



HEALTH BRIEFS

by **Carla Kemp** • Senior Editor

Fever a predictor of pneumonia among children with wheezing

◆ Mathews B, et al. *Pediatrics*. 2009;124:e29-e36.

Only 5% of children with wheezing had radiographic pneumonia, and the rate was even lower among children without fever, according to a prospective study of 526 children evaluated in an emergency department (ED).

Many children with wheezing evaluated in the ED for pneumonia have negative radiographs. Avoiding radiography would save time and money and would decrease exposure to radiation.

The goal of this study was to identify factors associated with radiographically confirmed pneumonia in children with wheezing.

Subjects included children younger than age 21 who had wheezing on examination in the ED and underwent chest radiograph. Patients were enrolled for an entire calendar year to avoid seasonal variations.

Physicians completed a questionnaire regarding indications for obtaining the chest radiographs; historical features, including presence or absence of cough, fever, wheezing, difficulty breathing, chest pain and abdom-



The authors of a recent study recommended against the routine use of chest radiography to evaluate for pneumonia in afebrile children with wheezing.

inal pain; and examination findings. Physicians also rated the level of respiratory distress.

Radiographs were reviewed by two blinded board-certified pediatric radiologists.

Results showed that only 4.9% of subjects had radiographic pneumonia. The strongest predictor of pneumonia was the presence and height of fever. Patients with an ED temperature of 39 degrees Celsius (102.2 degrees Fahrenheit) or higher were five times more likely to have

pneumonia than children without fever. In addition, children who had a fever at home were more likely to have pneumonia than those without a history of fever.

Children younger than 2 years with hypoxia (oxygen saturation of less than 92%) were three times more likely to have radiographic pneumonia than children without hypoxia.

Among afebrile children with wheezing, the rate of pneumonia was only 2.2%. Therefore, the authors recommended against the routine use of chest radiography for children with wheezing but without fever.