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pneumonia (OP) among pediatric patients without lower respiratory tract signs has been studied previously, but no predictors other than white blood cell count (WBC) and height of fever have been investigated.

“There is limited utility in obtaining a CXR in febrile children without cough.”

This was a retrospective cross-sectional study conducted in a large urban pediatric hospital. Physician records of ED patients age 10 years or less who presented with fever (38°C) and had a CXR obtained for suspected pneumonia were reviewed. Patients were classified into two groups: “signs of pneumonia” and “no signs of pneumonia” on the basis of the presence or absence of respiratory distress, tachypnea, or lower respiratory tract findings. Occult pneumonia was defined as radiographic pneumonia in a patient without signs of pneumonia.

All told, 2,128 patients were studied. Among patients categorized as having no signs of pneumonia (n=1,084), 5.3% had OP. Presence of cough and longer duration of cough (>10 days) had positive likelihood ratios (LR+) of 1.24 and 2.25, respectively. Absence of cough had a negative likelihood ratio (LR-) of 0.19. The likelihood of OP increased with increasing duration of fever (LR+ for more than three days and more than five days of fever, respectively: 1.62; and 2.24). When obtained (56% of patients), WBC was a predictor of OP, with an LR+ of 1.76 and 2.17 for WBC of >15,000/mm³ and >20,000/mm³, respectively.

Occult pneumonia was found in 5.3% of patients with fever and no lower respiratory tract findings, tachypnea, or respiratory distress. There is limited utility in obtaining a CXR in febrile children without cough. The likelihood of pneumonia increased with longer duration of cough or fever or in the presence of leukocytosis. ■

Can a Normal Range of Elbow Movement Predict a Normal Elbow X-Ray?

Citation: Lennon RI, Rivat MS, Hilliam R, et al. *Emerg Med J*. 2007;24:86-88.

URL: <http://emj.bmj.com/cgi/content/abstract/24/2/86>

Key point: Patients with normal extension, flexion, and supination do not require emergent elbow radiographs.

Elbow injuries account for approximately 2% to 3% of presentations to the emergency department. This is associated not only with a very high rate of x-rays but also with a very high rate of “missed fractures.”

This study examines which components of elbow examination have the best correlation with a normal radiograph. Data

came from a district general hospital’s emergency department seeing 83,000 new attendances per annum (pa; approximately 1,600 elbow injuries pa).

Of the 407 who were entered into the study, 331 received a radiograph of the elbow. Full extension of the elbow had a specificity of 0.916 for detection of a normal radiograph. An equal range of movement (ROM) had a specificity of 0.976. Subgroup analysis of patients aged <16 years showed a specificity of equal ROM of 1 for the detection of a normal x-ray.

Logistic regression analysis showed that best predictive values were achieved by a combination of full extension, flexion, and supination.

A two-tier clinical rule for management of elbow injury is proposed:

- Those patients aged 16 years with an ROM equal to the unaffected side may be safely discharged.
- Those patients with normal extension, flexion, and supination do not require emergent elbow radiographs. ■

Meta-Analysis: Anticholinergics, but not Beta-Agonists, Reduce Severe Exacerbations and Respiratory Mortality in COPD

Citation: Salpeter SR, Buckley NS, Salpeter EE. *J Gen Intern Med*. 2006;21(10):1011-1019.

URL: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=16970553&dopt=Abstract

Key point: Inhaled anticholinergics reduced exacerbations and deaths in COPD patients; beta-2 agonists increased mortality.

Anticholinergics and beta-2 agonists generally have been considered equivalent choices for bronchodilation in chronic obstructive pulmonary disease (COPD). The authors performed a comprehensive search of electronic databases from 1966 to December 2005, clinical trial websites, and references from selected reviews and included randomized controlled trials of at least three months duration that evaluated anticholinergic or beta-2 agonist use compared with placebo or each other in patients with COPD.

Pooled results from 22 trials with 15,276 participants found that anticholinergic use significantly reduced severe exacerbations (RR 0.67) and respiratory deaths (RR 0.27) compared with placebo.

Beta-2 agonist use did not affect severe exacerbations (RR 1.08) but resulted in a significantly *increased* rate of respiratory deaths (RR 2.47) compared with placebo.

There was a twofold increased risk for severe exacerbations associated with beta-2 agonists compared with anticholinergics (RR 1.95). The addition of beta-2 agonist to anticholinergic use did not improve any clinical outcomes. ■

Pneumonia Severity Index Aids Site-of-Treatment Decisions: The PSI is a Safe and Effective tool.

Diane M. Birnbaumer, MD, FACEP, published in *J Watch Emerg Med.* 2007;105.

Citation: Renaud B et al. Routine use of the Pneumonia Severity Index for guiding the site-of-treatment decision of patients with pneumonia in the emergency department: A multicenter, prospective, observational, controlled cohort study. *Clin Infect Dis.* 2007;44:41-49.

URL: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=retrieve&db=pubmed&list_uids=17143813&dopt=Abstract
 Marrie TJ. The Pneumonia Severity Index Score: Time to Move to a Prospective Study of Patients with Community-Acquired Pneumonia Who Are Discharged from Emergency Departments to Be Managed On an Ambulatory Basis. *Clin Infect Dis.* 2007;44:50-52.

URL: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=retrieve&db=pubmed&list_uids=17143814&dopt=Abstract

Key point: Clinician judgment plus PSI is a powerful combination for guiding disposition of patients who present with pneumonia.

The Pneumonia Severity Index (PSI), initially derived to predict prognosis, has been used in emergency departments to guide disposition and treatment of patients presenting with pneumonia. These authors evaluated the utility of the PSI for guiding site-of-treatment decisions and determining patient outcomes.

In a prospective, observational, controlled cohort study, investigators in France compared outcomes for 472 patients treated at eight EDs that used the PSI and 453 patients treated at eight EDs that did not. The primary outcome was the proportion of low-risk (PSI classes I-III) patients who were treated as outpatients.

The authors calculated the PSI for all patients and determined that 48.5% were at low risk. In the EDs that used the PSI, 42.8% of low-risk patients were treated as outpatients, compared with 23.9% in the EDs that did not use the PSI. After adjusting for pneumonia severity, 28-day mortality among all patients was lower in those treated in the EDs that used the PSI (9.1% vs. 12.2%). ■

Cold Medicine Risky for Babies, Toddlers

Citation: *MMWR.* 2007;56(1):1-4.

URL: <http://www.cdc.gov/mmwr/PDF/wk/mm5601.pdf>

Key point: There is a very real risk of even fatal overdosage from OTC decongestants in toddlers and infants.

More than 1,500 toddlers and babies wound up in emergency rooms over a two-year period; three died because of bad reactions to cold or cough medicine, federal health officials reported.

The U.S. Centers for Disease Control and Prevention warned parents not to give common over-the-counter cold remedies to children under 2-years-old without consulting a doctor.

The deaths of three infants 6 months or younger in 2005 led to an investigation that showed the children all had high levels of the nasal decongestant pseudoephedrine, up to 14 times the amount recommended for children ages 2 to 12. The study found 1,519 ER cases from 2004 and 2005 involving young children and cold medicine.

The CDC said it is not known how much cold or cough medicine can cause illness or death in children under 2-years-old, but there are no approved dosing recommendations by the U.S. Food and Drug Administration for that age group.

The American Academy of Pediatrics first advised parents in 1997 about the risks of complications and overdose potential with certain cough suppressants. Last year the American College of Chest Physicians advised doctors not to recommend cough suppressants and over-the-counter cough medications to young children because of the risks. ■

Unsafe to Delay Appendectomy in Adults: Delays Increase Risk for Complications.

Citation: Birnbaumer DM. *J Watch Emerg Med.* 2007;105.

Is it safe to delay appendectomy in adults with acute appendicitis?

Citation: Dittilo MF, Dziura JD, Rabinovici R. *Ann Surg.* 2006;244(5):656-660.

URL: www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=retrieve&db=pubmed&list_uids=17060754&dopt=Abstract

Key point: A longer total time from symptom onset to surgery increased the risk for advanced pathology and complications.

Recent literature suggests that delaying appendectomy until daytime surgery is available is safe in children who present with appendicitis. These authors addressed the safety of delaying appendectomy in adults.

They reviewed charts of 1,081 adult patients who underwent appendectomy for acute appendicitis from 1998 to 2004 to determine time from symptom onset to emergency department arrival (patient interval), time from ED admission to surgery (hospital interval), and grade of appendiceal pathology. The authors found that a longer total time from symptom onset to surgery increased the risk for advanced pathology and complications, such as perforation, phlegmon, abscess, and gangrenous appendicitis. For example, the risk for advanced pathology was 13 times greater when the interval was greater than 71 hours than when the interval was less than 12 hours. Delays in the patient interval were more strongly associated with complications than were delays in the hospital interval. ■