provision of antibiotic prescriptions for URIs occurred during this 12-year period, from a maximum of 55% in 1993, to a minimum of 35% in 2004. Patients who were prescribed antibiotics were more likely to be white than African American and to have been treated in EDs located in the southern United States.

Antibiotic prescribing for URIs continues to decrease, a favorable trend that suggests that national efforts to reduce inappropriate antibiotic usage are having some success. Nevertheless, the frequency of antibiotic treatment for URI in the ED remains high (35%). ■

Current Diagnosis of Venous Thromboembolism in Primary Care: A Clinical Practice Guideline from the American Academy of Family Physicians and the American College of Physicians

Key point: New evidence and recommendations may aid in early diagnosis of venous thromboembolism.

Citation: Qaseem A, Snow V, Barry P, et al. *Ann Int Med*. 2007; 146(6):454-458.

URL: www.annals.org/cgi/content/full/146/6/454

This guideline summarizes the current approaches for the diagnosis of venous thromboembolism. The importance of early diagnosis to prevent mortality and morbidity associated with venous thromboembolism cannot be overstressed. This field is highly dynamic, however, and new evidence is emerging periodically that may change the recommendations. The purpose of this guideline is to present recommendations based on current evidence to clinicians to aid in the diagnosis of lower extremity deep venous thrombosis and pulmonary embolism.

Recommendations:

- Validated clinical prediction rules should be used to estimate pretest probability of venous thromboembolism (VTE), both deep venous thrombosis (DVT) and pulmonary embolism, and for the basis of interpretation of subsequent tests.
- In appropriately selected patients with low pretest probability of DVT or pulmonary embolism, obtaining a high-sensitivity D-dimer is a reasonable option, and if negative indicates a low likelihood of VTE.
- Ultrasound is recommended for patients with intermediate-to-high pretest probability of DVT in the lower extremities.
- Patients with intermediate or high pretest probability of pulmonary embolism require diagnostic imaging studies. ■