G557(P) INTRODUCTION OF CARE BUNDLE FOR NON-INVASIVE RESPIRATORY SUPPORT FOR NEONATES ADMITTED TO A TERTIARY NEONATAL UNIT IN THE UNITED KINGDOM: A QUALITY IMPROVEMENT PROJECT

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Aims It is widely recognised in neonatal practice that there is variation in the instigation, switching and weaning of infants between various forms of non-invasive ventilation. With continuous positive airway pressure (CPAP) circuits lasting seven days and high flow, high temperature, humidified nasal cannula oxygen (HFNCO2) circuits lasting thirty days there is a clear financial incentive to minimise circuits used. Introduction of care bundle to standardise initiation and switching of non-invasive respiratory support in babies needing respiratory support will lead to reduction of respiratory circuits being used for non-invasive support, making its use more efficient.

Methods Pre-intervention data was analysing using Badger data from all babies born in 2016 looking at the number of CPAP and HFNCO2 circuits utilised. A comprehensive teaching package was introduced to the nursing and medical teams around circuit usage and costs (£93 per CPAP circuit and £101 per HFNCO2 circuit). Specific guidelines were developed to guide initiation, switching and weaning of respiratory support. Post-intervention data was collected from all babies born in 2017 for comparison.

Results There was decreased use of CPAP and HFNCO2 circuits in babies requiring respiratory support. Regarding CPAP there was a reduction from 1.53 circuits per baby to 1.0 and with HFNCO2 this was 0.64 circuit per baby to 0.49. In lower gestational ages this was more significant; under 28 weeks gestation it went from 2.44 to 1.59 circuits per baby with CPAP and 1.02 to 0.58 circuits per baby with HFNCO2. This equates to a gross yearly saving of £22,800 (assuming a similar patient population with 3000 annual admissions).

Conclusion Introduction of a care bundle involving an education package, clear written guidelines and increased awareness of durations and costs of CPAP and HFNCO2 circuits amongst medical and nursing staff leads to considerable cost savings when incorporated into clinical practice.

G558(P) REVIEW OF NEONATAL CORTISOL EVALUATION BETWEEN 2012–2018 IN A SINGLE CENTRE: TRENDS, OUTCOMES AND ASSOCIATIONS

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Background Neonatal cortisol assessment is indicated in suspected adrenal insufficiency.

Aims/Objectives Review of neonatal cortisol assessment within our Trust over seven years, to analyse trends, indications, outcomes; and relationships between gestational age (GA), birth weight (BW) and cortisol assessment.

Methodology From cortisol results on neonates (≤ 30 days age) between 2012–2018 (inclusive) we identified random/serial ('screening cortisol') versus cortisol done as part of Synacthen tests.

We analysed trends for testing. Further data collection as follows:

- Screening cortisol: Indication, number of tests, outcomes.
- Synacthen tests: Indication, type of test [short Synacthen test (SST) vs low dose Synacthen test (LDST)], results, short/long term outcomes, relationship to BW/GA.

Results There were 412 cortisol tests over the 7 years, in 172 patients (table 1). Numbers were stable between 2012–2014, but between 2015/2016 and 2017/2018 there was a 230% increase in cortisol; and 430% rise in Synacthen tests. This was despite stable admission rates: 1997 patients over 2015/2016 and 1916 in 2017/2018.

Abstract G558(P) Table 1 Screening cortisol versus Synacthen tests

	Screening cortisol	Synacthen tests
Number of patients	143 (=83%)	29 (=17%)
Split	66.4% (n=95/143): Single screening cortisol test. 33.6% (n=48/143): 2 or more screening cortisol tests.	72.4% (n=21/29) were SSTs. 27.6% (n=8/29) were LDSTs.
Top 3 indications:	Hypoglycaemia(35.6%), ambiguous genitalia(16%), conjugated jaundice(9%).	Hypoglycaemia(44.8%), ambiguous genitalia(6.9%) and hyponatraemia (6.9%).
Outcomes:	Only ONE patient was started on treatment based on just screening results.	38% of the initial Synacthen tests were abnormal (n=11/29). Of these 28% (n=3/11) remained on treatment after age of 2 years: 2 hypopituitarism 1 primary adrenal insufficiency

There was no significant relationship between premature versus term deliveries and abnormal Synacthen tests ($p=0.32$); or between BW (i.e. SGA vs AGA) and abnormal Synacthen tests ($p=0.32$).

Summary/Conclusions Exponential increase in cortisol assessments keeping in with the change in neonatal hypoglycemia guideline. Only 6% of those screened had initial suboptimal synacthen test. Subsequent reassessment of adrenal function is imperative as 72% of the initial abnormal synacthen results were transient. Less than 2% of all screened have on going adrenal insufficiency. There was no association between BW or GA and abnormal Synacthen result.

G559(P) FAMILY ORIENTED VARIABLE AND ITS IMPACT ON CLINICAL PRACTICE

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Aim To assess the clinical, parental involvement and economic impact of the weaning methods of oxygen in LTOT.