46 infants had normal neuromotor outcome at 12 months of age. 14 infants had abnormal outcome (2 mild/moderate impairment, 12 cerebral palsy, 4 ad mortem).

Abstract 73 Table 1

<table>
<thead>
<tr>
<th>MRI-findings</th>
<th>Normal 61.7%</th>
<th>WS 16.7%</th>
<th>BG/T 18.4%</th>
<th>G 3.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal outcome</td>
<td>37</td>
<td>8</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Mild/moderate impairment</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Severe impairment/death</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusions The development and severity of motor deficits due to perinatal asphyxia correlates to the pattern of brain injury seen on MRI. MRI provides valuable prognostic information in hypothermia-treated infants.

74 TRAINING AND CHECKLISTS; HOW TO SAFELY EVACUATE A NICU

doi:10.1136/archdischild-2012-302724.0074

J van Duuren, C Lakke, B Peelis, A van den Hoogen, D Vlij brief. Neonatology, UMC Utrecht, Utrecht, The Netherlands

Introduction Evacuation is an uncommon and hard to practice event in a Neonatal Intensive Care Unit (NICU). Insecurity of untrained personnel can lead to disastrous incidents. To improve training and to recognize problems, a large multidisciplinary evacuation training was organized.

Methods The evacuation procedure was filmed by a professional film crew and edited into a 10-minute instructional movie. The film was shown to the full nursing staff. With lessons learned from this evacuation the current evacuation protocol was evaluated and several inconsistencies were identified.

Results During the training the current evacuation area proved unsuitable because of absence of the appropriate connections. Furthermore the staff trained was uncertain of their tasks during the training. Lastly essential equipment was hard to find. To increase awareness and regulate the procedure a checklist was developed. The coordinating nurse was made responsible for a weekly run through of the checklist. The instructional video will be shown to all new colleagues. Currently, a simulation computer program is being developed to routinely practice an evacuation in a safe environment.

Conclusion The local evacuation procedure should be well known among NICU staff. Multidisciplinary training is an important tool to identify the positive and negative aspects of the current procedure. A checklist can help to increase awareness and to the early identification of possible problems.

Acknowledgements Multidisciplinary working group evacuation, the fire department UMC Utrecht and fire department Utrecht.

75 AGE APPROPRIATE CARE OF THE PREMATURE AND HOSPITALIZED INFANT: NURSING WORKFLOW EFFICIENCIES AND QUALITY CLINICAL OUTCOMES

doi:10.1136/archdischild-2012-302724.0075

M Coughlin. Interprofessional Education, Caring Essentials Collaborative, Inc., Boston, MA, USA

Background and aim Developmental care has been shown to decrease the length of hospital stay and hospital costs, improve weight gain and time to full enteral feeds as well as improve neurodevelopmental scores at 9–12 months. Despite these benefits, there is inconsistent definition, application, and evaluation of developmental care practices in the neonatal ICU. The core measures for developmentally supportive care were developed as an evidence based standard to mitigate the existing inconsistencies and have now been adopted by National Association of Neonatal Nurses (USA) as their new Guidelines for Age Appropriate Care of the Premature and Hospitalized Infant. This abstract will present the impact of these guidelines for practice on nursing workflow efficiencies as well as infant clinical outcomes.

Methods Using an observational cohort, a transformational educational intervention was introduced to a level III NICU framed by the core measures for developmental care. Clinical outcomes for infants less than 32 weeks gestation, NICU bed occupancy, NICU nursing FTEs and NICU patient length of stay are the measured variables.

Results Despite an increase in bed occupancy during the study period there was a decrease in patient length of stay with essentially the same number of nursing FTEs in both the benchmark group and the study group. Key clinical morbidities were significantly reduced as well.

Conclusion Clearly defined, measurable objectives as defined by the core measures for developmentally supportive care favorably impacts not only clinical outcomes but also nursing workflow efficiencies and nursing satisfaction.

76 VIRAL INFECTIONS IN NEONATES

doi:10.1136/archdischild-2012-302724.0076

MA Verboon-Maci olek. Neonatology, University Medical Center Utrecht, Utrecht, The Netherlands

Infections are an important cause of mortality and morbidity in the neonatal period. In the past viral infections were difficult to diagnose. Since the introduction of sensitive molecular methods such as polymerase chain reaction (PCR) in the identification of viruses the laboratory diagnosis of viral infections in neonates has been improved.

Viruses can be transmitted vertically (during the pregnancy or delivery) or horizontally (after birth). Cytomegalovirus is the most common cause of intrauterine infection worldwide leading to neurodevelopmental sequelae and hearing deficits. Herpes simplex virus (HSV) is the important cause of perinatal (during the delivery) or postnatal (after birth) infection. Recently it has been shown that various viruses which are transmitted horizontally (after birth) may also lead to life-threatening diseases such as sepsis and encephalitis. The recognition of these infections may be difficult because of their similarity with bacterial infections. The diagnosis can only be made if the proper PCR is performed. The consequences of systemic enterovirus, parvovirus or rotavirus infection in the neonatal period may be disastrous. In many infants severe white matter damage was documented on cerebral MRI, subsequently leading to neurodevelopmental delay. Because antiviral treatment is not available, preventive measures such as adequate hand hygiene must be taken into account in care of newborn infants.

During the presentation the epidemiology, clinical presentation, neuro-imaging (cerebral ultrasonography and MRI) and outcome of patients with various viral infections will be presented. Furthermore the preventive measures will be discussed.

77 COMPARISON OF TWO DIFFERENT DISTRACTION METHODS ON PAIN RELIEF OF CHILDREN DURING BLOOD DRAW

doi:10.1136/archdischild-2012-302724.0077

‘N Canbulat, ‘S İnal, ‘H Sönmez. ‘Karanmanoglu Mehmetbey University School of Health, Karaman; ‘Istanbul University Health Sciences Faculty, Istanbul, Turkey

Background and aims The procedures made by a needle are the most prevalent and important sources of pain for children. Then, this study aims to compare the effects of distraction by way of...
Abstracts

looking through distraction cards/Flippits® and kaleidoscope to reduce procedural pain during blood draw in children between the ages of 7–11. Our secondary aim is to evaluate venipuncture success during the procedure.

Methods This is a prospective randomized clinical trial. The study was conducted at the phlebotomy station of Karaman Maternity and Children Hospital, Karaman Turkey. Inclusion criteria were 7–11 year-old patients who required blood tests. The data was obtained by interviewing the children, their parents, and the observer. Procedural pain levels of children was assessed by parent and observer reports using Visual Analog Scale (VAS) and Wong Baker pain scale. Data that were analyzed with SPSS 15.00. p<0.05 was considered as significant. Parametric data such as pain level of children were compared with the t test. Non-parametric data such as gender and success of blood drawing procedure were compared with percentage of frequency and x² comparisons.

Results Both groups have significantly lower pain levels than the control group (p<0.05).

Conclusion The result of the study suggests that the both distraction methods effectively decreased pain and anxiety levels of children compared to control group according to self-reports, parent and observer reports.

78 THE RELATION BETWEEN HOSPITAL DESIGN AND HOSPITAL INFECTION doi:10.1136/archdischild-2012-302724.0078
S Youssel. Infection Control, Faculty of Pharmacy, Org. of Teaching Hospitals Institutes, Alexandria, Egypt

Objectives The present study was done at Damanhour Teaching Hospital to identify the following aims:

- To estimate the prevalence rate % of NI among different dept. in the hospital.
- To determine the influence of the number of sinks on the NI rate %.
- To assess the knowledge of the medical staff regarding the importance and the proper way of hand washing.
- To focus on the importance of hospital design in developing countries.

Patients and Methods The target population for this study consisted of 217 patients admitted at the hospital ≤ 48 hours. A questionnaire was developed by the researchers after reviewing literature. This questionnaire composed of two parts, the first part elicited the clinical examination supported by the laboratory and x-rays investigations to assure the exactly number of the nosocomial infected patients among 217 patients the, second part included questions covering the number of sinks, number of occupied beds, number of medical staff in the chosen hospital departments. Samples were taken from the wounds aerobically and non-aerobically.

Results and discussion The sinks are completely insufficient for hard washing (about one sink for every 40 medical staff). The data showed that E.coli is the microorganism most commonly isolated from nosocomial infected patients which improve the improper hand washing and the poor personal hygiene.

79 RACIAL/ETHNIC DISPARITIES IN CENTER FOR DISEASE CONTROL AND PREVENTION (CDC) PEDIATRIC VACCINATION SCHEDULE AND RECOMMENDATION IN UNITED STATES doi:10.1136/archdischild-2012-302724.0079

1-2L Holmes, 1P Oceanic, 1D Fitzgerald, 1K Grant, 1K Dabney. 1Health Equity Plus Inclusion; 2Orthopedic Department, Nemours/A.I. DuPont Children Hospital, Wilmington; 3Biological Sciences, University of Delaware, Newark, DE, USA

Background and aim Children require age-specific vaccination in order to prevent against childhood morbidities and mortality. The CDC provides the guidelines for immunization schedule. This study aimed to assess the prevalence of age-specific vaccination schedule, and to determine whether or not Asians demonstrate better compliance relative to other racial/ethnic groups.

Methods We retrospectively assessed a prospectively collected data on vaccination received in our institution during 2010. To test the study specific hypothesis on racial/ethnic disparities in compliance with the CDC recommendation, we used chi squared and multivariable logistic regression model.

Results There were 5867 children who received vaccines during this period. The racial distribution indicated: Whites/Caucasians, 1,917(32.7%), Blacks/African Americans (AA), 2904(49.5%), Asian, 134(2.3%), Hawaiian native/Pacific Islander, 4 (0.1%), American Indian/Alaskan Native (AI/AN), 9(0.2%), and some other race, 727(12.4%). Asians (97.0%) relative to AA (93.1%) and Caucasian (91%) demonstrated the highest compliance in the age-specific vaccines combined, χ²(7)=24.5, p=0.001. With crude analysis, AA and Caucasians, relative to Asians were 58% (Odds ratio [OR]=0.42, 95% CI, 0.15–1.14), and 69%, (OR=0.31, 95% CI, 0.11–0.85) less likely to adhere to the CDC schedule respectively. However, after controlling for insurance status, the significant racial disparities did not persist between Asians and Caucasians, adjusted OR, 0.45, 99%CI, 0.08–1.11.

Conclusion In a large pediatric cohort, Asians demonstrated highest compliance in vaccine schedule, indicative of racial disparities. Therefore, knowledge of predisposing factors to impaired compliance among racial/ethnic groups in vaccines schedule may assist in narrowing health disparities in this direction as well as facilitate our efforts in addressing preventable childhood diseases.

80 MOBILE CARDIORESPIRATORY EVENT MONITORING FOR VACCINATION IN FORMER EXTREMELY PRETERM INFANTS doi:10.1136/archdischild-2012-302724.0080
1FF Pulzer, 1M Quante, 1J Kluge, 1C Gebauer, 1M Knüpfer, 1U Thome. 1Neonatology; 2Pediatrics, University Children’s Hospital, Leipzig, Germany

Background and aims Recommendations concerning the assessment of cardiorespiratory events during the first immunization with diphtheria-tetanus-pertussis-inactivated polio-Haemophilus influenzae type B (DTP-IPV-Hib) and Pneumococcal conjugate vaccine (PCV) of extremely preterm infants are discussed controversially. We examined the relationship between the immunization and cardiorespiratory events in preterm infants by using a mobile event monitor.

Methods We enrolled 84 extremely preterm infants [39 girls, 45 boys; gestational age (GA) < 28.0 weeks (range 23.5–27.6)]. Immunization took place in the last week before discharge (mean GA: 38 weeks). Recording monitors were used continuously 12 hours before and during 48 hours after immunization to document prolonged apnea and bradycardia.

Results The incidence of adverse cardiorespiratory events post-immunization (PI) was higher in the whole group with 40% of the infants having apneas >3 seconds longer than before immunization (BI), and more prolonged events of bradycardia. The longest apnea observed PI was 20 seconds. Mean PI desaturations were more pronounced (76% PI vs. 67% BI; p<0.05). Furthermore, during the first 24 hours PI the mean oxygen saturation was lower, and the mean heart rate was significantly higher. In 40% of the children the second