

Emergency Department Laboratory Evaluations of Fever Without Source in Children Aged 3 to 36 Months



WHAT'S KNOWN ON THIS SUBJECT: Little is known about emergency department (ED) physicians' practice patterns in diagnostic testing of patients with fever without source (FWS) in the 3- to 36-month-old age group, particularly after introduction of the 7-valent pneumococcal conjugate vaccine.



WHAT THIS STUDY ADDS: In the majority of US ED visits for FWS among children aged 3 to 36 months, physicians ordered no tests (complete blood count, urinalysis, blood culture, radiographs, or rapid influenza). Physicians ordered a urinalysis in <50% of visits by girls with a temperature of $\geq 39^{\circ}\text{C}$.

abstract

OBJECTIVE: This article describes ordering of diagnostic tests, admission rates, and antibiotic administration among visits to US emergency departments (EDs) by children aged 3 to 36 months with fever without source (FWS).

METHODS: The 2006–2008 National Hospital Ambulatory Medical Care Survey–Emergency Department was used to identify visits by 3- to 36-month-old children with FWS. Percentages of visits that included a complete blood count (CBC), urinalysis, blood culture, radiograph, rapid influenza test, admission to hospital, and ceftriaxone and other antibiotic administration were calculated. Multivariate logistic regression was used to identify factors associated with ordering of a CBC and urinalysis.

RESULTS: No tests were ordered in 58.6% of visits for FWS. CBCs were ordered in 20.5% of visits and urinalysis in 17.4% of visits. Even among girls with a temperature of $\geq 39^{\circ}\text{C}$, urinalysis was ordered in only 40.2% of visits. Ceftriaxone was given in 7.1% and other antibiotics in 18.3% of visits; 5.2% of the children at these visits were admitted to the hospital. In multivariate analysis, increased temperature, being female, and higher median income of the patient's zip code were associated with increased odds of having a CBC and urinalysis ordered. Being 24 to 36 months of age was associated with lower odds of receiving both a CBC and a urinalysis.

CONCLUSIONS: Most US emergency department visits for FWS among children aged 3 to 36 months, physicians do not order diagnostic tests. Being female, having a higher fever, and higher median income of the patient's zip code were associated with ordering CBCs and urinalysis. *Pediatrics* 2011;128:e1368–e1375

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KEY WORDS

fever, clinical practice variation, emergency department

ABBREVIATIONS

ED—emergency department

FWS—fever without source

CBC—complete blood count

NHAMCS-ED—National Hospital Ambulatory Medical Care Survey–Emergency Department

MSA—metropolitan statistical area

PCV-7—7-valent pneumococcal conjugate vaccine

CI—confidence interval

OR—odds ratio

UTI—urinary tract infection

Drs Simon, Lukacs, and Mendola are responsible for the reported research and have participated in the concept and design of this study and analysis and interpretation of the data, assisted in drafting this manuscript or revising it critically for intellectual content, and approved the manuscript as submitted.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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