NeoThermal: Reducing Rates of Neonatal Hypothermia, a Quality Improvement Project

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Aim

To review current practice and to introduce a care bundle to target >90% of infants admitted to the neonatal unit from delivery to have an admission temperature of 36.5-37.5 degrees.

Background

Hypothermia in neonates is associated with increased mortality¹, intraventricular haemorrhage², necrotising enterocolitis³, hypoglycaemia⁴ and increased severity of respiratory distress syndrome⁵. Guidelines^{6,7} state that the temperature of a newborn should be maintained between 36.5°C and 37.5°C. In 2015 23% of admissions to the Royal Devon & Exeter neonatal unit from delivery had a temperature <36.5°C.

Methods

We initially reviewed temperatures at several points during the patient pathway and targeted interventions at points where there was largest temperature losses. A multifaceted care bundle was implemented that included a nursing education programme, hat use, weighing infants in towels, drying and wrapping of infants by obstetric team during delayed cord clamping, polythene bag use for infants <34 weeks gestation and exothermic mattress use during transfer if a temperature ≤36.5°C was measured post delivery. Data was obtained throughout the implementation phases.

Results

346 infants were included, 167 at baseline and 179 post intervention. Infant axillary admission temperature increased from 36.86°C to 37.01°C (p value <0.01). The number of infants with a temperature <36.5°C decreased from 18.6% to 9.5% (p value 0.01) at baseline versus post intervention.

The proportion of normothermic premature infants (<32 weeks) as

measured by the National Neonatal Audit Programme increased from 61% (2015) to 80% (2017).

References

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Conclusions

The care bundle was associated with a significant decrease in hypothermia. This was a multidisciplinary, cross specialty project that was well supported by all staff and as a consequence has been successful. Ongoing close monitoring of neonatal temperature is essential to prevent the proportion of hyperthermia increasing since these changes have been implemented.