Burton Upon Trent, UK

**Objective**

Identify better low risk febrile infants suitable for outpatient management.

The results of the blood biomarkers, including procalcitonin, may not always predict the clinical appearance of the infant, secondly, the urinanalysis, and, finally, the history and clinical evaluation. A sequential approach, evaluating, firstly, the presenting symptoms of the patient, secondly, the blood biomarkers, including procalcitonin, and, finally, the clinical examination, may improve the outcome of care given to hospitalised children.

**Methods**

A retrospective analysis of all children transferred to paediatric intensive care setting over the preceding 12 months was carried out to validate BPEWS charts. Detailed case notes review was undertaken to evaluate if BPEWS could have been useful to alert us to the inpatient deterioration in the 24 hour period prior to transfer. Each case note was assessed by two reviewers.

**Results**

An average of 8.7 sets of observations per patient was recorded in the 24 hours period prior to intensive care transfer. Off the 200 sets of observations recorded in 23 patients, 93% sets would have triggered based on BPEWS. 44% sets of observation scores were in amber (4–7) while 35% were in red (>7) category. Average highest BPEWS score was 9.5 (range: 4–19). In 43% and 57% of patients, highest BPEWS score fell in amber and red category respectively.

**Conclusions**

BPEWS score charts are effective in identifying children at risk of sudden deterioration. Timely identification is likely to enable early action to reduce the risk of death or serious morbidity thus improving the outcome of care given to hospitalised children.

**Burton Paediatric Early Warning System Score**

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1M Ahmed, 1D Sobithadevi, 1R Lall, 1A Ghose, 1S Boswell, 1T Reynolds. 1Paediatrics; 2Paediatric Research Nurse; 3Clinical Chemistry, Burton Hospitals NHS Foundation Trust, Burton Upon Trent, UK

**Background**

Early warning scores compliment clinical decision making and can identify trends depicting deterioration in patient’s condition. Appropriate Burton Paediatric Early Warning System (BPEWS) score charts were developed in 2011 using nine indicators which included physiological parameters, therapeutic intervention and doctor/nurse concern.

**Aim**

To assess the usefulness of BPEWS as a reliable and valid indicator for all children in need of urgent medical assessment and intervention.

**Methods**

A retrospective analysis of all children transferred to paediatric intensive care setting over the preceding 12 months was carried out to validate BPEWS charts. Detailed case notes review was undertaken to evaluate if BPEWS could have been useful to alert us to patients’ deterioration in the 24 hour period prior to transfer. Each case note was assessed by two reviewers.

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**Conclusions**

BPEWS score charts are effective in identifying children at risk of sudden deterioration. Timely identification is likely to enable early action to reduce the risk of death or serious morbidity thus improving the outcome of care given to hospitalised children.

**Accuracy of a Sequential Approach to Identify Young Febrile Infants at Low Risk for Invasive Bacterial Infection**

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1S Mintegi, 1S Bressan, 1B Gomez, 1L Da Dalt, 1J Olaciregui, 1M De La Torre, 1M Palacios, 1P Berles, 1A Ruano, 1J Benito. 1Paediatric Emergency, Cruces University Hospital, 2Department of Pediatrics, University of the Basque Country, Bilbao; 3Department of Pediatrics, University of Padova, Padova, Spain; 4Ospedale Ca’Foncello, Department of Pediatrics, Treviso, Italy; 5Paediatric Emergency, Donostia University Hospital, Donostia; 6Paediatric Emergency, Niño Jesús University Hospital, Madrid; 7Paediatric Emergency, Navarra University Complex, Pamplona; 8Paediatric Emergency, Basurto University Hospital, Bilbao, Spain

**Introduction**

Nowadays it is possible to manage as outpatients selected young febrile infants with low risk criteria for serious bacterial infection. A sequential approach, evaluating, firstly, the appearance of the infant, secondly, the urinanalysis, and, finally, the results of the blood biomarkers, including procalcitonin, may identify better low risk febrile infants suitable for outpatient management.

**Objective**

To assess the value of a sequential approach (“step by step”) to febrile young infants in order to identify low risk patients suitable for outpatient management and compare it with other ones previously described (Rochester criteria and Lab-score).

**Methods**

A retrospective comparison of three different approaches (“step by step”, Lab-score and Rochester criteria) was made in 1123 febrile infants less than 3 months of age attended in seven European Pediatric Emergency Departments.

**Results**

Of the 1123 infants (Invasive Bacterial Infection - IBI-, 48; 4.2%), 483 (43.4%) were classified as low risk criteria for IBI according to the “step by step” approach (vs 693–61.7%– with the Labscore and 458–40.7%- with the Rochester criteria). The prevalence of IBI in the low-risk criteria patients was 0.2% (95% CI 0–0.6%) using the “step by step” approach (vs 0.7%–95% CI 0.1–1.3% with the Labscore and 1.1%–95% CI 0.1–2%– with Rochester). Using the “step by step” approach, 1 patient with IBI was not correctly classified (2.0%, CI95%: 0–6.12) vs 5 using the Labscore or Rochester (10.4%, CI95%: 1.76–19.04%).

**Conclusions**

A sequential approach to young febrile infants including procalcitonin identifies better patients more suitable for outpatient management.

**Endoscopic Aspects of Inhaled Vegetable Foreign Bodies in Children**

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J Buzarov, Institute for Respiratory Diseases in Children-Kozle, Skopje, FYR Macedonia

Inhaled foreign bodies are very serious problem in the pediatric pulmonology since they increase the rate of morbidity and mortality. Aim of this study was analysis of endoscopic changes caused by vegetable foreign bodies (VFB) in correlation with their long-standing in the bronchial tree.

**Material and Methods**

In ten years period (2002–2011) inhaled foreign bodies were removed in 219 children (age 6 mths–14 yrs), 60.27% male and 39.73% female. Most of the children (57.50%) belong to the youngest group of age (1–2 yrs). The inhaled foreign bodies were from organic origin in 208 (94.97%). Of these, 203 (92.69%) were with vegetable origin. The most commonly found grains were peanuts (57.14%). Inhaled foreign bodies were single object in 123 (56.16%) while in 96 (43.80%) they were multiple.

**Results**

Endoscopically we found: Insignificant inflammation (some hours presence of VFB) in 48 (23.64%)

**Significant inflammation - vulnerable mucous membrane (VFB with presence more than 3 days) in 78 (38.42%) Severe inflammation - manifest inflammation (VFB more than 7 days presence) in 77 (37.93%). In this group of children we detected: granulomatous formations 57 (52.60%)- decubital changes 28 (40.57%)- mucopurulent secretion 41 (59.42%).**

**Conclusion**

Severity of the endoscopic changes was closely correlated with the quality of the foreign body (vegetable ones), the period of lodgement and the age of the patients. Timely bronchoscopic extraction of VFB decreases the percentage of complications and represents the most successful and only logically carried out therapeutic procedure.

**Validation of Advanced Paediatric Life Support Formulas for Weight Calculation in a Multi-Ethnic Population**

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1C Seddon, 1L Lockett, 2S Dhanjal, 1M Eisenhut. 1Paediatrics; 2Luton & Dunstable Hospital NHS Foundation Trust, Luton, UK

**Background**

In 2011 the advanced life support group (alsg) of the United Kingdom introduced a new formula for calculation of weight from age for paediatric emergencies. We present the first study validating this formula in a multi-ethnic population and comparing its performance to the formula currently used by the European Resuscitation Council (ERC) and other formulas.

**Methods**

Prospective audit of weight versus calculated weight comparing alsg formula with ERC guideline, the Luscombe, Argall and represents the most successful and only logically carried out therapeutic procedure.

**Results**

Of the 1123 infants (Invasive Bacterial Infection - IBI-, 48; 4.2%), 483 (43.4%) were classified as low risk criteria for IBI according to the “step by step” approach (vs 693–61.7%– with the Labscore and 458–40.7%- with the Rochester criteria). The prevalence of IBI in the low-risk criteria patients was 0.2% (95% CI 0–0.6%) using the “step by step” approach (vs 0.7%–95% CI 0.1–1.3% with the Labscore and 1.1%–95% CI 0.1–2%– with Rochester). Using the “step by step” approach, 1 patient with IBI was not correctly classified (2.0%, CI95%: 0–6.12) vs 5 using the Labscore or Rochester (10.4%, CI95%: 1.76–19.04%).

**Conclusions**

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