Infantile apnoea and home monitoring

Although apnoea has long been recognised as a problem in infants, the hypothesis that it is the major cause of the sudden infant death syndrome has never been substantiated. This has not curtailed clinical, research, and preventive initiatives based on the importance of apnoea. The increasing use of apnoea monitors in the home, often without medical supervision or back up, and the entrepreneurial efforts of manufacturers of new low priced monitors are evidence of the trend in the United Kingdom. A registered charity, the National Association for the Relief of Apnoea, has also been set up recently to provide respiration monitors and support for babies considered to be "at risk" of cot death by their paediatricians. Among paediatricians home monitoring for apnoea is controversial, even contentious, and the existing services tend to have been developed and run by committed paediatricians helped by parent support groups.¹

Against this background of developments, some of which extend beyond the guidelines of the Foundation for the Study of Infant Deaths,² a recent consensus statement on infantile apnoea and home monitoring by a panel of American experts is timely and relevant.³ This report reminds us that there is no clear relation between neonatal and infantile apnoea and no evidence that either affects infant mortality and morbidity. It asserts that there are no scientific studies of the effectiveness of home monitoring for infants having apparently life threatening events, subsequent siblings of the victims of the sudden infant death syndrome, and those born prematurely. Nevertheless, the report contains two important shifts in emphasis from earlier statements.⁴ Firstly, it removes home monitoring for apnoea from the exclusive enclave of the sudden infant death syndrome and places it in the broader context of unexpected death in infancy. Thus it also considers the home care of infants with tracheostomy and bronchopulmonary dysplasia. Secondly, it accepts that cardiorespiratory monitoring may be beneficial for infants judged at "high risk" despite the lack of scientific proof—which is an important step forward. Included in this category are infants having had one or more apparently life threatening events "requiring" resuscitation, symptomatic preterm infants, siblings of two or more victims of the sudden infant death syndrome, and a minority with conditions such as central hypoventilation. Specifically excluded are healthy infants, even the premature, and the decision to monitor other groups, such as the siblings of the victims of the sudden infant death syndrome, is left to the families and their doctors.

The report also considers aspects where there is broad agreement,^{5,6} which have tended to be ignored or forgotten in some home monitoring programmes. Respiration monitors are still widely used, perhaps because they are cheap, even though these monitors detect the absence of breathing movements and not necessarily apnoea (cessation of respiratory airflow). Thus they will not indicate obstructive apnoea and its effects on heart rate and oxygenation. Other commonly used respiration monitors,⁷ and even advanced cardiorespiratory monitors, have practical limitations. The multidisciplinary support and control arrangements considered essential in North American monitoring programmes could not be matched even in the large UK centres given that the National Health Service is unlikely to be able to afford them. Thus efforts have been made to evaluate alternative means of alerting and supporting parents of infants considered to be at increased risk of the sudden infant death syndrome during the first year of life.⁸ Further research is also needed before it is established that even reliable, technically advanced home monitoring, delivered optimally, is effective in reducing infant mortality and morbidity. Decisions on whether certain infants should be monitored will have to be made in the individual case using medical judgment and close family involvement. There is no place for marketing "over the counter" monitors for use without professional recommendations and supervision. But there is scope for cooperation between doctors and manufacturers in the design and evaluation of monitoring equipment for home use.

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