Paediatric Emergency Department
Current Awareness: May

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**Title:** Introduction of a simple guideline to improve neurological assessment in paediatric patients presenting with upper limb fractures

**Citation:** Emergency medicine journal, Apr 2016, vol. 33, no. 4, pp. 273-277 [Epub ahead of print]

**Author(s):** Marsh, Andrew G, Robertson, James S, Godman, Anna, Boyle, Jennifer, Huntley, James S

**Aim:** We aimed to assess the improvement in documented neurological examination for children presenting with upper limb fractures following introduction of a simple guideline.

**Methods:** We developed and introduced a simple guideline for upper limb neurological assessment in children. We compared documentation of neurological examination and nerve injury detection at our hospital before and after introduction of this guideline.

**Results:** In the period following guideline introduction, 97 children with upper limb fractures were admitted. Documentation of neurological examination in our ED increased from 92% to 98% after guideline introduction. Documented information on nerves examined also increased from 2% to 68%. Prior to the guideline, there were six nerve injuries, all of which were missed in our ED. After guideline introduction, there were four nerve injuries, all of which were detected in our ED.

**Conclusions:** A simple guideline to assist neurological examination in children with upper limb fractures can significantly improve the quality of documented neurological assessment and nerve injury detection.

**Full Text:** Available from Highwire Press in Emergency Medicine Journal

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**Title:** Meta-analysis to Determine Risk for Serious Bacterial Infection in Febrile Outpatient Neonates With RSV Infection

**Citation:** Pediatric emergency care, May 2016, vol. 32, no. 5, pp. 286-289

**Author(s):** Bonadio et al

**Aim:** To analyze a large group of febrile neonates 28 days or younger who received outpatient sepsis evaluation and nasopharyngeal aspirate antigen testing (NPAT) for respiratory syncytial viral (RSV) infection to determine whether there is a clinically significant association between viral study results and risk for serious bacterial infection.

**Methods:** We evaluated consecutive febrile neonates 28 days or younger presenting to our urban pediatric emergency department [Maimonides Medical Center (MMC)] during a 6-year period, all of whom received a sepsis evaluation (cerebrospinal fluid, blood, urine cultures) and RSV NPAT.

**Results:** The prevalence rate of +RSV in 387 consecutively evaluated febrile neonates was 6%. Of these, 378 (98%) received both a sepsis evaluation and RSV NPAT; +SBI occurred in 4/22 (18.1%) with +RSV versus 58/356 (16.2%) with -RSV (P = 0.77). Combined with the PEM-CRC cohort of 411 febrile neonates 28 days or younger who received similar evaluation, a total of 789 cases were analyzed using meta-analysis. Overall, there were 117 (14.8%) cases of +SBI and 104 (13.2%) cases of +RSV. The rate of +SBI was 11.5% in those with +RSV versus 15.3% in those with -RSV. Meta-analysis performed showed no significant difference in rates of +SBI between those with and without +RSV.

**Conclusions:** Rates of +SBI are not significantly different between febrile neonates 28 days or younger with and without +RSV. Respiratory viral infection status is not an accurate clinical determinant in distinguishing SBI risk in febrile neonates.
Title: **Fifteen minute consultation: a structured approach to the recognition and management of concussion in children and adolescents**

Citation: Archives of disease in childhood: Education and practice edition, Apr 2016, vol. 101, no. 2, pp. 71-76

Author(s): Kanani, Anand Nitin, Hartshorn, Stuart

Abstract: Concussion is a disturbance in brain function caused by a direct or indirect force, which is transmitted to the head. The incidence of concussion is rising, and poor recognition of symptoms, with inappropriate management strategies, increases the risk of long-term cognitive and neuropsychiatric complications. We address some common questions that arise when assessing and managing patients with suspected concussion.

**Full Text:**
Available from *Highwire Press* in *Education and Practice*

Title: **Biomechanical characteristics of head injuries from falls in children younger than 48 months.**

Citation: Archives of disease in childhood, Apr 2016, vol. 101, no. 4, p. 310-315

Author(s): Hughes, Jonathon, Maguire, Sabine, Jones, Michael, Theobald, Peter, Kemp, Alison

Aim: A fall-height threshold is important when evaluating the likelihood of structural head injury or abusive head trauma. This study investigates witnessed falls to correlate the fall characteristics with the extent of injury.

Method: Case-control study of children aged ≤48 months who attended one hospital following a fall from <3 m (10 ft), comparing cases who sustained a skull fracture or intracranial injury (ICI) with controls, who had minor head injuries.

Results: Forty-seven children had a skull fracture or ICI, while 416 children had minor head injuries. The mean fall height for minor head injuries was significantly lower than that causing skull fracture/ICI. No skull fracture/ICI was recorded in children who fell <0.6 m (2 ft), based on the height of the head centre of gravity. Skull fractures/ICI were more likely in children aged ≤12 months. No significant difference was reported between the mean fall heights of children who had a simple skull fracture (n=17) versus those who had a complex fracture or ICI (n=30).

Conclusion: An infant is more likely to sustain a skull fracture/ICI from a fall above a 0.6 m (2 ft) threshold, based on the height of the head centre of gravity, or with a parietal/temporal or occipital impact. These variables should be recorded when evaluating the likelihood of skull fracture/ICI.

**Full Text:** Available from *Highwire Press* in *Archives of disease in childhood*

Title: **Effect of Dilute Apple Juice and Preferred Fluids vs Electrolyte Maintenance Solution on Treatment Failure Among Children With Mild Gastroenteritis: A Randomized Clinical Trial**

Citation: JAMA, May 10, 2016, vol. 315, no. 18, pp.1966-74

Author(s): Freedman SB et al

Aim: To determine if oral hydration with dilute apple juice/preferred fluids is noninferior to electrolyte maintenance solution in children with mild gastroenteritis.

Methods: Randomized, single-blind trial conducted in a tertiary care pediatric emergency department in Toronto, Canada. Study participants were children aged 6 to 60 months with gastroenteritis and minimal dehydration. Participants were randomly assigned to receive color-matched half-strength apple juice/preferred fluids (n=323) or apple-flavored electrolyte maintenance solution (n=324). After discharge, the half-strength apple juice/preferred fluids group was administered fluids as desired; the electrolyte maintenance solution group replaced losses with
electrolyte maintenance solution. The primary outcome was a composite of treatment failure defined by any of the following occurring within 7 days of enrollment: intravenous rehydration, hospitalization, subsequent unscheduled physician encounter, protracted symptoms, crossover, and 3% or more weight loss or significant dehydration at in-person follow-up.

**Results:** 644 (99.5%) children completed follow-up. Children who were administered dilute apple juice experienced treatment failure less often than those given electrolyte maintenance solution (16.7% vs 25.0%). Fewer children administered apple juice/preferred fluids received intravenous rehydration (2.5% vs 9.0%). Hospitalization rates and diarrhea and vomiting frequency were not significantly different between groups.

**Conclusions:** Among children with mild gastroenteritis and minimal dehydration, initial oral hydration with dilute apple juice followed by their preferred fluids, compared with electrolyte maintenance solution, resulted in fewer treatment failures.

**Full Text:** Available from [JAMA](https://jama.jamanetwork.com/)

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**Title:** *Who comes back with what: a retrospective database study on reasons for emergency readmission to hospital in children and young people in England*

**Citation:** Archives of disease in childhood, April 25, 2016 [Epub ahead of print]

**Author(s):** Wijlaars LP et al

**Aim:** To determine the proportion of children and young people in England who are readmitted for the same condition.

**Methods:** Retrospective cohort study using national administrative hospital data (Hospital Episode Statistics). Participants were 0-year-olds to 24-year-olds discharged after an emergency admission to the NHS in 2009/2010. Main outcome measure was primary diagnosis classified in six broad groups indicating reason for admission (infection, chronic condition, injury, perinatal related or pregnancy related, sign or symptom or other). We grouped readmissions as ≤30 days or between 31 days and 2 years after the index discharge.

**Results:** 9% of CYP were readmitted within 30 days. Half of the 30-day readmissions and 40% of the recurrent admissions between 30 days and 2 years had the same primary diagnosis group as the original admission. These proportions were consistent across age, sex and diagnostic groups, except for infants and young women with pregnancy-related problems (15-24 years) who were more likely to be readmitted for the same primary diagnostic group. CYP with underlying chronic conditions were readmitted within 30 days twice as often compared with CYP without chronic conditions.

**Conclusions:** Financial penalties for readmission are expected to incentivise more effective care of the original problem, thereby avoiding readmission. Our findings, that half of children come back with different problems, do not support this presumption.

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**Title:** *A randomized controlled trial evaluating the efficacy of oral sucrose in infants 1 to 3 months old needing intravenous cannulation*

**Citation:** Academic Emergency Medicine, April 21, 2016 [Epub ahead of print]

**Author(s):** Desjardins MP et al

**Aim:** To compare the efficacy of an oral sucrose versus placebo in reducing pain in infants 1 to 3 months of age during intravenous (IV) cannulation in the Emergency Department (ED).

**Methods:** A randomized, double-blind, placebo clinical trial was conducted. Participants were randomly allocated to receive 2 ml of an oral 88% sucrose solution or 2 ml of a placebo solution orally. The outcome measure were mean difference in pain score at one minute post IV cannulation assessed by the Face, Legs, Activity, Cry and Consolability Pain Scale (FLACC) and the Neonatal Infant Pain Scale (NIPS), crying time and variations in heart rate.
Results: 87 participants completed the study. There was no statistical difference in variations in both the FLACC score and NIPS score between the two groups. Median crying times following IV cannulation were statistically significantly different between both groups (17 seconds in the sucrose group vs 41 seconds in the placebo group). Mean changes in heart rate one minute after IV cannulation were similar in both groups. Side effects were similar for both groups and no adverse events were reported.

Conclusions: Administration of an oral sucrose solution in infants 1 to 3 months of age during IV cannulation did not lead to statistically significant changes in pain scores. However the cry time was significantly reduced.

New NICE Guidance

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NHS Behind the Headlines

Child head injuries could harm relationship with parents

Monday Apr 18 2016
"A simple bang on the head can alter a child’s relationship with their parents claim academics," the Daily Mail reports. A Canadian study found children who had experienced even just a mild traumatic head injury...

Attending all-girl school linked to increased risk of eating disorders

Thursday Apr 21 2016
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