Most of the accidents took place on highways (57.2%), commonest being the road traffic accidents (55.1%), brought by relatives (74%). The mean duration for hospital stay was 5.42 days (SD ± 8.312 days, range 1-79 days). 10% patients required resuscitation at the time of admission. Details of Glasgow coma scale were available; details regarding CT scan findings were available for 300 patients. Good recovery was seen in 68.4% and the mortality was in 7.2%. Further details on vital parameters and investigations included in the study were also collected.
Conclusions: TBI related research in many developing countries is in the developmental stages with relatively few published data. Although early analysis of a TBI data can lead to useful information, there is further need for the development of a user-friendly secure web-based database system to continuously maintain and analyze the registry.
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(A71) Prospective Evaluation of "Focused Assessment with Sonography for Trauma" Done by Emergency Physicians, and its Comparative Analysis with Radiologist's Performance

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Objective: The objective of this study was to determine the accuracy of emergency physicians in detecting free fluid in the abdomen when compared to radiologists during w primary survey of trauma victims by focused assessment with sonography for trauma (FAST) scan in the emergency department.
Methods: This prospective study was performed during a primary survey of the resuscitation of non-consecutive patients in the resuscitation bay. The study subjects included emergency physicians (EP) [one emergency medicine (EM) consultant, two EM residents, one orthopedic resident, and one surgical resident] who underwent training at a three-day workshop on emergency sonography and performed 10 supervised positive and negative scans for free fluid. The FAST scans were performed by the EPs and then by the radiology resident (RR). Both were blinded to each other's sonography findings. Computed tomography (CT) scan and laparatomy findings were used as gold standard. Results were compared between both groups. Intra-observer variability among EPs and level of agreement between EPs and RRs were assessed.
Results: One hundred fifty scans performed by EPs and RRs were analyzed. The mean age of the patients was 28 [1–70] years. Out of 24 true positive patients, 18 underwent CT scan, and exploratory laparatomy was done in six patients. Intra-observer performance variation ranged from 87–97%. The sensitivity of FAST performed by EP and RR was 100%. The specificity of FAST by EPs was 95.4% vs. 98.4% by RRs. The level of agreement was 100%.
Conclusions: This study proves that FAST scan performed by EPs who are trained in short course of ultrasonography can be reliable and accurate when compared to a qualified radiologist.
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(A72) Efficacy of Parental Opioid Analgesics versus Non-Opioid Analgesic in Acute Pain Management of Trauma Victims in the Emergency Department

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Background: The pyramid of pain management involves sequential drug escalation but its role is limited in an emergency department (ED). The efficacy of parental opioid analgesics versus non-opioid analgesic in acute pain management of trauma victims in the ED was evaluated to formulate protocol.
Methods: All alert patients with a baseline visual analogue scale score (≥ 7) was randomly assigned either parental non-opioid (Group A) or opioid analgesics (Group B). The emergency care providers noted the VAS in either group at 15 minutes, 30 minutes, and 60 minutes, and at the time of discharge from the ED. If the patient's VAS score did not reduce by 50% at 30 minutes, repeat parental analgesics was given. The oral analgesics prescribed at the time of discharge were documented. Ethical clearance was taken. Data was compiled and analyzed.
Results: Of 106 patients, 99 were analyzed. The mean age in Group A was 33.2 ± 13.2 years and 32.5 ± 18 years in Group B. The male:female ratio in Group A was 1.5:1 and 7:1 in Group B. The average baseline VAS score in Group A was 7.5, and that of Group B was 8.96. The average VAS at 15, 30, and 60 minutes and at discharge in Group A was 5.4, 5.34, 4.3, and 3.5 and it was 6.1, 6, 5.1, and 4.4. Repeat parental dose of analgesics were required in 95/99 (95%) patients in Group A and 5% that of Group B. The most common prescription at discharge from ED was non-opioid analgesics.
Conclusions: Acute pain relief was comparable in both groups. Non-opioid analgesics may be preferred over opioid in VAS score ± 7 in a busy emergency department for early disposition.
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(A73) Burden of Maxillofacial Trauma at Level Trauma 1 Centre

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Background: There is an upward trend in facial injuries following changes in population pattern, increasing industrialization and urbanization, hence maxillofacial trauma is becoming a burden and a leading medical problem in emergency rooms worldwide.
Method: A retrospective study of patients with maxillofacial fractures seen and treated at the Jai Parkash Narayan Apex Trauma Center, AIIMS, New Delhi, India between January 2007 to June 2010. Data extracted from the patients' records include aetiology, age, sex, types and sites of fractures, treatment modality and concomitant injuries.
Results: There were 795 fractures of the maxillofacial skeleton and 86 concomitant injuries from 542 patients. Road traffic accident (56.8%) was the most common aetiologic factor, followed by falls (22.3%) and fights (18.5%). The age range was from 3 years to 75 years (mean = 34.7) with a peak incidence in the 3rd decade

with a male–female sex ratio of 3.7:1. The most common location of maxillofacial fractures was the mandible 615(77%) and middle third 205(23%). With regards to mandibular fractures, the body (29.6%) was the commonest sites, followed by the angle (24.4%), ramus (19.5%), dentoalveolar (14.6%), symphysis (11.0%), condyle (0.8%) while in the middle third, the nasal bone (36.7%) was the most common, followed by zygomatic bone (27.8), Lefort II (14.4), Lefort I (7.8%), dentoalveolar (10.0%) and Lefort III (3.3%). Majority of the patients were treated by Open reduction and internal fixation (70.6). Concomitant injuries were 10.8% with orthopaedic injuries accounting for the majority (63.9%). Head injury was associated with 16.3 % of cases.

Conclusion: Maxillofacial fractures are on the increase. We advocate the establishment of regionalized trauma centers with basic training available to all surgical residents for initial emergency room management.

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(A74) Reducing the Potential for Tourniquet Associated Reperfusion Injury

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Background: Tourniquets have reappeared in the management of massive hemorrhage and as a tool to ameliorate the effects of reperfusion injury from limb entrapment or suspension trauma, while the patient is rescued to a safer environment. Strategies to minimize subsequent reperfusion injury were investigated in this prospective, randomized study.

Methods: In the safety of an operating theater, sixteen fit and healthy patients scheduled for repair of bimalleolar ankle fractures were randomized into two groups. In the standard release group (R, n1 = 6), the tourniquet was fully deflated at the end of surgery. In the staggered release group (SR, n2 = 10), the tourniquet was fully deflated for 30 seconds and subsequently re-inflated to 300mmHg. The procedure was repeated twice at three-minute intervals prior to full removal. Hemodynamic and blood biochemistry measurements were obtained from an indwelling arterial catheter immediately prior to initial tourniquet deflation and thereafter at 1, 4, 7 and 15 minutes.

Results: Serum Ca2 + concentrations were less in group R at 4 (1.027 ± 0.5 vs. 1.084 ± 0.07mmol/l, $p = 0.046$) and 7 minutes (1.045 ± 0.04 vs. 1.110 + /- 0.06mmol/l, $p = 0.013$). Serum lactate concentration was greater in group R compared to group SR at 1 (1.75 ± 0.19 vs. 1.33 ± 0.31mmol/l, $p = 0.005$) and 4 minutes (1.98 ± 0.23 vs. 1.48 ± 0.39mmol/l, $p = 0.007$), respectively. End-tidal CO2 was less in group SR compared to group R at 1 (4.82 ± 0.45 vs. 5.68 ± 0.26kPa, $p = 0.0004$) and 4 minutes (5.01 ± 0.59 vs. 5.68 ± 0.35kPa, $p = 0.01$), respectively. At 15 minutes, less hypotension and bradycardia was noted in group SR.

Conclusions: A staggered tourniquet release was associated with greater hemodynamic stability and reduced the rate of acute systemic metabolic changes associated with limb reperfusion. Re-application of a tourniquet seemed to halt further reperfusion, providing a window period for patient evaluation and management.

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(A77) Should Response Times continue to be used for Performance Measurement and Targets?

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Purpose: Response time performance for emergency calls has been used as an indicator of ambulance service quality in England since 1974. It was revised in 1996 with targets set of eight minutes for life-threatening (category A) and 19 minutes for urgent (category B) calls. Internationally, response time has been used as the benchmark for emergency medical services (EMS) performance. The evidence to support use of response times as a quality measure has been examined.

Methods: A rapid review was used to assess the evidence base for the eight minute response time target. Also, a descriptive observational study of the clinical characteristics of category B calls was performed using two months patient report form data from one English ambulance service.

Results: Five papers were identified that have examined the relationship between response time and mortality for 911/999 emergency call populations. Four papers were from the USA, and in all cases no survival benefit was found for response times > 5 minutes even after adjustment for variables including age, sex and illness severity. This finding was replicated in one UK study. The descriptive study examined call characteristics for 26,882 category B calls. Half of the patients received no intervention other than basic vital signs measurement and 75% had assessment only. Twenty-five percent required some clinical intervention with the majority only requiring oxygen. Less than 5% received significant intervention such as drugs, intravenous cannula, or airway management.

Conclusions: With the exception of cardiac arrest there is consistent evidence that response time has no impact on mortality for EMS calls. Alternative indicators of quality of care should be developed that allow less focus on time targets and more effort on innovation and development of services which could better meet the needs of the majority of patients who do not have a life-threatening problem.

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(A78) EMS System Assessment & Gap Analysis

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Purpose: The World Health Organization Model Trauma System Policy suggests that Governments should undertake systematic reviews of the de facto prehospital transport systems for severely ill and injured persons. These systems, be they formal or informal, should be designed to optimize local resources with emphasis on standards of training, equipment, infrastructure and communications so as to assure delivery of prompt, quality, and equitable prehospital care. Scope of Review and Assessment a System Assessment and Gap Analysis (SAGA) tool has been developed to measure 127 key components of a high performance emergency transport system within the realms of Clinical, Organizational and Logistical functionality. The evaluation compares the current status of the specific components with those commonly expected to be seen in a formal international accredited EMS organization.