



Occult Bacteremia or RSV Infection in Young Children, and Orthopedic Injuries in Child Abuse

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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.

Occult Bacteremia is Rare in Young Children with Unexplained Fever

Key point: *Since introduction of the pneumococcal vaccine, urinary tract infection has become the most common bacterial infection in children who have fever without localizing signs.*

Citation: Waddle E, Jhaveri R. Outcomes of febrile children without localising signs after pneumococcal conjugate vaccine. *Arch Dis Child.* 2009;94:144-147.

Occult bacteremia and invasive disease are important concerns in children with unexplained high fever. Investigators retrospectively compared the risk for serious infection in children 3 months to 36 months in age who presented to a U.K. pediatric emergency department with fever (>39°C) without localizing signs before and after introduction of the pneumococcal conjugate vaccine (1997–1999 and 2001–2004, respectively).

During the pre-PCV7 period, 17 of 148 children had positive blood cultures, with pathogens identified in 10 cases (*Streptococcus pneumoniae* in six, *Moraxella catarrhalis* in two, *Staphylococcus aureus* in one, and *Streptococcus pyogenes* in one).

In the post-PCV7 period, 13 of 275 children had positive blood cultures, and a pathogen was identified in only one case (*Enterococcus* sp). The rate of occult bacteremia among children with unexplained fever decreased from 6.8% to 0.4% in the pre- and post-vaccine periods, respectively. Rates of positive urine cultures

did not change during the pre- and post-PCV7 periods (6.8% and 7.6%, respectively). About 60% of the children in each period received antibiotics; most (>90%) received antibiotics during the initial ED visit.

Successful immunization programs remove important health risks in children. Children aged 3 to 36 months who have completed *H influenzae* type B and PCV7 immunizations and who present with fever without localizing signs should be evaluated for urinary tract infections. Other cultures (including blood cultures) and treatment should be based on clinical condition and local epidemiology of non-vaccine serotypes.

[Published in *J Watch Ped Adolesc Med*, February 4, 2009—F. Bruder Stapleton, MD.] ■

Burden of RSV Infection in Young Children

Key point: *The authors estimate that, in young children, RSV infection is associated with 1 of 334 hospitalizations, 1 of 38 ED visits, and 1 of 13 primary care outpatient visits annually in the U.S.*

Citation: Hall CB, Weinberg GA, Iwane MK, et al. The burden of respiratory syncytial virus infection in young children. *N Engl J Med.* 2009;360:588-598.

Respiratory syncytial virus (RSV) is associated with hospitalization in children, but the total burden of disease among young children in the U.S. is poorly understood. The CDC conducted a prospective population-based surveillance study of children younger than 5 years with diagnoses of acute respiratory disease who were hospitalized or presented to emergency departments or outpatient clinics in three U.S. cities during the RSV seasons between 2000 and 2004.



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ABSTRACTS IN URGENT CARE

Nasal and throat swabs were obtained from 5,067 children; 919 (18%) had confirmed RSV infection. Co-infecting viruses were identified in only 6% of samples. RSV was associated with 20% of hospitalizations, 18% of ED visits, and 15% of office visits for acute respiratory infections from November through April. Average annual rates of hospitalization for RSV-associated illness were 3 per 1,000 in children younger than 5 years and 17 per 1,000 in children younger than 6 months.

[Published in *J Watch Gen Med*, February 10, 2009—Howard Bauchner, MD.] ■

Age Affects Orthopedic Injuries Seen with Child Abuse

Key point: In children under 18 months, humerus, femur, and tibia/fibula fractures were more likely to stem from abuse than from accidental trauma.

Citation: Brown AJ. Age affects orthopedic injuries seen with child abuse. Reuters Health Information. Published by Medscape, February 27, 2009. Available at www.medscape.com/viewarticle/588883.

Whether an orthopedic injury in a child who presents to the ED is predictive of abuse largely depends on the age of the child, according to study findings presented at the American Academy of Orthopedic Surgeons meeting in Las Vegas. The exception is rib fractures, which almost always indicate abuse.

“When examining a child in the emergency room, the clinician should pay careful attention to the age/walking status of the child, and the presence of long bone and rib fractures,” lead investigator Dr. Nirav Pandya, from the University of Pennsylvania, Philadelphia, told Reuters Health.

“If clinicians can more readily identify potential cases of child abuse based on the fractures they treat, the morbidity and mortality that a child can experience from returning to an abusive household can hopefully be minimized,” he added.

Although other studies have examined this topic in the past, the present investigation is one of the largest, Dr. Pandya said.

Included in the study were 500 cases of child abuse (birth to 48 months) entered in the University of Pennsylvania’s Suspected Child Abuse and Neglect (SCAN) database from 1998 to 2007. The orthopedic injuries in these cases were compared with those seen in 985 accidental trauma controls.

In children under 18 months, humerus, femur, and tibia/fibula fractures were more likely to stem from abuse than from accidental trauma. The odds ratios ranged from 12.8 for tibia/fibula fractures to 1.8 for femur fractures.

By contrast, over 18 months of age, humerus and femur fractures were actually predictive of accidental trauma. Moreover, in this age group, tibia/fibula fractures can no longer differentiate abuse from accidental trauma. ■



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