

# This Month In **The JOURNAL** of **PEDIATRICS**

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## Does longer breastfeeding duration decrease the risk of asthma?

— Michael D. Cabana, MD, MPH

There are many well-documented benefits of breastfeeding; however, the effect of breastfeeding in preventing childhood asthma is not clear. As randomized controlled trials on this topic would be unfeasible and unethical to conduct, clinicians must rely on the results of observational studies. However, this question has been difficult to untangle with observational studies, as breastfeeding practices are also confounded by other feeding practices, such as the timing of introducing complementary foods. In addition, large numbers of infants are needed for these studies to control for the many factors (delivery type, gestational age, maternal and paternal history of allergy, etc) that may be also associated with asthma risk.

In this volume of *The Journal*, Størdal et al present the results of a cohort study to determine the association between breastfeeding duration and the risk of childhood asthma, as well as the timing of the introduction of complementary foods and the risk of childhood asthma. They analyzed data from the Norwegian Mother and Child Study, a national prospective cohort study that included prenatal and follow-up data for over 41 000 children up to 7 years of age. Based on the main analysis, the authors found that the timing of complementary food introduction was *not* associated with the development of asthma. In addition, breastfeeding duration was *not* associated with the development of asthma. Additional subanalyses were conducted. Only for those low-risk families, where both parents had no history of allergies or asthma, was decreased breastfeeding duration associated with an increased risk of asthma.

There are some limitations to this study. The infants were from only one country and the results may not be generalizable to other populations. In addition, the outcome of interest, asthma, was determined at 7 years of age. It is still possible for some of the 7-year-olds in the cohort to develop asthma at a later age. Differences may still develop during the follow-up analyses and there may be still more to learn from this cohort. Nevertheless, the size and scope of this prospective birth cohort study offers a wonderful opportunity to examine the relationship between early infant feeding patterns and risk of childhood asthma. The results suggest no reason to stop championing breastfeeding and encouraging families to breastfeed as long as possible. However, the results of this study suggest that decreasing the risk of childhood asthma by 7 years of age for *all* children is far from a guaranteed benefit for breastfeeding. At best, we can make only limited statements about longer breastfeeding duration and the potential lower risk of asthma, for infants with both parents who have no history of allergies or asthma.

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## Diagnostic pathways need validation across varied healthcare settings

— Piyush Gupta, MD, FAMS

**D**ue to professional, legal, and other compulsions, the medical fraternity has moved away from a subjective diagnosis and management approach to patient care to a more objective protocol (pathway) based approach. However, the validity and reliability of such pathways must be comparable across various healthcare settings, ranging from primary to tertiary.

In this volume of *The Journal*, Scott et al report the secondary analysis of data collected from one regional US care system, comprised of both community and tertiary care emergency departments (EDs). The authors looked at children who were hospitalized in a pediatric intensive care unit within 24 hours of a visit to an ED in a community or tertiary care setting. These children were either hypotensive or received antibiotics and were labeled as septic. The authors evaluated whether the sepsis pathway was used in the antecedent ED visit. They applied the term “missed sepsis” to those patients whose record did not record a time stamp indicating use of electronic health record sepsis pathway/order set. It needs to be clarified that the analysis was specifically related to severe sepsis and not sepsis in general. Children with severe sepsis were more likely to be identified when evaluated at a tertiary care ED as compared with a community center ED.

Sepsis triggers and order sets are becoming more commonly used key requirements, and some states require a pediatric sepsis protocol to be available in all emergency facilities that cater to children. The study suggests that despite a consistent protocol, and apparently similar education, the use of the sepsis pathway algorithm was considerably less frequent in the community facilities, as compared with tertiary ED settings. Whether this was related to preference for their own clinical judgment versus the algorithm or the fact that the pathway has inherent deficiencies for the studied setting is not clear. The protocol may be focused more on intervention than diagnosis. The work suggests that the uniform management pathways cannot be generalized over different healthcare settings unless validated. The policy makers, and followers, should make a clear distinction between efficacy and effectiveness of such tools.

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## Cystic periventricular leukomalacia: now you see it, now you don't?

— Paul G. Fisher, MD

**T**he incidence of cystic periventricular leukomalacia (cPVL) has been reported to decline during the 1990s, (*J Pediatr* 2004;145:593-9); the decline was concurrent with the use of antenatal steroids and exogenous surfactant therapy, but without a decrease in worsened neurodevelopmental outcomes among preterm infants. What is known about the outcome of preterm infants whose cPVL identified shortly after birth “disappears” compared with preterm infants who display cPVL on subsequent cranial imaging closer to term gestation?

In this volume of *The Journal*, Sarkar et al examine an historical cohort from the National Institute of Child Health and Human Development Neonatal Research Network database. Infants less than or equal to 26 weeks' gestation born between 2002 and 2012 were compared by the most abnormal cranial imaging study at less than 28 days of age and another closest to 36 weeks. Among the 433 infants with recorded cPVL, 18% “disappeared,” 20% persisted, and 62% had only late cPVL. “Disappeared,” persistent, and late cPVL were all independently associated with neurodevelopmental impairment.

The finding that cPVL identified shortly after preterm birth can sometimes seem to “disappear,” by evolving to ventriculomegaly at term, and presage cerebral palsy is not entirely new (*Arch Dis Child Fetal Neonatal Ed* 2001;84:F151-6). However, the current study from Sarkar et al demonstrating the continued relationships between “disappeared,” persistent, or late cPVL and adverse neurological outcome is notable in this large sample who underwent neonatal care in the very recent era. As the authors suggest, sequential imaging with ultrasound is important to capture all cases of cPVL.

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