

Cot Lids Some Basic Information

Cot Lids have been in use in neonatal units for over 30 years in one form or another. Usually they were homemade devices consisting of a flat-hinged transparent plastic. Viamed has taken the basic original ideas and translated them into a product, which can be manufactured to current standards.

A normal Full term baby loses approximately 40 ml/Kg/day through the skin from insensible water loss. The more premature the baby the higher the skin loss, as the skin becomes thinner and the relative surface area to body volume becomes greater.

In addition the evaporation of the fluid from the skin removes energy as heat and some babies, when nursed in open cots, often cannot maintain a normal body temperature.

Compensating for this massive fluid loss, by replacing it intravenously, brings with it considerable difficulties. Intravenous fluids have to be isotonic, that is, at the same dilution as blood, otherwise it will cause disruption and breakage of blood cells as it enters the body. Consequently the fluid has to be administered either as saline or dextrose solution. At volumes adequate to replace these torrential fluid losses the baby may get too much salt (hypernatraemia) or sugar (hyperglycaemia)

An alternative and better way would be to control the losses from the skin. This has been described in the United States as “swamping” that is putting the baby into a near 100% humidified micro-environment (like in a swamp). When enclosed in this atmosphere fluid loss from the skin can drop to close to zero and daily fluid replacement can be at a much more reasonable levels of 60-80 ml/Kg/day, mostly to replace urinary, stool and respiratory losses.

For borderline babies requiring some assistance to achieve this environment the baby can be placed in a normal basinet with a cot lid into which 100% warmed and humidified air is introduced from a humidifier. Cot lids can be supplied with louvres to assist in the flow through of humidified gases.

More common is to use the cot lid without humidity and using the baby's own warmth in a closed environment.

Babies have been nursed under cot lids for many years with complete safety and success at controlling not only fluid loss but convective heat loss as well.

The cot lid is not a substitute for treating babies in incubators, but rather a method of helping borderline babies without using Hi-tech equipment.

It can be used safely even in cases where it is not totally justified. e.g. it makes the nursing environment easier.