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Uchunguzi (Journal Watch/*Montre de journal*)



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Uchunguzi means investigation in Swahili and provides a summary of some of the most recent international literature as presented in other leading journals, but with an emphasis on what is relevant to our continent.

Here lies the golden age of laceration care

The infection rate of lacerations treated in the emergency department is likely to be between 2% and 5%. This small rate of infection makes it common practice to *not* routinely use prophylactic antibiotics. Cost models have suggested that it is only cost effective to treat wounds at high risk when there is a greater than 5% chance of infection. To determine what risk factors are associated with infection of traumatic lacerations, 2663 patients were followed-up in a multicentre prospective cohort study. People with diabetes (risk ratio [RR] 2.70, 95% confidence interval [CI] 1.1–6.5), lower extremity lacerations (RR 4.1, 95% CI 2.5–6.8), contaminated lacerations (RR 2.0, 95% CI 1.2–3.4) and lacerations greater than 5 cm (RR 2.9, 95% CI 1.6–5.2) were more likely to develop an infection. Furthermore, there were no differences in the infection rates for lacerations closed before or after 12 h (3% (95% CI 2.3–3.8%) and 1.2% (95% CI 0.03–6.4%) respectively). It seems that timing is not everything, at least as far as infection is concerned.

Reference: Quinn JV, Polevoi SK, Kohn MA. Traumatic lacerations: what are the risks for infection and has the ‘golden period’ of laceration care disappeared? *Emerg Med J* 2014;31(2):96–100.

A good death

The emergency centre (EC) is distinguishable from other sites in which children die, mainly due to the death often being sudden, unexpected and without a previously established physician-patient care relationship. Despite these difficult circumstances and potentially limited professional experience with the death of a child, the EC doctor must be prepared to respond to the emotional, cultural, procedural and legal issues that are an inevitable part of caring for ill and injured children who die; all of which must be accomplished while supporting a grieving family. This latest policy statement from the American Academy of Pediatrics (AAP) in collaboration with the American College of Emergency Physicians (ACEP) and the Emergency Nurses Association (ENA) is aimed at helping EC staff care for the patient, family members and each other following a child’s death. The policy recommends having procedures in place to provide a coordinated response to an impending death. It also recommends that written policies should be created on: family presence during and after resuscitation; preterm delivery resuscitation; end-of-life care for a child with a lifespan-limiting condition; collaborating with law enforcement to address forensic concerns while still providing compassionate care; conducting procedures on the newly deceased; and procedures that should take place after the death of a child, including death certificates and discussions about organ donation. Providers and nurses should also receive training on communicating the death of a child to parents. When resuscitation fails, the care team should strive to achieve a “good death” by taking care of the patient, the family and the providers who did the resuscitation.

Reference: AAP Committee on Pediatric Emergency Medicine; ACEP Pediatric Emergency Medicine Committee;

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ENA Pediatric Committee. Death of a Child in the Emergency Department. *Pediatrics* 2014;134:198–201 and e313–e330.

Not all pneumothoraces are equal

Pneumothorax (PTx) is common following penetrating thoracic trauma and is usually treated by the insertion of an intercostal chest drain (ICD). There is, however, evidence to suggest that a small, uncomplicated PTx in an asymptomatic patient may be treated conservatively by active clinical observation. In this recent publication from Pietermaritzburg, South Africa, the authors enrolled asymptomatic patients who sustained stab wounds to the chest and who did not have an immediate clinical indication for an ICD (such as severe respiratory distress, tension pneumothorax), or an indication for operative intervention and who had chest x-ray evidence of a small PTx defined as a PTx less than 2 cm in size, measured from the apex of lung to the highest point of the cupula. These patients were admitted and managed conservatively through active clinical observation for 24 h. Of the 125 patients included in the study, 97% (121/125) were successfully managed by active clinical observation alone with no subsequent readmissions, morbidity or mortality as a direct result of the conservative approach. Some of the risk factors for failure of conservative treatment of small uncomplicated PTx identified by the authors were a PTx ≥ 1.5 to < 2 cm in size and the presence of multiple thoracic stab wounds. Limited availability of the materials required for ICDs and associated morbidity in resource limited settings make this study relevant in helping clinicians determine which patients with PTx following penetrating thoracic trauma require insertion of an ICD.

Reference: Kong VY, Oosthuizen GV, Clarke DL. The selective conservative management of small traumatic pneumothoraces following stab injuries is safe: experience from a high-volume trauma service in South Africa. *Eur J Trauma Emerg Surg*. doi: 10.1007/s00068-014-0426-3.

FASH in children

Childhood tuberculosis (TB) accounts for a considerable burden of morbidity and mortality in many resource-limited settings. Because of the nonspecific clinical signs and symptoms, the paucibacillary nature of TB and the difficulty in obtaining good specimens for microbiological testing, diagnosing pulmonary and extrapulmonary tuberculosis in children can be challenging. Pericardial or pleural effusions, ascites, abdominal nodes and focal lesions in the liver or spleen are likely to be features of extrapulmonary TB in settings where TB is highly endemic. FASH, or focused assessment with sonography for HIV/TB is a clinician-performed bedside US protocol for HIV/TB that has been developed to identify these features of extrapulmonary TB. FASH in children is particularly attractive because it does not expose the child to ionizing radiation and does not require sedation. The high proportion of extrapulmonary TB manifestations in children, especially in young children, translates into a high yield of US findings, which are easily recognizable with basic US training. Unfortunately, bedside sonography as a diagnostic tool within the paediatric TB workup has, however, not been systematically assessed. Currently, FASH is being successfully piloted in a paediatric TB cohort in Cape Town, South Africa. Besides

the incremental diagnostic value of bedside sonography for childhood TB, additional possible benefits require further research.

Reference: B elard S, Heller T, Grobusch MP, Zar HJ. Point-of-care ultrasound: a simple protocol to improve diagnosis of childhood tuberculosis. *Pediatr Radiol* 2014;44:679–680.

Are standardized trauma protocols the solution?

Injury is a major health problem on a global scale, leading to approximately 5.8 million deaths worldwide each year and causing disability in millions more. Of all trauma deaths, 90 % occur in low and middle income countries (LMICs). Standardized trauma protocols (STPs) have been shown to reduce morbidity and mortality both in mature trauma systems and LMICs. Most hospitals in LMICs unfortunately have not yet implemented such protocols, often due to financial and logistic limitations. In this retrospective cohort study conducted in Colombia, the authors compared the frequency of recommended protocol-based interventions including resuscitative procedures before and after the implementation and training of STPs in one emergency department, adapted to the resources available at that hospital. The institution of these STPs increased the use of early vital interventions and decreased the overall length of stay for both surgical (13.8–11.8 days ($p = 0.017$)) and nonsurgical patients (4.4–3.8 days ($p = 0.059$)). There was also an associated downward trend in all-cause mortality (3.8–2.8% (pre-STP relative risk 1.36; 95% CI 0.97–1.92; $p = 0.088$)) and a significant decrease in the mortality of patients with severe traumatic brain injury (38.2 vs. 17.5%, $p = 0.024$). Improvements in hospital trauma care in LMICs must be predicated on implementing readily accessible and resource appropriate STPs and training of healthcare providers who have the potential to create the greatest impact.

Reference: Kesinger MR, Puyana JC, Rubiano AM. Improving trauma care in low- and middle-income countries by implementing a standardized trauma protocol. *World J Surg* 2014;38:1869–1874.

EFAR; going the distance in resource-limited pre-hospital emergency care

Pre-hospital emergency care in a resource-constrained country faces three major obstacles: (1) limited access to acute care, (2) limited transportation to hospitals, and (3) inappropriateness of Western pre-hospital care models for resource-constrained areas. The emergency first aid responder (EFAR) system model developed in Cape Town, South Africa, addresses these issues by utilizing and building upon the resources available in a resource-constrained area. Immediate emergency care is initiated and provided by community members themselves in an organized way. Hospital transport is achieved using the area's existing methods of transportation or, resource permitting, through EFAR system controlled Transporters. Finally, the integration of Community Based Organizations into the EFAR system provides a way for the model to be locally adapted, provides a method for EFARs to voice their input and needs, and ensures local support and that the model remains appropriate for the targeted communities and regions.

In this study, the authors use a two-location pilot and consensus approach to develop a pre-hospital care system that utilizes a core EFAR system model along with an implementation strategy that could be done in a graduated fashion within an area's means, to help better establish more effective pre-hospital emergency care in underdeveloped parts of the world.

Reference: Sun JH, Shing R, Twomey M, Wallis LA. A strategy to implement and support pre-hospital emergency medical systems in developing, resource-constrained areas of South Africa. *Injury* 2014;45(1):31–38.