

THERMOREGULATION OF TRANSPORTED NEONATES HAS IMPROVED BUT NIGHT-TIME TRANSFERS ARE ASSOCIATED WITH MORE TEMPERATURE INSTABILITY

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Background and aims: Thermoregulation can be problematic during transport, but is essential to avoid cold or heat stress. Previously only 60% of transported infants were normothermic¹. The national neonatal audit programme (NNAP) specifies standards for admission temperature².

We aimed to assess the proportion of infants completing transport with temperature within normal limits compared to NNAP standards. Secondary analysis would elicit factors implicated in abnormal temperature.

Methods: Temperature data was collected during transfer for infants utilising the CenTre Neonatal Transport Service. Demographic and other relevant details were recorded. We analysed transports between 19/4/10 to 20/3/11 excluding transfers for therapeutic hypothermia.

Results: 1089 infants were assessed, of which 1005 (92%) had an acceptable temperature at transport completion. 896 (82.5%) had satisfactory thermal control throughout transport. 37 infants were hypothermic and 198 babies were hyperthermic during transport. We identified a number of factors associated with temperature instability (see table).

	Ventilated	Corrected gestation <30 weeks	Transport at night
Total Number of Transfers	276	153	184
Hyperthermic babies $\geq 37.5^{\circ}\text{C}$	96 (p<0.0001)	37 (p=0.042)	49 (p=0.0016)
Hypothermic babies <36°C	24 (p<0.0001)	21 (P<0.0001)	13 (p=0.0059)

[Why is there temperature instability]

Conclusions: Most transported infants have acceptable temperatures. Hypothermia rates are low; hyperthermia is a greater problem for infants not maintaining normothermia.

We observed an increased tendency for temperature instability at night.

References:

1. Leslie AJ, Stephenson TJ, Audit of neonatal intensive care transport - closing the loop. Acta Paediatrica, 1997 Nov;86(11):1253-6.
2. Neonatal Audit Project: <http://www.rcpch.ac.uk/Research/ce/Clinical-Audit/NNAP>.