

Hot topics from the web

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There are several websites which promote discussion forums for staff caring for premature and sick babies and their families. The publishers of *Infant* host neonatal-talk on their website www.infantgrapevine.co.uk. This forum is UK based, free to join and allows global discussions of news and views.

NICU-NET (US based) is also a forum for discussion of neonatal intensive care issues. Again, membership is free, international in scope and is available at www.neonatology.org/nicu-net/join.html to physicians, nurses and other caregivers in neonatal/perinatal medicine.

Below is a synopsis of some of the discussion threads on these two forums in the last couple of months. It must be remembered that these are just the views and opinions of individuals and the comments made cannot be considered as evidence based or necessarily the basis for good practice. They are presented to stimulate discussion and debate and hopefully encourage 'Letters to the Editor'.



Double-lumen umbilical catheters neonatal-talk

There seems to be a difference of opinion as to which fluids are administered through the ports of double-lumen catheters. Some units infuse maintenance fluids through one; whilst using the other for drugs keeping it patent with continuous normal saline. One unit runs TPN through both ports if it is a venous line and as above if it is an arterial line. Concern was raised about fluid-restricted and very small infants when both ports were infusing fluids.

Incubator humidity neonatal-talk

An ongoing discussion surrounds the question of how much incubator humidity is required by small infants to control insensible water loss (IWL).

One respondee had heard at a study day that there was no evidence that humidity is effective >70%, although her unit admits 24-28 week infants into humidity of 80-90%, reducing it over a couple of weeks. She admits that the problem with such high humidity is that monitoring probes fail to stick adequately. Other units use anything from 50-80% for 24-32 weekers or infants less than 1000g, for anything up to four weeks, claiming that the infant skin takes longer to keratinise than originally thought.

One US unit does not use humidity in incubators at all to avoid problems with *Pseudomonas aeruginosa*. Instead, they

place babies under a radiant warmer, cover them with a plastic tent sealed at all sides, and pipe in humidified air via corrugated tubing.

One incubator manufacturer recommends that infants under 30 weeks require 50% humidity for the first three days of life. If the water in the reservoir is heated to above 42° *Pseudomonas* will not survive¹. They add that after 10 days, IWL is markedly reduced.

1. Ohmeda Medical (2004) HYPERLINK <http://www.ohmedamedical.com/index> www.ohmedamedical.com/index 17/11/2004

Maintaining temperature of the infant in delivery rooms NICU-NET

In spite of WHO recommendations that a delivery room/theatre temperature should be 25°C to maintain the infant's core temperature at 37°C, some staff appear to have problems with this. One theatre did not have temperature control at all, so thermoneutrality was maintained by insulating ELBW infants with cling film before intubation and using heating pads, in addition to a standard warmer +\- warmed blankets.

Another unit evaluated the practice of putting infants of <29 weeks into a polythene bag to improve admission temperature to the NICU, and found that this did improve admission temperatures. Concurrently, they found that the higher the delivery room temperature, the higher the admission temperatures regardless of bag use. For instance, very few infants delivered in a room with a temperature of

26°C or above had an admission temperature of <36.4°C. Whereas, with a room maintained at 21-25°C, admission temperatures were as low as 34.6°C (or 35°C if placed in a bag).

One respondee to this topic commented that we often fail to take into account that delivery room resuscitation gases should be warmed and humidified, given that the surface area of the lung is larger than that of the skin.

Breast feeding premature infants NICU-NET

Another interesting question posed concerned the earliest gestational age to allow a baby to breast-feed. It had been suggested that infants could be put to the breast as early as 29 weeks, with the baby sucking effectively by 30-32 weeks. One response was that there are no absolute gestational age or weight criteria, as some infants have accelerated lung maturity, some have accelerated neurologic activity. The decision, therefore, should be a functional one:

- Can the infant swallow his own secretions?
- Is the infant physiologically stable (even if on intravenous fluids or oxygen)?
- Is the infant sucking on a finger or dummy?

One suggestion is to allow 'dry' breast feeding to begin with. This involves the mother expressing her milk which is then tube fed to the infant in the required amount whilst the baby suckles on an emptied breast (ie non-nutritive sucking). This can be accomplished long before the infant has a co-ordinated suck-swallow-breath reflex. The next step is for the mother to partially express the milk allowing for a 'let-down' so that the infant gets the milk fairly quickly without too much effort.