**Abstract 1380 Table 1**

<table>
<thead>
<tr>
<th>Distinct admissions</th>
<th>&lt;1500g</th>
<th>Diagnosis NEC</th>
<th>NBM &gt;7days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>8750</td>
<td>1407</td>
<td>296</td>
</tr>
</tbody>
</table>

**Abstract 1380 Table 2**

Outcome

<table>
<thead>
<tr>
<th></th>
<th>Survived to discharge</th>
<th>Died</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical</td>
<td>56</td>
<td>48</td>
<td>8</td>
</tr>
<tr>
<td>Conservative</td>
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<td>Overall</td>
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</tr>
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**Discussion** The standardised use of Badger information system across the network allowed us to audit the outcome of babies with NEC within our network. This is limited by the inter-user variation in quality and detail of information entered.

The National Neonatal Collaborative Necrotizing Enterocolitis Study is currently underway. Our audit provides some insight into the limitations of using Badger alone as a source of information. We need to improve the quality of data entered into Badger.

**Abstract 1381**

**GASTROINTESTINAL PERFORATIONS IN NEONATAL PERIOD**

E Blevrakis, C Seremeti, N Partalis, O Dede, A Alegakis, E Korakaki, C Gianakopoulou, G Sakellaris. 1Department of Paediatric Surgery, University Hospital of Heraklion, Crete; 2Department of Toxicology, University of Crete; 3Neonatal Intensive Care Unit, University Hospital of Heraklion, Crete, Heraklion, Greece

**Aim** This report describes our experience concerning gastrointestinal perforation (GI) due to Necrotizing enterocolitis (NEC) during a 10-year period.

**Method** The cases of 27 GI perforations, which were treated in our hospital, were retrospectively reviewed.

**Results** All patients were neonates and infants up to the age of 2 months. The study population consisted of 16 boys (59.3%) and 11 girls (40.7%). Twenty one (77.8%) neonates were pre-term and the median gestational age was 28 weeks. Twenty four (88.9%) cases of perforation underwent laparotomy. The overall mortality was 63%. Seventy six percent of the pre-term neonates and only 16.7% of the full-term died.

**Conclusions** GI perforation is still connected with a high mortality rate, with NEC being the main cause of death. The neonates who did not undergo surgery all died.

**Abstract 1382**

**INTRODUCING ROUTINE PROBIOTICS FOR PRETERM NEONATES - NEPEAN HOSPITAL SYDNEY AUSTRALIA APPROACH**

H Nash, M Passant, V Raisah. South West Midlands Neonatal Network, Birmingham, UK

**Introduction** Necrotising-enterocolitis is the commonest gastrointestinal emergency in very low birth weight (VLBW) infants. The incidence is around 7-per-100 of VLBW infants. Confirmed cases require aggressive medical therapy, nil-by-mouth for 7–14 days and triple antibiotic therapy. Timely surgical intervention is necessary in those who perforate or are critically ill.

**Aim** To give a network perspective on the diagnosis, management and outcome of infants affected by NEC focusing on those requiring surgery.

**Method** Data was retrospectively collected from the Badger database over two years for babies within the South West Midlands Newborn-Network with a diagnosis of NEC. Babies who were treated for at least 7 days were included, focusing on those requiring surgery.

**Results**

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**Abstract 1383**

**IMPROVEMENT OF GUT MICROBIOTA AFTER PROBIOTIC TREATMENT OF PREMATURE NEONATES FOR THE PREVENTING OF NECROTIZING ENTEROCOLITIS**

B Smith. Statens Serum Institut, Copenhagen, Denmark

**Purpose** Necrotizing enterocolitis (NEC) is the commonest acquired disease of the gastrointestinal tract in premature neonates. Probiotic supplementation with *Lactobacillus rhamnosus* and *Bifidobacterium lactis* was introduced to reduce NEC and potentially provide benefits for the preterm neonates. We study if premature neonates were colonized with *L. rhamnosus* and *B. lactis* and investigated what influence probiotics had on clinical outcomes.

**Methods** Faecal samples and clinical information from neonates before and after the introduction of probiotics were collected. 254 premature neonates without probiotics and 101 premature neonates with probiotics all less than 30 weeks of gestation were enrolled. Faecal samples and clinical information during the first month of life from all premature neonates were collected.

**Results**

1. Comprehensive literature review to develop evidence based guidelines for optimal use of probiotics in preterm neonates.
2. Identifying a suitable product based on the systematic review of RCTs in preterm neonates, and probiotics listed by Therapeutic Goods Administration, (TGA).
3. Approval of selected probiotic product (Infioran) from local area drug and therapeutics committee.
4. Endorsement from local Ethics Committee.
5. Authorised Prescriber application to TGA via Pharmacy Department.
6. Approval from authorities regarding importing probiotic product from overseas.
7. Independent quality assessment (Taxonomy confirmation, antibiotic susceptibility, and osmolarity).
8. Further assessment for ruling out contamination from a TGA approved laboratory.

2/19 locally available products were potentially appropriate for use in preterm neonates but turned out suboptimal in quality despite manufacturer’s data. (Patole et al PSANZ 2010) An overseas proven probiotic product was selected (Infioran) and imported after following above stepwise approach. After vigorous quality assessment Infioran was introduced routinely in preterm neonates at Nepean Hospital Sydney.

**Conclusion** Safe and effective probiotic product is accessible in Australia for routine use in preterm neonates. Further co-operation is needed between industry, regulatory authorities and clinicians to simplify this process.
neonates without probiotics treatment were run, 0.7% were found positive for *L. rhamnosus*, 0.4% were positive for *B. lactis*, none of the samples were positive for both. A total of 247 faecal samples from premature neonates treated with probiotics were run, 57.0% of the collected faecal samples contained both *L. rhamnosus* and *B. lactis*, 38.0% were positive only for *L. rhamnosus*, 4.4% were positive for only *B. lactis* and 0.6% was negative for both probiotics.

**Conclusion** The probiotic suppletions do reach the gastrointestinal tract and be detected. In general the rate of NEC and death were reduced in premature neonates treated with *L. rhamnosus* and *B. lactis*.

**1384 KNOWLEDGE AND ATTITUDE OF BREAST FEEDING AMONG FEMALES IN SAUDI ARABIA**

doi:10.1136/archdischild-2012-302724.1384

1AT Alosaimi, 1M Buhaisi, 1M Shoukri, 1S Al-Alayyan, 1T Alkharfi, 1K Alfelah. 1Pediatrics, King Saud University; 1Pediatrics, King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia

**Background** As stated by the WHO, exclusive breastfeeding is unqualified for healthy growth and development in young infants. In this study, we attempted to address the attitude of females in Saudi population toward awareness and knowledge of breastfeeding.

**Method** An observational cross-sectional survey distributed participants who were interviewed at shopping malls in the city of Riyadh. The survey addressed socio-demographic data and attitude of eligible females toward breastfeeding exploring the benefits and reasons limiting breastfeeding practice among the population.

**Results** A total of 332 females were enrolled in this study. Most of the interviewed participants were Saudi, married, and had more than one child. 86% of interviewed participants believed the best way to start feeding the newborn are solely breastfeeding, 41% attended breast feeding health education. Availability of formula, cosmetic, short maternity leave from job and lack of awareness were factors believed to limit breast feeding. Mother’s education, parity, and age significantly correlated with the belief that exclusive breast feeding is the best start for the newborn.

**Conclusion** Females in Saudi Arabia are well aware that breast feeding is the best start for the newborn. Practical steps such as intensive education, support at postnatal period and longer maternity leave are required to improve rates of exclusive breast feeding in the country.

**1385 OPTIMIZING NUTRITION AFTER BIRTH WITH A UNIQUE STANDARDIZED PARENTERAL SOLUTION MAY REDUCE ELECTROLYTES ANOMALIES IN <1250G INFANTS**

doi:10.1136/archdischild-2012-302724.1385

1T Senterre, J Rigo. University of Liège, Liège, Belgium

Nutritional recommendations in VLBW infants advised to increase protein and energy intakes but also advised to avoid parenteral nutrition electrolytes intakes during the first 2–3 days of life to reduce electrolytes anomalies that are frequently observed.

**The Aim** of this study is to evaluate the electrolytes tolerance of an optimized nutritional program using a unique standardized parnteral nutrition solution (StPNsol) containing electrolytes from the first day of life in <1250g infants (N=102) during the first 15 days of life.

On the first day of life, PN intakes from the StPNsol included $38±6$ kcal/kg*d, $2.4±0.3$ g/kg*d of protein, $0.8±0.4$ mmol/kg*d of sodium and $0.8±0.4$ mmol/kg*d potassium. Afterwards, nutritional intakes rapidly increased.

Hypernatremia >150 mmol/L occurs in 16 infants (15.6%), on 27 days (1.8%), essentially between 1 and 5 days of life (18 days).

Hyponatremia <130 mmol/L occurs in 31 infants (30.4%) on 55 days (3.6%), essentially between 1 and 7 days of life (40 days).

No infant develops a hyperkalemia >7 mmol/L. Hypokalemia <3 mmol/L occurs in 9 infants (8.8%) on 16 days (1.0%), mainly between 1 and 3 days of life (7 days).

This study demonstrates that increasing protein and energy intakes with a StPNsol containing electrolytes from the first day of life is not associated with an increased incidence of hypernatremia or non-oliguric hyperkalemia. Furthermore, this study seem to suggest that optimizing nutritional intakes and increasing anabolism may require higher electrolytes intakes than usually recommended during the first days of life in VLBW infants.

**1386 DOES TOTAL PARENTERAL NUTRITION RAISE SERUM VITAMIN D LEVEL IN PRETERM INFANTS?**

doi:10.1136/archdischild-2012-302724.1386

1C Onwumere, T Martin, R McCarthy, M Kilbane, MJ McKenna, N Murphy, EJ Molloy. Neonatal Intensive Care, National Maternity Hospital, Holles Street; 2Childrens University Hospital Temple Street; 3UCD School of Medicine & Medical Sciences, University College Dublin; 4Metabolism Laboratory, St Vincent’s University Hospital; 5Royal College of Surgeons in Ireland, Dublin, Ireland

**Background** Vitamin D (25OHD) plays an important role in skeletal and non skeletal health. 25OHD deficiency is common in pre-term infants. Very low birth weight (VLBW) preterm infants depend entirely on total parenteral nutrition (TPN) and breast milk for their nutritional requirements during early post-natal life.

**Aim** To assess serum 25OHD status in VLBWs and the effect of TPN on serum 25OHD level during early parenteral nutrition.

**Methods** Serum 25OHD levels were evaluated by radioimmunoassay from VLBWs at birth and immediately before commencement of oral additional vitamin D supplementation.

**Results** 22 VLBWs were included in this study and had 44 samples taken. Their mean gestational age (SD) was 28±2 weeks and birth weight 1.2±0.4 kg. There were 11 males and 11 females, 3 Black Africans, 1 Asian, and 18 Caucasians. The number of TPN days was 12±5 and the daily intake of 25OHD from TPN was 118±45 IU/day. The 25OHD content in expressed breast milk was negligible. The 25OHD levels increased from 26±18 nmol/ml (at birth) to 36±20 nmol/ml (pre-vitamin D enteral supplementation) (p=0.09). The increase in 25OHD levels did not reach sufficiency (≥50nmol/L).

**Conclusions** Inadequate nutrition during the early days of preterm infants can lead to poor growth and increased morbidity. Total parenteral nutrition and breast milk are the predominant source of nutrition in early postnatal life of VLBWs. This study showed that vitamin D content of TPN increased 25OHD level but not up to sufficiency (≥50nmol/L).

**1387 IMPACT OF PERINATAL NUTRITION ON KIDNEY FUNCTION AT FIVE YEARS IN VERY LOW BIWEIGHT CHILDREN**

doi:10.1136/archdischild-2012-302724.1387

1R Vieux, S Galu, F Guillemot, JM Hascoet. Department of Neonatology, Maternite Regionale Universitaire, Nancy Cedex; 2EA4360 APEMAC, Lorraine University, Nancy, France

**Aim** To determine the impact of perinatal factors on renal function in five year-old preterm-born children.

**Material and Methods** Prospective longitudinal study of preterm-born children from birth to five years of age, and five year-old full-term controls. Renal function measured in the neonatal period and at five years.

Primary outcome was renal function at five years: blood pressure (BP), estimated glomerular filtration rate (eGFR), albuminuria. Multivariate analysis was performed with multiple linear regression models.