

INTRODUCTION OF BI-NASAL CPAP – A COMPARISON OF BI-NASAL DEVICES

Background: The Grantley Stable Neonatal Unit (GSNU) at the Royal Brisbane and Women's Hospital (RBWH) has primarily used a long single naso-pharyngeal tube (NPT) to deliver continuous positive airway pressure (NCPAP). Following a recent Cochrane Systematic review (1) comparing devices used for the delivery of NCPAP in preterm infants, the GSNU undertook to change nursery practice to deliver CPAP bi-nasally. We identified, via an informal questionnaire, the CPAP practices of nine Intensive Care Nursery's throughout Australia. We then reviewed bi-nasal devices currently available for neonatal CPAP and chose two bi-nasal interfaces for trial.

Aims: To compare two bi-nasal CPAP interfaces based on clinician's evaluation and reported adverse outcomes.

Methods: The bi-nasal interfaces trialled were: Fisher and Paykel Midline and Hudson prongs. Each interface was trialled for a four week period and applied according to manufacturer's guidelines. At the completion of the initial four week trial period, all babies requiring NCPAP were changed to Hudson prongs. Both interfaces were then reintroduced simultaneously for a further four week period with an alternative CPAP fixation device – the Canberra Wrap. With the introduction of the Canberra Wrap, infants requiring CPAP were assigned a bi-nasal device on an alternate day basis. During the final four week period, once assigned a bi-nasal device, the baby remained on that interface until treatment with CPAP was no longer required. A non-validated, subjective satisfaction tool was locally developed by nursing staff and was completed every shift. The tool allowed the staff to rate the acceptability of the interface and any adverse outcomes.

Results: See Table 1

Conclusions: Staff preference was for the Fisher and Paykel midline interface. The Canberra wrap improved staff satisfaction with Hudson prongs and there was no discernable difference in product preference following its introduction. We recommend a randomised controlled trial to examine important short and long term outcomes.