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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.

Evidence-based first aid... for Africa

In sub-Saharan Africa, much disease and injury can be addressed by emergency care. First aid training has been promoted as an inexpensive way to save lives. However, first aid training in sub-Saharan Africa is often based on handbooks prepared outside of the continent that are not adapted to the African context. The African First Aid Materials project (AFAM, http://www.afam.redcross.be/) has developed evidence-based guidelines for interventions requiring minimal or no equipment, and represent how basic first responders should be trained to manage most emergency situations in sub-Saharan Africa.

Evidence-based African first aid guidelines and training materials. PLoS Med 2011;8(7):e1001059.

To tube or not to tube...

Endotracheal intubation (ETI) has been considered the 'gold standard' for airway management during cardiopulmonary arrest. However, the training and maintenance of ETI skills for emergency medical services (EMS) personnel is expensive. Furthermore, it is not clear whether ETI contributes to improved outcome from out-of-hospital cardiac arrest (OHCA) compared to other available methods of airway management. From a large prospective population-based registry of OHCA in Japan, investigators found that despite a longer time interval from collapse to airway placement for ETI compared to supraglottic airways (Combitube, Laryngeal mask airway and Laryngeal Tube), there was no difference in neurological favourable outcome from witnessed OHCA. In patients who received an advanced airway, early advanced airway placement—regardless of device and rhythm—was associated with improved neurological outcome in OCHA patients.

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Comparison of supraglottic airway versus endotracheal intubation for the pre-hospital treatment of out-of-hospital cardiac arrest. Critical Care 2011;15:R236.

Twelve-second airway...

Supraglottic airway (SGA) devices provide more effective airway management than bag-valve-mask-ventilation (BVMV) and can be effectively used by non-anaesthetists. In this manikin study from South Africa, paramedic students demonstrated that SGA insertion can take as little as 12 s. The ease and speed at which a SGA can be inserted means that it is a viable alternative to the use of the BVMV.

Assessment of the speed and ease of insertion of three supraglottic airway devices by paramedics: a manikin study. Emerg Med J 2010;27:860–3.

Paediatrify your EC... a 'how to' guide

Paediatric emergency care has been neglected in many resource-constrained countries and yet 50% of paediatric admissions die in the first 24 h, partly because children are brought to hospital late in their illness and partly because some illnesses (malaria and cholera, for instance) are rapid in onset and potentially fatal. Reports from many countries of both medical conditions and trauma demonstrate inadequate emergency services ranging from little or no pre-hospital ambulance services to inadequate infrastructures, equipment, staff and skills. This review looks at a receiving hospital unit and describes how to set up a system of patient flow and care that prioritises and provides timely care, so that when a sick child arrives in hospital the system does not fail them.

Paediatric emergency care in resource-constrained health services is usually neglected: time for change. Ann Trop Paediatr 2010; 30:165–76.

Infants aged 0–59 days in developing countries: clinical signs of severe illness...

Mortality among young infants remains high and accounts for an increasing proportion of child deaths in resource-poor settings. Due to typically busy health facilities, limited laboratory diagnostic services and heavy workloads in many of these countries, clinical decisions for appropriate management of severely ill infants have to be made on the basis of presenting clinical signs. Evidence from this systematic review of large prospective observational studies suggests that, among sick infants aged 0–59 days brought to a health facility, the following clinical signs—alone or in combination—are likely to be the most valuable in identifying infants at risk of severe illness warranting hospital-level care: history of feeding difficulty, history of convulsions, temperature (axillary) $\geqslant 37.5$ °C or < 35.5 °C, change in level of activity, fast breathing/respiratory rate $\geqslant 60$ breaths per minute, severe chest indrawing, grunting and cyanosis.

What clinical signs best identify severe illness in young infants aged 0–59 days in developing countries? A systematic review. Arch Dis Child 2011;96:1052–9.

FAST ultrasound for trauma in a rural setting...

Treatment of trauma patients presents the emergency doctor and surgeon with significant diagnostic and therapeutic challenges. Developing mechanisms to reduce time to definitive care is therefore a priority in trauma management. Diagnostic peritoneal lavage (DPL) and CT scanning assist in correctly identifying patients who require early surgical intervention. Though CT scanners may still not be readily available in developing countries, many hospitals have access to an ultrasound machine routinely used for obstetrics. In this study, EC doctors in rural South Africa with no immediate access to CT scanning used a rapid bedside ultrasound examination (focused assessment with sonography for trauma (FAST)) to screen for free fluid (usually caused by bleeding in trauma) in the pericardium and dependent areas in the abdominal cavity in a supine patient. This information when provided to surgeons may expedite transfers and reduce morbidity and mortality.

FAST scanning in the developing world emergency department. S Afr Med J 2010;100:105–8.

Nurse-administered ketamine sedation in Uganda...

Throughout many low- and middle-income countries, there is a shortage of medical providers, especially in rural areas. Patients may experience delays in care or be unable to receive proper care because of the absence of skilled providers, which may results in unnecessary morbidity and mortality, especially in emergency situations. Nurses are generally more plentiful in low- and middle-income countries compared with physicians or midlevel providers. In Uganda, a policy of "task shifting" has been promoted to help fill the void in services by delegating tasks that were originally only in the domain of physicians or specialists to nurses who have received appropriate training. One such task that appears to be safe and effective in low resource settings is nurse-administered ketamine for procedural sedation. This study demonstrated that with a brief procedural sedation training program, coupled with a comprehensive training program in emergency care, nurses can increase access to appropriate and safe sedation for patients in resource-limited settings.

Nurse-administered ketamine sedation in an emergency department in rural Uganda. Ann Emerg Med 2011. doi:10.1016/j.annemergmed.2011.11.004.

Stroke therapy in developing countries...

The developing world carries the highest burden of stroke mortality and stroke-related disability. The number of stroke patients receiving recombinant tissue Plasminogen Activator (r-tPA) in the developing world is extremely low. Prehospital delay, financial constraints, and lack of infrastructure are main barriers of thrombolysis therapy in developing countries. Until a cheaper thrombolytic agent and the proper infrastructure for utilization of thrombolytic therapy is available, developing countries should focus on primary and secondary stroke prevention strategies.

Barriers of thrombolysis therapy in developing countries. Stroke Res Treat 2011;2011:686797. doi:10.4061/2011/686797.