consultants who had a case load of more than 100 children with inflammatory bowel disease. Remaining 40% responses were made up by consultant paediatricians with gastroenterology interest and specialist nurses.

Less than half of the participants reported that they do routine screening for iron deficiency as part of IBD management. The lab parameters used to confirm iron deficiency varied significantly. In our survey, 28% of the participants were unsure or did not agree correcting iron deficiency anaemia alone will improve the quality of life in IBD patients if underlying disease control could not be improved. While majority of the participants (48.5%) used oral iron as the first line treatment, some (8.5%) were using IV iron as their first line. Our survey showed that only 11.4% of the participants reported that they had a local or regional guideline.

Conclusion Our survey highlights that there is significant variation in practise among the clinicians in methods of diagnosing and treating iron deficiency anaemia in children with IBD. It also underscores the need for evidence based national guidelines in this area.

G202(P) A SURVEY OF NECROTISING ENTEROCOLITIS AT A TERTIARY NEONATAL UNIT

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Aims Necrotising enterocolitis (NEC) is a gastrointestinal emergency occurring in approximately 1–3% of neonates admitted to intensive care units. It carries significant mortality (up to 50%) and an extensive range of short and long term complications.

Despite decades of research, its pathogenesis remains poorly understood, though current understanding suggests a multi-factorial aetiology. Indeed, prematurity, feeding practises, genetics, various maternal factors and certain neonatal morbidities have all been implicated in the pathogenesis of NEC. As there is a paucity of published surveys providing a general overview of NEC in the last decade, we aimed to provide a more current perspective in a tertiary neonatal unit.

Methods Using diagnostic criteria outlined in the 11th BPSU Annual Report, 49 infants with NEC within a 13 month period were retrospectively identified. Subsequently, data from patient records (including maternal data) and imaging reports was extracted and analysed. The presence of various risk factors (including those mentioned above) and information regarding the presentation, diagnosis and management of NEC in these infants were recorded along with complication and mortality rates.

Results Risk factors including intrauterine growth restriction (18.4%), patent ductus arteriosus (51%) and gastroschisis (10.2%) were highly prevalent within our cohort. Consistent with previous literature, 86% of infants were premature and 71.4% were very low birthweight infants (<1500g). However, 24.5% of infants were from multiple pregnancies which was higher than expected.

Intriguingly, whilst the majority of infants (75.5%) were exclusively fed with breast milk initially, by the time NEC was diagnosed this proportion had reduced dramatically (32.7%).

Gaseous distension was the most commonly seen radiographic feature (87.8%) whilst 36.7% received surgical interventions with nearly all undergoing laparotomy. Gut-related complications were observed in 20.4% of patients at discharge.

Conclusion This survey provides a more current insight into the progression of NEC from predisposing factors to current management and complications. In agreement with previous studies, no risk factor was uniformly observed. Of particular interest, however, is the trend regarding breast milk feeding. As breast milk has been shown to play a protective role in NEC, it is therefore imperative that support is offered to mothers to encourage continuation of breast milk feeding.

G203(P) TRANSIENT TEMPERATURE GEL ELECTROPHORESIS OF STOOL SAMPLES OF PRETERM INFANTS IN A MULTICENTRE OBSERVATIONAL STUDY

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Aims Despite the effect of enteral feeding on the development of intestinal microbiota in preterm infants remaining poorly understood, trials aiming to prevent necrotising enterocolitis (NEC) using probiotics are well-established. Exclusively breast milk fed preterm infants have a reduced risk of developing NEC and this may be linked with a more 'beneficial' gut microbiota.

Methods The NAPI Study (see abstract BEAT82431) sequentially recruited infants <32 weeks and <1.5Kg birth weight. Non-meconium faecal samples from the first and fourth weeks of life in 22 infants, 12 with NEC, were analysed by PCR-Transient Temperature Gel Electrophoresis using universal bacterial primers. Species richness and similarities were compared between infants according to feed type: EBM, expressed breast milk, vs Mixed, breast and formula milks.

Results There was large variability between number (1–17) and species diversity (25–36 different species). Number of predominant bacterial species did not increase between the 1st and 4th week of life. Bacterial composition varied largely between the 2 sample points, No difference in species richness or similarity within the 2 feeding groups was observed. 4 bands were identified in >50% of infants. Intra-individual similarity varied greatly and ranged from a similarity index (Cs) of 0% to 66.8%. There was no statistical difference between the similarity indices of the feeding groups ($p = 0.8852$) or between those with and without NEC ($p = 0.1719$).

Conclusion Microbial community of preterm neonates undergoes several interindividual changes during their first month of life. The feeding mode did not seem to have a major impact on the development of bacterial diversity.

G204(P) CAN TAUROLIDINE-BASED CATHETER LOCKS REDUCE CENTRAL VENOUS CATHETER RELATED BLOOD STREAM INFECTIONS IN CHILDREN ON LONG-TERM HOME PARENTERAL NUTRITION?

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Objectives and study To compare the incidence and characterise the type of catheter-related blood stream infections (CRBSIs) in children with intestinal failure on long-term home parenteral nutrition (PN), using heparin-saline based catheter locks versus those using taurolidine-based catheter locks. There is growing body of evidence that taurolidine-based catheter locks, which have a broad-spectrum antimicrobial and antifungal action, is associated with a decreased incidence of CRBSIs children on home PN.

Methods All children referred to a tertiary paediatric gastroenterology service with temporary or on-going intestinal failure requiring long-term PN or preparation for home PN between 2005–2011 were included. Children were given a single-bag system of PN with each infusion via central venous catheter. Parents were formally trained in aseptic techniques and to instil heparin-saline or taurolidine-based solution into the catheter after completion of each infusion. CRBSIs were defined as a laboratory-confirmed blood stream infection from with a peripheral or central venous sample. Results were excluded if evidence that the source of infection was from a second site. All cultures results were confirmed through the microbiology database and clinical records. Research ethics committee approval was sought, but ethical review was not deemed necessary.

Results 32 children (18 boys, 14 girls) were identified who required PN for intestinal failure for combined total of over 12,500 PN days. 9 children had no positive blood cultures. There were 126 positive blood cultures (27 organisms isolated) in the remaining 23 children. Of the 21 children who used a heparin-saline based catheter lock, 86% had one or more CRBSI. 11 children used a taurolidine-based catheter lock, with only 45% having one or more CRBSI.
Conclusion There was a significant reduction in the incidence of CRBSIs in those children using taurolidine-based catheter locks (TauroLock™) compared to heparin locks. There was an absolute risk reduction of 40.3% (95% CI 7.25 – 73.3%) with a numbers needed to treat (NNT) of 3 (95% CI 1.4–13.8). The use of taurolidine locks on all children on long-term home PN could reduce morbidity and morality, and have a significant impact on the associated costs of CRBSIs. Taurolidine-based catheter locks should be considered for all children on long-term PN.

G205(P) STOOL SHORT CHAIN FATTY ACID CONCENTRATIONS IN A COHORT OF PRETERM VERY LOW BIRTH WEIGHT INFANTS WITH AND WITHOUT NECROTISING ENTEROCOLITIS

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Introduction Diagnostic markers of necrotising enterocolitis (NEC) remain evasive. Stool short chain fatty acids (sSCFAs) are a product of bacterial fermentation of undigested carbohydrate and protein noted to alter in animal models of NEC. According to the Lawrence Hypothesis, they may be causative of NEC. We sought to correlate changes in sSCFAs over the first month of life in a cohort of preterm, very low birth weight infants with and without NEC.
Methods 56 sequentially recruited infants <32 weeks and <1.5Kg birth weight within week 1 of life. Stool samples taken once weekly for the first 4 weeks, analysed by gas chromatography-mass spectrometry (mcg/g wet weight). 11 individual acids were measured: acetate, lactate, isobutyrate, butyrate, isocaproate, caproate, isovalerate, valerate, octanoate, heptanoate and lactate. NEC was diagnosed by consultant, external collaborator and radiologist, using Bell's Criteria.
Results N = 56 infants (83% recruitment). 20 developed ≥Bell's 2a. 8 required surgery (5 ileostomy). Further clinical/demographical information can be found in abstract BEAT82431. There were no correlations between gestation, feed, NEC and sSCFAs. No significant differences were observed in weekly totals. Wide interquartile ranges were noted (Week 1: 20.9 ± 26; Week 2: 15.8 ± 19.1; Week 3: 13.2 ± 20.8; Week 4: 12 ± 22.9). Acetate and lactate dominated each sample, regardless of gestation, feed or NEC ($p < 0.05$). Subgroup analysis revealed significant differences in stage 2a and 3b NEC. Stage 2a showed higher concentrations of propionate in week 4 than week 3 (0.74 ± 6.45 Vs 0.15 ± 0.17, $p = 0.05$ MWU), and lower valerate in week 4 than 2 (0.00476 ± 0.012 Vs 0.0129 ± 0.028, $p = 0.02$ MWU). Stage 3b isobutyrate and heptanoate concentrations were significantly lower in week 4 than 3 (I: 0.007 ± 0.026 Vs 0.053 ± 0.09, $p = 0.03$; H: 0.011 ± 0.013Vs 0.023 ± 0.043, $p = 0.03$).
Conclusion Despite a wide variation in clinical status, the levels of sSCFAs remained remarkably consistent. Small yet significant differences in minor sSCFAs were seen in subgroup analysis in those with stage 2a and 3b NEC. Reasons for the high incidence of NEC require further investigation.

G206(P) THE IMPACT OF ESPGHAN GUIDELINES ON THE INVESTIGATIONS FOR COELIAC DISEASE

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Background Coeliac Disease (CD) is an immune-mediated systemic disorder elicited by gluten and related prolamines in genetically susceptible individuals.[1] The diagnosis of CD depends on gluten dependant symptoms; CD-specific antibodies – against TG2, endomysial antibodies (EMA), and deamidated forms of gliadin peptides (DGP); the presence of HLA-DQ2/HLA-DQ8 and characteristic histological changes in duodenal biopsy. ESPGHAN guidelines suggest histological assessment may be omitted where clinical symptoms may be attributed to CD in addition to a high IgA anti-tTG levels (>10 times the upper limits of normal for the reference laboratory), verified by EMA positivity and HLA DQ2/DQ8 positivity.[1]
Aim Review the possible impact of ESPGHAN guidelines on the number of patients requiring histological assessment for CD.
Methods 3 year retrospective review of serology and histology of children screened for CD.
Results January 2009 – January 2012, 729 children screened. 32 positve with normal IgA levels.
Conclusion All but 1 patient with high anti-tTG levels (>10 X) had characteristic histological changes. Anti-tTG levels <10 X normal range in all samples from January 2010 – 2012 and 68% of all positive samples. Our results suggest that in most cases histological assessment will continue to play an important role in the diagnosis of CD. A multicentre prospective study on CD is currently underway.

Abstract G206(P) Table 1

Group 1 (January 2009–2010) anti-tTG <12U/ml			
anti-tTG (U/ml)	N = 19	Histology positive	Histology negative
12–18	2	1	1
18–60	4	2	2
60–100	3	3	0
>120	10	8	1
Group 2 (January 2010–2012) anti-tTG <10U/mL			
	N = 13		
7–10	3	3	0
10–50	6	4	0
50–100	4	4	0

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Young Persons Special Interest Group/Child Public Health Interest Group

G207 IS THERE A LINK BETWEEN ADHD AND SOCIAL DEPRIVATION?

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Aim Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder that affects approximately 4–6% of school-aged children. Research into the aetiology of ADHD has focussed on genetic and biological factors, with much less information on environment and social aspects. There is a general perception that