Abstracts

Conclusion We have not seen any difference in outcome for hypothermic babies, but the hypothermia rate and the rates of the adverse outcomes were low, so we cannot exclude an effect.

We have seen an increase in the rate of major cranial ultrasound abnormality in hyperthermic babies. This has been demonstrated in previous studies.

We will continue to strive to avoid hypothermia and tolerate the resulting increase in hyperthermia rate until we know whether the association between hyperthermia and brain injury is a causal association, or just an association through the shared aetiology of infection. We are undertaking further work to investigate this.

G569(P) THE CORRELATION BETWEEN EARLY GENERAL MOVEMENT ASSESSMENT AND TWO YEAR NEURODEVELOPMENTAL OUTCOME IN HIGH RISK PRETERM INFANTS

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Aims The Prechtl General Movement Assessment (GMA) is a reliable tool for identifying babies at risk of neuromotor deficit. We sought to compare our GMA results with standardised Bayley's III neurodevelopmental outcomes for a population of high risk babies at a corrected age of 2 years.

Methods High risk premature Infants born during 2016 who received their neonatal intensive care in a level 3 NICU were retrieved from neonatal databases. Those infants who had GMA performed were extracted and the GMA results were compared with the results of 2 year standardised neurodevelopmental assessments.

Results In 2016, 32 babies born between 23 and 32 weeks gestation had GMA performed between 10 to 15 weeks of age. Most infants had 2 assessments. Their birth weights ranged from 570 g to 1850 g. 2 babies were lost to further follow up. 30 were invited for Bayley's III neurodevelopmental assessment at a corrected age of 2 years and of these 3 are still awaiting assessment. Of the 27 assessed, 22 (82%) have a normal 2 year outcome and 21(95%) of the 22 had normal GMA. One had equivocal GMA. 2(7%) of the 27 babies had unequivocal absent fidgety movements on GMA and both of these infants have severe or moderate delay across all Bayley's domains. 1(4%) infant had equivocally absent fidgety movements and did not attend their Bayley assessment but have documented motor delay in standard clinic assessment. 2(7%) infants had moderate cognitive delay on Bayley's testing, but normal motor and speech development and both of these infants had a normal GMA.

Conclusion Our study demonstrates a high level of correlation between abnormal GMA and disability as assessed by standardised methods at 2 years. This is most linked with motor dysfunction rather than cognitive. Our numbers are currently small as the GMA service is new to us, but preliminary results are encouraging. Abnormal GMA identified in the first weeks of life can be used to target those babies for enhanced intervention thus improving their final outcome.

G570(P) THE EFFECT OF INTRAUTERINE GROWTH RETARDATION ON THE LUNG FUNCTION OF PREMATURELY BORN YOUNG PEOPLE

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Background Poor intrauterine growth has been shown to result in increased morbidity in infancy. Our aim was to examine the effect of intrauterine growth retardation on the lung function of prematurely born young people routinely exposed to antenatal steroids and postnatal surfactant.

Methods Lung function was assessed at 16–19 years of age. Forced expired volume at 1 second (FEV₁), forced vital capacity (FVC), forced expiratory flow at 75% (FEF₇₅), lung volumes by plethysmography, diffusion capacity of the lungs for carbon monoxide (D_LCO/VA) measurements were taken and converted to z scores based on sex and height. A birth-weight < the 10th centile was considered small for gestational age (SGA) and those with greater birth weight appropriate for gestational age (AGA).

Results One hundred and fifty-eight young people were assessed, 37 were SGA:

	AGA Mean (SD) or N (%)	SGA Mean (SD) or N (%)	P value
Male	63 (52)	19 (51)	0.939
Gestational age (wks)	26.8 (1.50)	27.2 (1.20)	0.085
Birthweight z score	-0.14 (0.66)	-2.05 (0.55)	<0.001
Postnatal steroids	32 (26)	16 (43)	0.052
BPD	60 (50)	25 (68)	0.055
At assessment age (yrs)	17.4 (0.84)	17.5 (0.73)	0.888
Height (cm)	168 (8.89)	164 (9.13)	0.027
Weight (kg)	65 (15.7)	56 (15.8)	0.006
FEV ₁	-0.87 (1.27)	-1.43 (1.40)	0.028
FVC	-0.13 (1.33)	-0.57 (1.34)	0.093
FEV ₁ :FVC	-1.06 (1.19)	-1.36 (1.27)	0.203
FEF ₇₅	-0.89 (1.25)	-1.39 (1.27)	0.044
FRC _{pleth}	0.45 (1.26)	1.22 (1.55)	0.003
RV _{pleth}	0.87 (1.20)	1.78 (1.62)	<0.001
TLC _{pleth}	0.76 (1.17)	1.16 (1.15)	0.079
D _L CO/VA	-1.98 (1.12)	-2.48 (0.67)	0.004

Conclusion Intrauterine growth retardation was associated with impaired airway and alveolar function at 16–19 years.

G571(P) NEONATAL HAEMATOCRIT MEASUREMENT: DIFFERENT METHODS, DIFFERENT RESULTS?

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Aim Three different methods are widely available in neonatal units for the measurement of neonatal Haematocrit (HCT); centrifugation (spun micro-haematocrit; SHCT), automated

calculation (laboratory full blood count; LHCT) and conductivity (blood gas analyzer haematocrit; BGHCT). All three methods are often used interchangeably or simultaneously. However, limited studies suggest that SHCT values are higher than others due to plasma trapping. This study compares neonatal HCT measurements by the three different techniques using statistical methods.

Methods Retrospective review of data extracted from a point of care testing logbook kept in our neonatal unit (for SHCT and BGHCT) and electronic laboratory records. Venous samples that concurrent testing with more than one methodology was done were included. Capillary and arterial samples were excluded. Results from each method were compared using a paired sample t-test and agreement was examined by Bland-Altman analysis.

Results A total of 137 samples from 127 unique neonatal patients were identified. The mean and median HCT values for each method are shown in table 1. A strong correlation ($R^2 = 0.875$) between LHCT and SHCT values, as well as between LHCT and BGHCT values ($R^2 = 0.903$) was seen. However, SHCT values were higher than LHCT values with a mean difference of 5.19% (4.53, 5.86). A paired t-test found this difference to be statistically significant; $t(126) = 15.5$, $p < 0.001$. This mean difference was even higher (6.7%) in the subgroup analysis for HCT values $> 65\%$ which are consistent with polycythemia. The Bland-Altman difference plot for LHCT and SHCT methods demonstrated a good agreement between the two, but also defined a bias of 5.2%, with an agreement range of -2.18 to 12.57.

Abstract G571 Table 1

	Median	Mean	SD
SHCT	59	58.98	10.45
LHCT	54	53.35	9.25
BGHCT	57	55	11.7

Conclusion Although there is good correlation between all the test values, our study confirms that SHCT values are consistently higher than the others. Further studies are needed to investigate the clinical impact of this observed difference between methodologies, in neonatal practice and particularly in the management of neonatal polycythemia.

G572(P) EVIDENCE FOR FEEDING PRACTICES IN VERY LOW BIRTHWEIGHT INFANTS IN SUB-SAHARAN AFRICA AND IMPLICATIONS FOR FUTURE RESEARCH: AN OVERVIEW OF SYSTEMATIC REVIEWS

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Aim To review the evidence available for optimising feeding of VLBW infants in sub Saharan Africa (sSA) and to identify areas for future research.

Methods We did a comprehensive literature search in Cochrane Database of Systematic reviews, EMBASE, PUBMED and CINAHL (July 2019). The key search terms were: very

low birthweight AND (enteral feeding or enteral nutrition) AND (systematic review or meta-analysis). Systematic reviews and meta-analyses of randomised and quasi-randomised controlled trials of interventions which focused on the effect of four 'basic' feeding practices: when to start enteral feeds, what to feed when EBM is insufficient or unavailable, how to feed and how to advance feeds on weight gain during hospital stay and time to achieve full enteral feeds were eligible for inclusion. We assessed the quality of each review using the AMSTAR (A Measurement Tool to Assess systematic Reviews) tool.

Results We included 8 systematic reviews comprising of 10 comparisons, all were of high methodological quality and assessed what to feed, how to feed and how to advance feeds. There were no reviews which examined the effect of early trophic feeding (at age < 24 hours) and the use of preterm formula. There was no clear evidence of benefit of fortification of breast milk from the 3 reviews assessed. There was no clear evidence of benefit of use of nasogastric versus orogastric feeding and continuous versus bolus feeds. Rapid advancement of feeds was found to reduce time to full enteral feeds and episodes of late onset sepsis. None of the trials were done in sSA.

Conclusion There is a need for pragmatic trials in preterm feeding in sub-Saharan Africa that would consider inexpensive, low technology and sustainable interventions in the area of when to start feeds, what to feed, absolute volumes, modes of feeding and use of fortification. There is evidence that rapid advancement of feeds will confer benefits to babies in sSA where fortification with extra protein or calories might not be feasible, affordable or available.

G573(P) 'HOW LONG IS NOT SHORT?': DURATION OF CAFFEINE THERAPY IN PRETERM INFANTS – A RANDOMIZED CONTROLLED TRIAL

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Aim The aim was to compare recurrence of clinically significant apnea (CSA) using 2 protocols to stop caffeine therapy in preterm infants.

Methods This prospective, randomized controlled trial studied babies born at 26–32 weeks gestation; in 2 groups: Group 1 (SEVEN): Caffeine therapy was stopped immediately once the infants on caffeine were apnea free and off respiratory supports for 7 consecutive days; Group 2 (THIRTYFOUR): Caffeine therapy was continued mandatorily till minimum of 34 weeks postmenstrual age (PMA) and thereafter stopped only after baby was apnea free and off respiratory supports for at least one week. Randomization was done using a computer generated random number sequence and allocation concealment using Sequentially Numbered Opaque Sealed Envelopes. The predefined primary outcome was proportion of infants with recurrence of clinically significant apnea after stopping caffeine. The secondary outcomes included day of recurrence of CSA, PMA of last caffeine dose, adverse effects, Extrauterine growth restriction, Necrotizing Enterocolitis, Bronchopulmonary dysplasia, Retinopathy Of Prematurity, and mortality.

Results 120 infants were randomized: 60 to each group. There was no difference in the baseline characteristics between the