that can potentially be used on the neonatal units and postnatal wards.

**Aim** To develop neonatal track and trigger observation chart in order to enable early identification of neonates in need of urgent medical assessment and intervention.

**Methods** A core group involving local paediatricians, neonatal nurses and midwifery sister was established to lead the project. The group contacted various neonatal units in different newborn networks in England seeking information if early warning scores or track & trigger system was being developed or already well established. Literature search was carried out to identify studies related to newborn early warning system scores.

**Results** One relevant published study was retrieved from Medline search (Roland 2010). None of the neonatal units contacted had an established early warning neonatal scoring system. Group developed newborn observation chart for “At Risk” and “High Risk” Infants. It was based on neurophysiological parameters, intervention criteria and staff concerns. A decision tree was devised based on trigger scores.

**Conclusions** Prospectively evaluation of Burton neonatal track and trigger observation chart is required to ascertain its efficacy. If found to be reliable and valid, it will facilitate observation of neonates deemed to be at risk and prompt an early review in triggered neonates.

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**CARDIAC INVOLVEMENT IN YOUNG INFANTS WITH SEPSIS-LIKE ILLNESS IS NOT ASSOCIATED WITH ENTEROVIRUS INFECTION**

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**Introduction** Enterovirus (EV) infection is common in young infants, amongst those admitted to intensive care units acute myocarditis has been reported. We questioned if myocardial involvement exists in less seriously ill children with EV infection.

**Methods** From August 2011 onward we included children under 90 days of age, who were admitted to our hospital for sepsis-like illness. During admission serum concentrations of Troponin-I, CK, CK-MB, BNP and NT-Pro-BNP were determined and an electrocardiogram and echocardiography were performed. Differences between children with and without EV infection were studied.

**Results** We present results of the first 28 patients included, 14 were EV positive. Basic patient characteristics were similar between EV positive and negative infants. In 17/28 infants cardiac enzymes could be determined. CK was normal in all, CK-MB was elevated in 11 infants, Troponin-I in 2, BNP in 14 and NT-Pro-BNP in all but one. There was no difference in cardiac enzyme concentration between the two groups.

Electrocardiograms showed signs of ischemic heart disease in two infants that disappeared at follow-up four weeks later. One was EV positive and one negative. In both cases not enough material was collected to evaluate cardiac enzymes.

**Conclusion** None of the children showed signs of cardiac dysfunction at echocardiography.

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**RISKS FACTORS FOR METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) ACQUISITION IN PEDIATRIC INTENSIVE CARE UNIT (PICU)**

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**Background** MRSA is a significant problem in ICUs. Data on risks for acquiring MRSA while in PICU are minimal.

**Methods** Children < 19 years old admitted to PICU between 4/1/2008 & 3/31/2011 had admission & weekly MRSA nasal surveillance done. MRSA affected (colonized or infected) children were compared to unaffected.

**Results** There were 2861 admissions. Mean age 6.7 yrs (median 4.7); 1444 (50.5%) male. 2632 (92%) of 2681 either had a known history of MRSA or an admission surveillance test and were included in the analysis. 415 (15.8%) were MRSA affected; 264 had known history of MRSA, 152 were MRSA+ on admission and 19 became affected while in PICU (18 colonized & 1 infected). 14 (77.8%) of 18 colonized were identified on weekly surveillance, 4 (22.2%) had a positive non-surveillance culture. 19 children who became MRSA affected were further analyzed. There was no significant difference in gender or ethnicity between the two groups. MRSA affected were younger (6.68 vs 6.79 yrs, p=0.03). Mean Hospital length of stay (LOS) prior to PICU admission was longer in the MRSA affected group (2.3 vs 0.6 days, p=0.04). Systemic steroids (p=0.009), mechanical ventilation (p=0.001) and a central venous catheter (CVC) (p=0.001) were all higher in the MRSA affected group; surgery & antibiotic use were not. Mean LOS in the PICU was 4.3 days, Mean LOS in the PICU before becoming MRSA affected was 18 days.
Conclusions Longer hospital stay prior to PICU admission, steroid use, mechanical ventilation and CVC were associated with becoming MRSA affected.

**1572** USUAL MICROBE STRAINS IN A PEDIATRIC INTENSIVE CARE UNIT

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**Background and Aim** Healthcare-associated infections (HAIs) are an important cause of morbidity and mortality among critically ill children. This retrospective study was performed to estimate the burden of HAIs in a paediatric intensive care unit of our country. During the 6/2 years study 660 patients were treated in the PICU for >48 hours.

**Methods** A retrospective study of healthcare associated pneumonia (HAP) blood stream and urinary tract infections is recorded.

**Results** The crude infection rate were healthcare-associated pneumonia, bloodstream and urinary tract infections and approximately above the two thirds came from microbes isolated from bronchial aspirations. Table 1 positive cultures.

*Pseudomonas Aeruginosa* was the commonest infected bacteria followed by Staphylococcus Aureus and Klebsiella Pneumoniae in very low percentage. Table 2 microbes strain.

**Abstract 1572 Table 1** Positive cultures

| BAL | 68.75% | 81% |
| BLOODSTREAM | 22.2% | 81% |
| URINE | 9.76% | 81% |
| OTHER SYSTEM | 19% | |

**Abstract 1572 Table 2** Microbes strains

*Pseudomonas Aeruginosa* 39%

*Staphylococcus Aureus* 5%

*Klebsiella Pneumoniae* 4.65%

**Conclusions** The above data are similar in those in literature and active surveillance is essential to reduce the burden of HAIs and intensive efforts have already began.

**1573** SEPSIS AND MULTIPLE ORGAN DYSFUNCTIONS IN OUR PICU

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**Background and Aims** Multiple organ dysfunction (MODS) may occur during septic disease and it associated with high mortality. The final outcome depends of many factor such as the age, the host response to infection, the site and type of infection, the development of shock, the underlying disease, and the number of failed organs.

**The Aim** of the study was to determine the frequency of sepsis and MODS in our PICU, define the clinical and laboratory features of affective children and evaluate their outcomes.

**Methods** A retrospective analysis of children presenting with sepsis and MODS in our PICU between January - December 2011. The period of study was 10.9% (n=52) of hospital admissions. Girls were 63% and boys 37%. The overall mortality was 36.5%. Three children died during the first 24 h after the admission and for the rest the mean hospital stay was 8.4 days.

**Conclusions** Sepsis and MODS were associated with increased severity of illness.

The mortality rate associated with multiple organ system failure in pediatric patients is high. Mortality increased with increasing number of organ dysfunctions.

**1574** HEPATOADRENAL SYNDROME IN EGYPTIAN CHILDREN WITH LIVER CIRRHOSIS WITH AND WITHOUT SEPSIS

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The similarities between septic shock and liver failure led to the proposal of the term hepatoadrenal syndrome. This study aimed to evaluate children with liver cirrhosis for the presence of adrenal insufficiency especially during critical illness. It was designed to evaluate adrenal function for 24 children with liver cirrhosis of various etiologies by measuring basal cortisol level and measuring the peak level after 30 minutes of short low dose ACTH stimulation test. They were categorized to; group 1 included 12 patients with sepsis and group 2 included 12 patients without sepsis. It was found in this study that no one of group I or group 2 had absolute adrenal insufficiency; however 11 patients, 8 (66.6%) of group 1 and 3 patients (25%) of group 2 had relative adrenal insufficiency (RAI) as the increment detected in cortisol level after stimulation was < 9 µg/dL. Most of patients with RAI (72.7%) were categorized as having Child -Pugh C liver cirrhosis. The presence of ascites, high temperature, high C reactive protein, neutrophilia, high ALT, AST, high total bilirubin, prolonged INR and lower albumin were all risk factors associated with the occurrence of RAI. Survival rate in patients with normal adrenal function (92%) was significantly better than in patients with RAI (27%) (p=0.02). It was concluded from this study that a high incidence of relative adrenal insufficiency was found in children with liver cirrhosis. It was more common in the presence of sepsis, related to the degree of liver cirrhosis and carried a bad prognosis.

**1575** LUMBAR PUNCTURE(LP) IN INFANTS AND CHILDREN WITH SUSPECTED MENINGITIS:REGIONAL TRENDS OVER 15 YEARS

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**Background and Aims** Lumbar puncture (LP) has been long considered a useful tool to assist in the diagnosis of meningitis. We aim to study the trends of successful LPs in an Irish Regional hospital and to further analyse, timing of LP, microbiological and serological positive yield and the potential impact on treatment.

**Methods** A retrospective analysis of laboratory data of all successful LPs for suspected meningitis among the 0–15 year age group was performed from July 1996 to December 2010 at University Hospital Limerick. Repeat studies and samples from the Regional Maternity hospital were separately analysed. CSF studies for other conditions were excluded. HIPE data on meningitis admissions and supportive laboratory data were collated. Hospital Audit committee approval was obtained.