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OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

SIDS, Licensed Care Centers, and *Helicobacter pylori*

C. Phillip Pattison and Barry J. Marshall

Pediatrics 1998;101;324

DOI: 10.1542/peds.101.2.324

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propose an intervention that just as likely could cause more harm than good?

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In Reply.—

Dr Lavin suggests that routine pulse oximetry may increase unnecessary testing, pain, and pathogen exposure without improving patient outcomes. We share the concern that some clinicians may reflexively order additional testing and treatments without careful consideration of possible benefits. On the other hand, we do not agree that eupneic hypoxia is benign.

Our study identified 80 children who had pulse oximetry measured but not reported to their physicians. Thirteen of these children had saturation values of 93% or less. Three of these 13 children were admitted on their initial presentation, and 1 had pulse oximetry measured during the evaluation. The remaining 9 children were discharged, their clinicians unaware of their saturation measurements. Of the discharged children, 6 revisited the emergency department with the same complaint within 48 hours, and 3 were admitted on their revisit.¹ These cases suggest that eupneic hypoxia is not a benign finding, and may be a warning of significant illness or less capable hosts.

There is ample evidence demonstrating that respiratory assessment and detection of lower respiratory tract infections is difficult in children.²⁻⁴ Abnormal oxygen saturations can help clinicians identify significant pulmonary disease and assist in managing affected individuals. Thus, we believe that most clinicians would like to be aware of oxygen saturation difficulties in their patients. How these difficulties are addressed will depend on the degree of desaturation, the clinical presentation, and, likely, the experience of the clinician.

Untreated hypoxia has not been well-studied. Future investigations may eventually enable clinicians to distinguish important from unimportant causes of desaturation. However, at our current level of knowledge, it is inappropriate to assume that eupneic hypoxia is benign and unimportant.

Pulse oximetry provides clinicians with important information about their patients. As with febrile infants, physicians must use their knowledge, skill, and experience in determining optimal management.

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To the Editor.—

Gershon and Moon (*Pediatrics*. 1997;100:75-78) have pointed out a very interesting piece of the puzzle regarding sudden infant death syndrome (SIDS) epidemiology: a disproportionately high percentage of SIDS occurs in organized child care settings. That nearly half of the centers surveyed were unaware of the association of prone infant sleep position and SIDS is alarming, but even in countries widely adhering to a "back to sleep program," the rates of SIDS have only fallen approximately 50%. Moreover, the precise mechanism(s) linking prone sleep position with SIDS has yet to be defined.

Recent studies have shown a high prevalence of *Helicobacter pylori* infection in young children in day care centers serving low socioeconomic populations¹ as well as a close association between the presence of *H pylori*, detected in both gastric antrum and trachea, and SIDS.² We have previously hypothesized that *H pylori*-induced interleukin-1 may produce fever, activation of the immune system, and increased deep sleep leading to SIDS.³ Intravenous and intrathecal injections of IL-1 β in piglets prolong apnea and modify autoresuscitation.⁴ Perhaps, more importantly, *H pylori* produces large amounts of urease which, if aspirated in gastric juice, could reach the alveolae, react with plasma urea, and produce enough ammonia to have local and/or systemic effects; the latter may be more pronounced with the aforementioned contribution of IL-1 β .³ It should also be noted that the esophageal inlet is below the upper air passages in the erect and supine positions but above them in the prone position. Moreover, a study in adults with colds revealed increased bacterial growth in the upper respiratory tract (by nasal swabs) in individuals lying prone versus supine.⁵

We believe the possible interrelationships between day care center-related SIDS, prone sleep position, and *H pylori* infection merit further investigation from multiple scientific disciplines.

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