

# Hot topics from the web

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Neonatal-talk ([www.infantgrapevine.co.uk](http://www.infantgrapevine.co.uk)) and NICU NET ([www.neonatology.org/nicu-net/join.html](http://www.neonatology.org/nicu-net/join.html)) are just two of the many websites devoted to the exchange of information between staff involved in the care of neonates and infants, and the following are a few of the many new and on-going topics discussed. The opinions expressed do not claim to be evidence-based but will hopefully promote further discussion.



## NICU visiting policy NICU NET

A question about visiting stimulated much discussion and showed that policies varied considerably from unit to unit. Two to four people were allowed per bedside, but this varied from 2-24 hours per day (usually avoiding shift changes), and this number might or might not include the number of siblings/children present. Siblings/children were mostly not allowed to visit unless they were over two – in some cases over 18, and usually not in the RSV season. Most units required evidence of up-to-date immunisations, and some staff screened children themselves – even by taking temperatures and observing carefully for signs of infection. Usually ‘other visitors’ had to be accompanied by one of the parents, and in one case actually wear a wristband with the infant’s details on. Some units allowed parents to choose four people who could visit without them, and yet another insisted on a written statement allowing other visitors to hold/feed a baby in the parents’ absence. One respondent was adamant that there should be no minimum age for siblings – he cited the case of one twin well enough to go home before the other and not being able to visit.

## Total parenteral nutrition neonatal-talk

A query from a US unit asked if their policy to infuse TPN (and intralipid) for only eight hours, followed by no fluids for four hours, in their surgical babies was universal. From the replies, it would appear that it was not universal. Several respondents explained that the rationale for this was to give the liver a rest and perhaps prevent or delay liver failure in those babies on long term TPN. One unit ran the TPN at half the maintenance rate for an hour

before and an hour after the rest period, and replaced the TPN with dextrose during the rest period, if the baby was not on sufficient enteral feeds, in order to avoid surges in blood sugar levels. Concern was raised about the adverse effects of stopping infusions in small babies.

### Comments

There is little evidence to support the practice of interrupting TPN infusions for a period every 12 or 24 hours. Whilst cholestasis is a recognised side-effect of prolonged TPN, lipid infusions have been shown to be better tolerated in neonates when given continuously than when regimens with lipid-free intervals are used<sup>1,2</sup>. Recently published European guidelines on paediatric parenteral nutrition support this view<sup>3</sup>. Limiting lipid intake has been suggested in cases of established cholestasis, but this is likely to cause essential fatty acid deficiency and growth restriction<sup>4</sup>.

1. Kao L.C. et al. Triglycerides, free fatty acids, free fatty acids/albumin molar ratio, and cholesterol levels in serum of neonates receiving long-term lipid infusions: Controlled trial of continuous and intermittent regimens. *J Pediatr* 1984; **104**: 429–35.
2. Brans Y.W. et al. Tolerance of fat emulsions in very-low-birthweight neonates. *Am J Dis Child* 1988; **142**: 145–52.
3. Koletzko B. et al. Guidelines on Paediatric Parenteral Nutrition of the European Society of Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) and the European Society for Clinical Nutrition and Metabolism (ESPEN), supported by the European Society of Paediatric Research (ESPR). *J Pediatr Gastroenterol Nutr* 2005; **41**: 51–87.
4. Colomb V. et al. Role of lipid emulsions in cholestasis associated with long-term parenteral nutrition in children. *J Parenter Enteral Nutr* 2000; **24**: 345–50.

## Surfactant administration NICU NET

There still seems to be some debate about the optimal timing for administering surfactant to neonates. A British doctor was interested to hear if it was better to give

surfactant immediately following intubation on the delivery suite, or once an X-ray had established that the endotracheal tube (ETT) was not in the right main bronchus. The responses seemed to indicate that it should be given as soon as possible in extremely low birthweight infants and those who are destined for respiratory distress syndrome (RDS). Experience is therefore essential in estimating the position of the ETT at this stage.

### Comments

There is clear evidence that surfactant administered prophylactically to ventilated preterm neonates leads to improved outcomes when compared to giving surfactant as ‘rescue’ therapy once a neonate has established RDS<sup>1</sup>. What is not clear is how early is early enough, as there are no published trials comparing surfactant given within 10 minutes of delivery to surfactant given at up to one hour of age. Animal data suggest that there are advantages to very early administration<sup>2</sup>, but human clinical data show that surfactant given before the first breath does not appear to be associated with improved outcome when compared to administration at 10 minutes<sup>3</sup>. Delay in surfactant administration often arises due to concern about correct ETT positioning. Recently published guidance for positioning the ETT based on gestation may help in this matter<sup>4</sup>.

1. Soll R.F, Morley C.J. Prophylactic versus selective use of surfactant in preventing morbidity and mortality in preterm infants. *Cochrane Database Syst Rev* 2001; Issue 2: CD000510.
2. Jobe A. et al. Surfactant and pulmonary blood flow distributions following treatment of premature lambs with natural surfactant. *J Clin Invest* 1984; **73**: 848–56.
3. Kendig J.W. et al. Comparison of two strategies for surfactant prophylaxis in very premature infants: a multicentre randomized trial. *Pediatrics* 1998; **101**: 1006–12.
4. Mainie P. et al. Endotracheal tube position in neonates requiring emergency interhospital transfer. *Am J Perinatol* 2006; **23**: 121–24.