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**Training Calendar 2017**

*All sessions are one hour*

**July (13.00-14.00)**

- 3rd (Mon) Interpreting Statistics
- 12th (Wed) Critical Appraisal
- 21st (Fri) Literature Searching
- 26th (Wed) Interpreting Statistics
Focused Assessment with Sonography for Trauma (FAST) does not change outcomes in hemodynamically stable children with blunt torso trauma (June 2017)

Focused Assessment with Sonography for Trauma (FAST) is routinely used to rapidly identify pericardial effusion or intraabdominal hemorrhage in hemodynamically unstable pediatric patients with blunt trauma. Its utility in hemodynamically stable children after trauma is less clear. In an unblinded, randomized trial of 925 hemodynamically stable children evaluated for blunt torso trauma, FAST combined with standard emergency assessment, compared with standard care alone, did not lower missed intraabdominal injury (IAI) rates, frequency of abdominal computed tomography (CT), mean emergency department length of stay, or hospital charges [28]. Negative results on ultrasonography did lower the managing physician’s clinical suspicion for IAI but did not decrease the use of abdominal CT. Thus, routine use of FAST in stable trauma patients does not appear to alter important clinical outcomes. (See "Trauma management: Approach to the unstable child", section on 'FAST (Focused Assessment with Sonography for Trauma)' and "Approach to the initially stable child with blunt or penetrating injury", section on 'Abdominal trauma'.)

Videolaryngoscopy versus direct laryngoscopy for tracheal intubation in children (excluding neonates)

Ibtihal S Abdelgadir, Robert S Phillips, Davinder Singh, Michael P Moncreiff, Joanne L Lumsden
Online Publication Date: May 2017
A systematic review of studies assessing an intervention for a health problem.
A systematic review of studies assessing an intervention for a health problem.

Procalcitonin, C-reactive protein, and presepsin for the diagnosis of sepsis in adults and children

Chinelo P Onyenekwu, Charles I Okwundu, Eleanor A Ochodo
Online Publication Date: April 2017
Key Papers

Below are a selection of articles that were recently added to the healthcare databases.

If you would like any of the following articles in full text, or if you would like a more focused search on your own topic, then get in touch: library@uhbristol.nhs.uk

Effect of Abdominal Ultrasound on Clinical Care, Outcomes, and Resource Use Among Children With Blunt Torso Trauma: A Randomized Clinical Trial.


Abstract

The utility of the focused assessment with sonography for trauma (FAST) examination in children is unknown.

Objective:

To determine if the FAST examination during initial evaluation of injured children improves clinical care.

Design, Setting, and Participants:

A randomized clinical trial (April 2012-May 2015) that involved 975 hemodynamically stable children and adolescents younger than 18 years treated for blunt torso trauma at the University of California, Davis Medical Center, a level I trauma center.

Interventions:

Patients were randomly assigned to a standard trauma evaluation with the FAST examination by the treating ED physician or a standard trauma evaluation alone.

Main Outcomes and Measures:

Coprimary outcomes were rate of abdominal computed tomographic (CT) scans in the ED, missed intra-abdominal injuries, ED length of stay, and hospital charges.

Results:

Among the 925 patients who were randomized (mean [SD] age, 9.7 [5.3] years; 575 males [62%]), all completed the study. A total of 50 patients (5.4%, 95% CI, 4.0% to 7.1%) were diagnosed with intra-abdominal injuries, including 40 (80%; 95% CI, 66% to 90%) who had intraperitoneal fluid found on an abdominal CT scan, and 9 patients (0.97%; 95% CI, 0.44% to 1.8%) underwent laparotomy. The proportion of patients with abdominal CT scans was 241 of 460 (52.4%) in the FAST group and 254 of 465 (54.6%) in the standard care-only group (difference, -2.2%; 95% CI, -8.7% to 4.2%). One case of missed intra-abdominal injury occurred in a patient in the FAST group and none in the control group.
(difference, 0.2%; 95% CI, -0.6% to 1.2%). The mean ED length of stay was 6.03 hours in the FAST group and 6.07 hours in the standard care-only group (difference, -0.04 hours; 95% CI, -0.47 to 0.40 hours). Median hospital charges were $46 415 in the FAST group and $47 759 in the standard care-only group (difference, -$1180; 95% CI, -$6651 to $4291).

Conclusions and Relevance:

Among hemodynamically stable children treated in an ED following blunt torso trauma, the use of FAST compared with standard care only did not improve clinical care, including use of resources; ED length of stay; missed intra-abdominal injuries; or hospital charges. These findings do not support the routine use of FAST in this setting.

Accuracy of PECARN, CATCH, and CHALICE head injury decision rules in children: a prospective cohort study


Abstract

BACKGROUND:

Clinical decision rules can help to determine the need for CT imaging in children with head injuries. We aimed to validate three clinical decision rules (PECARN, CATCH, and CHALICE) in a large sample of children.

METHODS:

In this prospective observational study, we included children and adolescents (aged <18 years) with head injuries of any severity who presented to the emergency departments of ten Australian and New Zealand hospitals. We assessed the diagnostic accuracy of PECARN (stratified into children aged <2 years and ≥2 years), CATCH, and CHALICE in predicting each rule-specific outcome measure (clinically important traumatic brain injury [TBI], need for neurological intervention, and clinically significant intracranial injury, respectively). For each calculation we used rule-specific predictor variables in populations that satisfied inclusion and exclusion criteria for each rule (validation cohort). In a secondary analysis, we compiled a comparison cohort of patients with mild head injuries (Glasgow Coma Scale score 13-15) and calculated accuracy using rule-specific predictor variables for the standardised outcome of clinically important TBI. This study is registered with the Australian New Zealand Clinical Trials Registry, number ACTRN12614000463673.

FINDINGS:

Between April 11, 2011, and Nov 30, 2014, we analysed 20 137 children and adolescents attending with head injuries. CTs were obtained for 2106 (10%) patients, 4544 (23%) were admitted, 83 (<1%) underwent neurosurgery, and 15 (<1%) died. PECARN was applicable for 4011 (75%) of 5374 patients younger than 2 years and 11 152 (76%) of 14 763 patients aged 2 years and older. CATCH was
applicable for 4957 (25%) patients and CHALICE for 20029 (99%). The highest point validation sensitivities were shown for PECARN in children younger than 2 years (100.0%, 95% CI 90.7-100.0; 38 patients identified of 38 with outcome [38/38]) and PECARN in children 2 years and older (99.0%, 94.4-100.0; 97/98), followed by CATCH (high-risk predictors only; 95.2%; 76.2-99.9; 20/21; medium-risk and high-risk predictors 88.7%; 82.2-93.4; 125/141) and CHALICE (92.3%, 89.2-94.7; 370/401). In the comparison cohort of 18913 patients with mild injuries, sensitivities for clinically important TBI were similar. Negative predictive values in both analyses were higher than 99% for all rules.

INTERPRETATION:

The sensitivities of three clinical decision rules for head injuries in children were high when used as designed. The findings are an important starting point for clinicians considering the introduction of one of the rules.

**The role of nurses’ clinical impression in the first assessment of children at the emergency department**

Joany M Zachariasse, Dominique van der Lee, Nienke Seiger, Evelien de Vos-Kerkhof, Rianne Oostenbrink, Henriëtte A Moll

Author affiliations: Department of General Paediatrics, Erasmus MC-Sophia Children’s Hospital, Rotterdam, The Netherlands

**Abstract**

**Objective** To assess the diagnostic value and determinants of nurses’ clinical impression for the recognition of children with a serious illness on presentation to the emergency department (ED).

**Design** Secondary analysis of a prospective cohort.

**Setting and patients** 6390 consecutive children <16 years of age presenting to a paediatric ED with a non-surgical chief complaint and complete data available.

**Main outcome measures** Diagnostic accuracy of nurses’ clinical impression for the prediction of serious illness, defined by intensive care unit (ICU) and hospital admission. Determinants of nurses’ impression that a child appeared ill.

**Results** Nurses considered a total of 1279 (20.0%) children appearing ill. Sensitivity of nurses’ clinical impression for the recognition of patients requiring ICU admission was 0.70 (95% CI 0.62 to 0.76) and specificity was 0.81 (95% CI 0.80 to 0.82). Sensitivity for hospital admission was 0.48 (95% CI 0.45 to 0.51) and specificity was 0.88 (95% CI 0.87 to 0.88). When adjusted for age, gender, triage urgency and abnormal vital signs, nurses’ impression remained significantly associated with ICU (OR 4.54; 95% CI 3.09 to 6.66) and hospital admission (OR 4.00; 95% CI 3.40 to 4.69). Ill appearance was positively associated with triage urgency, fever and abnormal vital signs and negatively with self-referral and presentation outside of office hours.

**Conclusion** The overall clinical impression of experienced nurses at the ED is on its own, not an accurate predictor of serious illness in children, but provides additional information above some well-established and objective predictors of illness severity.
Other Papers

Effect of Nebulized Hypertonic Saline Treatment in Emergency Departments on the Hospitalization Rate for Acute Bronchiolitis: A Randomized Clinical Trial.

A Qualitative Analysis of Adolescent and Caregiver Acceptability of Universally Offered Gonorrhea and Chlamydia Screening in the Pediatric Emergency Department.

International comparison of emergency hospital use for infants: data linkage cohort study in Canada and England.

Emergency department attendance following 4-component meningococcal B vaccination in infants.

The Effect of Bedside Ultrasonographic Skin Marking on Infant Lumbar Puncture Success: A Randomized Controlled Trial.

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