

suggest that exposure to bushfire smoke causes an increased incidence of respiratory pathology.

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(P2-82) Developing and Implementing an Emergency Preparedness and Trauma Research Program in a New Level One Trauma Center

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Our level one trauma center with a service area covering a population of approximately four-million people treats approximately 80,000 patients per year. In 2010, we anticipate more than 23,000 patients admitted, and to experience more than 850,000 patient encounters within the network. Trauma research is an important component to any level one trauma center, as well as a requirement of the American College of Surgeons/Committee on Trauma (ACS/COT). Our trauma center has recently gained level one designation and began an emergency preparedness research and trauma research (EPR/TR) program in earnest. We are fortunate to have support from executive administrators. Stewardship is a necessary element of our planning, in part because we are a county hospital serving a large uninsured patient population. The following are a few of the necessary steps we took to build an (EPR/TR) department from the beginning, to the point of submitting abstracts, manuscripts, funding grants, and presentations to regional, national, and international conferences, journals, and agencies. Structure the Emergency Preparedness Office to be a component of Trauma Services, allowing a unique opportunity for real-time disaster and mass casualty research. Secure a commitment from senior executives. Secure an experienced researcher, capable of research administration. Ensure the (EPR/TR) director, trauma medical director, trauma services director, and emergency preparedness coordinator can be a cohesive team with complimentary skills. Encourage trauma surgeons to perform research with assistance from the (EPR/TR) Office. Seek federal and foundation funding. Seek alliances with appropriate consortiums and associations. Develop a research relationship with pre-hospital emergency services. The above steps represent only some of the components used to build our (EPR/TR) department. We anticipate the planned expansion of the above steps will take our EPR/TR to the next level and increase extramural funding.

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(P2-83) The Use of Focused Assessment with Sonography for Trauma in Patients with Blunt Abdominal Trauma or Pelvic Fracture in the Emergency Departments

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Background: The role of FAST in diagnostic protocols has been adopted in most major trauma centers in well-developed countries. This procedure has become the initial diagnostic way in blunt abdominal trauma patients. However there are researches which show FAST is not reliable triage tool in patients with pelvic fracture.

Objectives: To evaluate the usefulness of Focused Assessment with Sonography for Trauma in diagnostic of blunt abdominal trauma patients and to bring attention to patients with pelvic fracture who should receive additional tests for the presence of peritoneal fluid.

Methods: An analysis of high-quality evidence resources was performed, limited to the articles published since 2005 year.

Results: 99 articles were found during the search, of which 23 were accurate. 16 articles were based on original research.

Conclusion: Focused Assessment with Sonography for Trauma plays a key role in the investigation of blunt abdominal trauma and should be used in all emergency departments. FAST-negative patients can remain under observation except major pelvic injury patients. The evaluation of peritoneal fluid in this group has low sensitivity.

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(P2-84) Upper Gastrointestinal Tract Bleeding (UGIB) Management: Belgian Guidelines for Adults and Children

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Background: UGIB remains a common disease affecting 100 to 170 adults per year, with an associated mortality ranging from 5 to 14%, causing thereby an important burden to healthcare resources. UGIB in children is uncommon (1–2/10,000 per year) but potentially life threatening. Since various specialists (general practitioners, emergency physicians, gastroenterologists and hepatologists, pediatricians, intensivists, radiologists and surgeons) may be involved and given the absence of evidence-based medical (EBM) recommendations – for adults as well as for children – there is considerable variability in the management of UGIB. Moreover, as even RCTs on the management of UGIB in children are lacking, many treatment strategies are simply deducted from the management of adult UGIB.

Aim: To provide EBM guidelines for the care of adults and children presenting with bleeding caused by gastro-duodenal ulcer or variceal rupture.

Method and Results: An interuniversity interdisciplinary team of Belgian experts was launched. Statements based on the published literature up to September 2010 were collected and proposed after expert opinions reconciliation and graded accordingly to the class of evidence. The current guidelines for the management of UGIB include recommendations for the diagnosis process, general supportive care, pharmacological therapy aiming at bleeding control, specific and endoscopic treatment of acute bleeding and follow-up for both gastro-duodenal ulcers and portal hypertension induced bleeding. Specificities and differences in the approach to UGIB in children compared to adults are highlighted.

Conclusion: Interdisciplinary guidelines for the management of UGIB based on current standards for EBM will provide an opportunity for clinicians to improve the management of their patients. However, clinical guidelines are not mandatory tenets appropriate for all patients, but should constitute a canon or

principle tailored to the individual patient. In addition, EBM might provide quality indicators for the assessment of care to bleeding patients at a local, national or international level.

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(P2-85) Automatic vs. Manual Bag Valve Resuscitation: An Experimental Bench Test

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Introduction: Efficiency of resuscitation has been fewly assessed. The aim of our study was to compare standard manual to automatic ventilation using a new device.

Methods: 5 categories of healthcare professionals were included (paramedics, nurses, respiratory therapists, senior and junior emergency physicians; $n = 10$ in each group) and they evaluated 2 different apparatus: manual bag valve (BVM) and automated resuscitator (EasyCPR, Weinman). The experimental bench test consisted in an artificial test lung (ASL5000, IngmarMed), simulating 3 pathological status (COPD, ALI, ASA) and connected to a resuscitation-training manikin for the interface with the mask. Recorded parameters were: tidal volume (Vt), Peak Inspiratory Pressure (PIP), Residual Volume (Vr), overall distension (Vt + Vr), respiratory rate (RR). The ergonomy of the device was assessed at the end of each sequence (1–very uneasy à 5–very easy to use).

Results: Mean Vt reached the goal (400–600 ml) for only 26% [0, 6–45] of the cycles with BVM and 29% [0, 3–80] with the CPR. Within a same pathological status, PIP was higher with BVM (21 ± 17 cmH₂O), as compared to CPR (11 ± 3 cmH₂O; $p < 0.001$). Mean RR was 18 ± 6 C/minute with BVM and 10 ± 2 C/minute with CPR. Overall distension was significantly higher with BVM (491 ± 328 ml; up to 1750 ml), as compared to CPR (380 ± 168 ml; $p < 0.001$). Ergonomy of CPR was considered better for paramedics and nurses ($p < 0.05$).

Conclusion: BVM resuscitation does not allow reaching the standards in terms of Vt and RR, and may expose to overpressure (gastric distension) and thoracic overinflation. Automatic resuscitation (CPR) may standardize emergency ventilation, allowing a better fit to recommendations and an ergonomy enhancement.

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(P2-86) A Paradigm of Emergency Volunteering: The Case of a Remote Rural Area in Thailand

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Background: Changes in gender roles, the nature of the family, marriage patterns, political shifts, the nature of work, and the increase in the number and severity of emergencies are influencing volunteering and changing it in accordance with these changes. This study in a remote rural area in the north of Thailand explores paradigms of emergency volunteering in such areas based on the concept of the multi-paradigm model of volunteering.

Methods: A sample of twenty stakeholders: leaders, village health volunteers, the director of the local administrative organization

and community heads provided data during in-depth interviews. Data were analyzed using content analysis.

Results: The results showed that the paradigms of emergency volunteering existing in the community were the functionalist paradigm and the interpreted paradigm. The functionalist paradigm relies on the belief in universal truths, thus emergency volunteering should be controlled and ordered. The community also believe that as a collective entity they achieve positive outcomes and benefits from emergency volunteering. In contrast, the interpreted paradigm relies on the belief in multiple truths. Thus emergency volunteering should be understood in terms of the individual experiences that emerge for each person from emergency volunteering. Furthermore, the community also believe that emergency volunteering should be focused on extracted cues and the process of helping emergency patients.

Conclusion: The conclusion of this study is that the management of emergency volunteering in the context of remote rural communities should be well ordered and be by consensus.

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(P2-87) Policy Study of the Helmet Legislation in Kerala, India and its Implications

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Background: When implemented properly, universal helmet law increases helmet use substantially, bringing along a reduction in mortality and morbidity due to head injuries. Kerala has seen tremendous success in regards to various indicators for health within India. But when it comes to wearing helmets, the state lags behind others with reported rates as less as 27%.

Method: A cross-sectional survey of 300 two-wheel drivers in Thiruvananthapuram City was performed, which looked into helmet wearing patterns, their determinants, and the risk perception among the respondents. Further, a content analysis of newspaper reports pertaining to helmet legislation from the Thiruvananthapuram edition of two leading newspapers was performed. The reports included were from the periods of July 2003 to June 2005 and July 2008 to June 2010. Lastly, in-depth interviews were conducted with informants from among the key stakeholders in helmet policy of the state.

Results: The study found 36.8% of the respondents wear a helmet. A scale to measure risk perception was developed for the purpose of this study. The four-item scale has been found to have internal consistency with a Cronbach alpha value of 0.74. The risk perception measured by using this scale has significant relation with helmet-wearing behavior. The content analysis helped in deriving a historical perspective of the policy along with the themes of reporting. The informant interviews provided expert opinions, problem identification, and specific recommendations.

Discussion: The practice of wearing a helmet is low, and people with lower risk perception have greater tendency not to wear helmets. Other findings also show that there are gaps in policy and lack of visionary leadership as far as the policy toward helmet legislation and its implementation.

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