

HOSPITALIZED BABIES WITH SEVERE BREATHING PROBLEMS MAY BENEFIT FROM LYING ON THEIR STOMACH

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Infants who are hospitalized with severe breathing problems may benefit from being placed on their stomachs rather than their backs, according to a new review of recent studies.

Children in the studies who were placed on their stomachs had higher blood oxygen levels and slower breathing rates than those placed on their backs, the review found.

Blood oxygen levels in the stomach-placed infants were about 2 percent higher than in the back-sleeping infants, a small but statistically significant difference. Most of the studies measured changes in blood oxygen levels and other indications of respiratory distress over the course of several hours, making it difficult to say whether stomach positioning has any long-term benefits or drawbacks, says review lead author Deborah Wells, a clinical nurse specialist at The Children's Hospital in Westmead, Australia.

Although the finding seems at first glance to contradict the "back to sleep" recommendation that has been prevalent since 1992, most of the studies in the review involved premature infants breathing with the help of a mechanical ventilator. The findings are not applicable to healthy children, and it is "not clear how generalizable this data is to other infants and children with acute respiratory distress," Wells says.

Wells also notes that even children hospitalized with severe breathing problems should be monitored continuously if they are placed on their stomachs because of the association between sudden infant death syndrome (SIDS) and stomach sleeping positions.

The review appears in the April issue of The Cochrane Library, a publication of The Cochrane Collaboration, an international organization that evaluates medical research. Systematic reviews draw evidence-based conclusions about medical practice after considering both the content and quality of existing medical trials on a topic.

Children and especially infants in respiratory distress risk oxygen poisoning and lung damage from mechanical ventilators because their lungs are immature, according to the Cochrane reviewers.

"Positioning may reduce the need for such interventions, or at least reduce the length of time they are required, thereby reducing the associated risk of longer-term lung damage," Wells says.

Some physicians recommend a stomach position to adult patients with acute respiratory problems as a noninvasive way to increase their oxygen levels. But since stomach sleeping is associated with SIDS, Wells and colleagues decided the benefits of stomach positioning should be evaluated specifically in children.

Nurses in Wells' hospital and others had also noticed that babies six to 18 months who were in respiratory distress "would not lie down to sleep, but would fall asleep when upright over someone's shoulder," Wells says. If they did manage to lie down, the babies would roll onto their stomachs and flex their hips and knees up like a frog, she adds. The babies' behavior led the

nurses to wonder if the infants were trying to relieve their breathing problems by wriggling into a position that allowed them to take in more oxygen.

Wells and colleagues reviewed findings from 21 studies of infants and children with acute respiratory distress that compared the benefits of a variety of different positions, including stomach, back and side-lying positions and elevated head and sitting positions. The studies included 436 patients, 74 percent of whom were premature infants. About 70 percent of the premature infants were breathing with the help of a mechanical ventilator.

While there is no official definition of acute respiratory distress, according to Wells, the children included in the study were hospitalized with severe breathing problems stemming from a variety of causes, from congenital lung problems to upper respiratory infections.

There were not enough data among the studies to determine whether any of the other sleeping positions could relieve breathing problems, the Cochrane reviewers found.

In healthy children without severe breathing problems, back sleeping remains the recommended position. According to Dr. Duane Alexander, director of the National Institute of Child Health and Human Development, "Placing infants on their backs not only reduces their risk of sudden infant death syndrome, but also appears to reduce the risk for fever, stuffy nose, and ear infections."

D.A. Wells et al. The Cochrane Database of Systematic Reviews 2005, Issue 2

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