duration of placement was 6±5 days. All the lines were inserted with maximum sterile barrier and 86% were accessed once per day under strict sterile protocol. 35% lines were correctly placed, 64% required manipulation and post manipulation catheter tip was confirmed in 64% cases. 58% of the lines completed treatment. Line occlusion was the most common complication (17%), which significantly reduced the duration of line placement by 3.3 days (p=0.02). The infection rate was 13 per 1000 catheter days.

**Conclusion** There is a high rate of PICC associated complications with occlusion of lines accounting for most of these. Our NICU is reviewing whether thrombolytic agents should be considered routinely for line occlusion. Attention has been directed to ensure that line position is reconfirmed by X-ray after manipulation. Our infection rate still remains high when compared to rates quoted internationally.

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**822** | **DESCRIBING THE USE OF NEONATAL THERAPEUTIC INTERVENTION SCORING SYSTEM IN A UNIVERSITY HOSPITAL IN BRAZIL - A PILOT STUDY**

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**Background and Aims** The Neonatal Therapeutic Intervention Scoring System (NTISS) is an index of intensity of use of technologies with significant association to mortality risk. We intended to analyze this score use in the NICU of a university hospital, correlating with mortality.

**Method** It was a prospective cohort including 129 newborns admitted to NICU during a 6-week-period. Patients were followed for up to 31 days, with daily calculation of NTISS. Demographic data were all obtained by review of medical records, under informed consent. For statistical analysis It was used the $x^2$ and Mann-Whitney tests.

**Results** The most frequent cause of hospitalization was neonatal jaundice (35%), followed by early respiratory dysfunction (16%) and prematurity (13%), the mean hospital stay was 10 days. The median NTISS was 6 on the first day and remained stable in the next days. Only 4 patients died during the study - with a first day NTISS median of 28 vs 6 (p = 0.002). This behavior continued until the seventh day and SNAPPEII score also showed this kind of tendency. Patients with extreme prematurity, congenital malformation or early respiratory dysfunction that remained hospitalized until 31 days exhibited NTISS values greater than the median until the 27th day of admission.

**Conclusion** The NTISS, at least in the first week of hospitalization, was higher in patients who die, as a predictor of mortality in this sample. The NTISS remained high under conditions known to be severe for a long period of hospitalization, which may affect heath costs.

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**823** | **CLINICAL PROFILE OF PATIENTS AND PREDICTIVE VALUE OF PIM 2 SCORE AT PAEDIATRIC INTENSIVE CARE UNIT IN WESTERN INDIA**

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**Background and Aims** PIM2 score gives the risk score for specific clinical disease condition. We studied the profile of patients admitted in PICU and validated PIM2 score in our tertiary care setting.

**Methods** Detailed evaluation of patients admitted to the PICU between January 2010 and December 2011 was done for presenting signs and symptoms, management by trauma team and pediatric team and the appropriateness of the intereventions were recorded till the child had spent 24 hours in the hospital. Outcomes were death, discharge and DAMA. The PIM2 scoring was done at the time of admission. Data was analyzed by Logistic regression and ROC curve analysis.

**Results** Of 742 consecutive admissions (295 females and 447 males, 39.08% infants), 35.84% patients were mechanically ventilated and mortality was 7%. Significant anemia (27.2%), pneumonia (19.5%), meningitis/encephalitis (17.1%), septicemia and septicemic shock (29.5%) were seen. 25.6% patients admitted in PICU took discharge against medical advice due to unaffordable medical care. Sensitivity of PIM2 score was 65.7%, and specificity was 70.6% at cut-off point of 1.9. Predictive capability as assessed by calculating the area under ROC curve was 0.724 (95% CI 0.69 to 0.76). Logistic Regression analysis revealed that age, shock, Protein energy malnutrition, multiple organ dysfunction syndrome, meningitis/encephalitis, adherence to guidelines, ventilatory support requirement are significant predictors of Mortality.

**Conclusions** Infectious diseases were the most common cause of PICU admissions and mortality. PIM2 scoring did not correlate well with outcome suggesting need of recalibration. Following published emergency guidelines was associated with significantly better outcome.

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**824** | **PHYSIOTHERAPY TECHNIQUES FOR PLEURAL EFFUSIONS IN A PEDIATRIC INTENSIVE CARE UNIT (PICU): WHICH TECHNIQUE IS THE MOST EFFICIENT?**

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**Aims** To compare different chest physiotherapy techniques in pediatric patient with infectious pleural effusion and thorax drain admitted in PICU.

**Methods** We conducted a monocentric, randomized, assessor-blind trial. The patients were randomized in three groups: those who have received intrapulmonary percussive ventilation (IPV), those who have received autogene drainage (AD) and were compared to the control group (CG) which no physiotherapy was administered. Only physiotherapists were aware of the allocation group of the patients.

**Results** 24 patients were included (IPV: 7, AD:8, CG: 9). All patients had a infectious pleural effusion and thorax drainage. The occurrence of lung-necrosis, empyema, drained pleural fluid per body area, need of fibroscopy and Video assisted thoracoscopy (VATS), total length of stay in PICU and in hospital, days of oxygenothepy needed and the evolution of CRP were compared in the three groups. No differences on the occurrence of empyema, the need of VATS, length of hospital stay in hospital and in PICU stay, the number of oxygenothepy days and the CRP evolution. But there were less occurrence of lung-necrosis, more drained pleural fluid and less need of fibroscopy in the IPV group.

**Conclusions** These preliminary results show that the different chest physiotherapy has not been effective in reducing hospital stay, length of oxygenotherapy in patients with pleural effusion and thorax drain when compared to the CG. In the IPV group less complications has occurred.

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**825** | **HYPOALBUMINEMIA IS INDEPENDENTLY ASSOCIATED WITH MORBIDITY AND MORTALITY IN CRITICALLY ILL CHILDREN**

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**Background and Aim** Although hypoalbuminemia has been recognized as a marker of poor outcome in adult patients, this association has not been demonstrated in a general population of pediatric critically ill children, and studies have not considered non-nutritional factors that may influence albumin concentrations. This study aimed to determine whether hypoalbuminemia is associated with mortality and morbidity of critically ill children while considering the clinical severity of the patients.

**Methods** This was a prospective study involving 178 children admitted to the ICU. The outcome variables studied were ICU mortality, severity of organ dysfunction, free-ventilator days and free-ICU days. The outcome variables were as follows: nutritional status, Pediatric Index of Mortality (PIM 2), serum albumin, C Reactive Protein and lactate concentrations. Children with liver failure and chronic kidney disease were excluded.

**Results** Mean serum albumin concentration upon admission among survivors was 3.16+/−0.66 *versus* 2.63+/−0.67 in non-survivors (p=0.015). The mortality rate was 6.4% (11/178). In a multiple logistic regression model, adjusting for PIM 2 score, lower albumin concentrations were independently associated with increased organ dysfunction (OR: 0.18, 95% CI: 0.06–0.53; p=0.002) and mortality (OR: 0.22, 95% CI: 0.07–0.76; p=0.017). In a multiple linear regression model, adjusted for PIM2, malnutrition and other potential confounders, lower albumin concentrations were associated with fewer free-ventilator days (p=0.024) and free-ICU days (p=0.028).

**Conclusions** Children with hypoalbuminemia at admission are at a greater risk of organ dysfunction and mortality, and longer time of mechanical ventilation and length of ICU stay, independent of clinical severity and nutritional status.

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**826** | **BEDSIDE C-REACTIVE PROTEIN TESTING IN FEBRILE CHILDREN REDUCES LENGTH OF STAY AT THE EMERGENCY DEPARTMENT**

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**Background and Aims** C-Reactive Protein (CRP) is an important diagnostic marker in the evaluation of febrile children. Aim is to study if bedside CRP testing reduces the length of stay (LOS) of febrile children at the emergency department (ED).

**Methods** We conducted a before-after study of previously healthy children with fever, aged 1 month to 16 years, who attended the paediatric ED of the Erasmus MC - Sophia, Rotterdam, The Netherlands, between 2008–2011. Bedside CRP testing was implemented in 2009, while conventional CRP testing remained optional. We used multivariable linear regression analysis to study the effect of introducing bedside CRP testing on (log transformed) LOS at the ED.

**Results** In the pre-implementation cohort we included 651 children; 319 (49%) had a conventional CRP ordered at the discretion of the physician. In the post-implementation cohort we included 1376 children; 703 (51%) had bedside CRP and 223 (16%) conventional CRP testing. Bedside CRP reduced the median LOS to 148 minutes (interquartile range (IQR): 109–201); in the pre-implementation cohort this was 176 minutes (IQR: 132–231) (p<0.001). LOS of children with conventional CRP was similar between the two cohorts. Other important determinants of (log)LOS were hospitalisation (beta: 0.32 (se: 0.04), p<0.001), transfer to a different hospital (0.53 (0.04), p<0.001) and shift of presentation (daytime: 0.25 (0.03), p<0.001; evening: 0.19 (0.03), p<0.001); night = reference).

**Conclusion** CRP bedside testing substantially reduces LOS at the ED for children with fever. Other important determinants of LOS were hospitalisation and time of presentation.

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**827** | **EVOLUTION OF OTITIS MEDIA IN CHILDREN OF THE FIRST 7 YEARS OF LIFE IN MOLDOVA**

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**Background** Otitis media (OM) is a common problem for primary care, pediatricians and otorhinolaryngologists.

**The Aim** of our work is to analyze the evolution of OM in children of the first 7 years of life after respiratory tract (RT) pathology.

**Subjects** Children from 1 to 7 years of life (2785) without evident OM after standard treatment of RT pathology - bronchitis, pneumonia; RT infection-prone children; chronic nasal breathing difficulties. Healthy children of the same age were included in the control group.

**Outcome measures** Screening tympanometry, otoscopy; audiology assessment and otomicroscopy for children who failed the screening tests, paranasal sinuses evaluation, otological follow up for children with middle ear pathology during 2 years.

**Results** We diagnosed OM in 68% of cases from RT pathology group and in 6% of cases from control group (p less than 0.001). Acute middle ear effusion was presented in 53%, chronic OM with effusion in 38%, recurrent OM in 9%. Chronic and recurrent OM was related with RT infection-prone children (p less than 0.01), age younger than 5 years of life (p less than 0.01) and sinusitis (p less than 0.01). Adhesive and chronic OM was recorded during otomicroscopy and surgery in 12% of cases.

**Conclusions** Screening for OM is important for children with recurrent and chronic RT pathology. These groups of patients need comprehensive diagnostic management and intensive treatment, including surgical one. In healthy children OM is a relative rare and temporary condition.

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**828** | **VITAMIN D STATUS IS NOT ASSOCIATED WITH THE RECURRENT WHEEZY IN INFANCY**

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Low vitamin D status have been found to be associated with the risk of acute upper and lower respiratory tract infections. The deficiency of vitamin D was the significant risk factors contributed to the post-bronchiolitis wheezing in children.

We aimed to investigate the association between vitamin D status and occurrence of recurrent acute bronchioliti The children with acute bronchiolitis who aged 2 months to 2 years were hospitalized between December 2008 and April 2009 in the Ankara Training and Research Hospital, Ankara, Turkey were included in the analysis.

This study was prospective and case-control study. We used a questionnaire addressing demographic factors, exposure to sunlight and vitamin use.

We defined children with recurrent wheeze as = 3 wheezing attacks.

In total, 56 cases and 30 controls were enrolled. The mean age of all children was 12±7.2 months (2 months- 2 years). The mean of serum 25-OHD3 was 138±56.7 nmol/L in total patients, 134.3±55.6 nmol/L in cases and 145±59.2nmol/L in control group. There was not any significant difference between cases and controls in 25-OHD3 levels (p>0.05).

The mean of serum 25-OHD3 was 132.4±58 (10–263) nmol/L in group 1 (n=42) and 140±49 (75–208) nmol/L in group 2 (n=14), the difference was not statistically significant (p>0.05).