than those seen during hand ventilation were employed in mechanical ventilation at rapid rates, then a rationale emerges for the apparent efficacy of hand ventilation. Achieving a substantially longer time for deflation than inflation may enhance the decompression of trapped interstitial gas. The use of low inspiratory-expiratory ratios may provide an additional strategy in the prevention or management of pulmonary interstitial emphysema but will require careful evaluation.

**Drs Greenough and Roberton comment:**

We thank Dr Tarnow-Mordi and his colleagues for their letter and their interesting results. As they say we were concerned that fast rate ventilation (greater than 100/min) could worsen pulmonary interstitial emphysema by increasing air-trapping, possibly by not allowing sufficient expiratory time, and we would agree that a prolonged expiratory time during fast rate, low pressure ventilation deserves careful evaluation in infants with severe pulmonary interstitial emphysema. One of the problems, however, is that type of setting is very difficult to achieve with most of the ventilators currently available for neonatal use. It also has to be remembered that in the past when short inspiratory-expiratory ratios at high rates were used initially in the treatment of respiratory distress syndrome, adequate ventilation was only achieved using high peak pressures which were subsequently implicated as an important cause of pulmonary barotrauma.

### References


### Apnoea monitors and sudden infant death

**Sir,**

The report from the Foundation for the Study of Sudden Infant Death and the British Paediatric Respiratory Group is in some respects misleading.

1. The case for monitors is not that cot death is due to a disorder of respiration, but the common observation that whatever the cause of death, respiration nearly always fails before circulation. Some adults die of acute heart failure, but this is very rare in babies. Some babies may be so ill that they cannot be revived even temporarily after 20 seconds of apnoea but, in one special care baby unit where about 5000 babies have been monitored over a period of 14 years this has happened only once.
2. The statement that 'it is well documented that babies who were on apnoea monitors have died in spite of immediate attempts at resuscitation' is seriously misleading. It is based on only one case, where the response was delayed for 'approximately' 30 seconds. There seems to be no recorded instance of a death where an alarm failed to detect apnoea.
3. Four different monitors are described but it is not made clear that the Graseby MR 10 is practically the only one now in home use in the United Kingdom. Unlike the other three monitors described, it detects respiratory movements rather than changes in chest impedance or weight distribution and therefore requires no adjustment to prevent cardiac triggering.
4. Failure to detect obstructive apnoea is regularly adduced as a serious objection to all existing apnoea alarms but it is not clear how common obstructive apnoea is or how many, if any, babies have actually died of it. Tonkin, who is a keen proponent of its importance, has told me that she believes that the MR 10 is satisfactory and that parents cannot manage the extra cost and complexity of a cardiac monitor.
5. False alarms are referred to as 'anxiety-provoking' but they can be reassuring and, with the MR 10 on a healthy baby, only one or two alarms a month may occur.

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