

Tactical EMS Deployment at the G7 Summit in Charlevoix, Quebec

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Introduction: The G7 Summit was held in Charlevoix, Quebec (Canada) on June 8 and 9, 2018. The Urgences-santé Corporation (USC), in charge of prehospital emergency services in Montreal and Laval, was asked to intervene outside of its usual territory during the Summit, mainly because it has the only tactical medical team in the province of Quebec to be equipped and trained for high-risk situations.

Aim: Part of USC's tactical medical team was deployed to the Charlevoix region from May 29 to June 10, 2018. The team had two responsibilities: act in the event of a chemical, biological, radiological, nuclear or explosive (CBRNE) attack, and in the event of social disturbance or violence, provide care for protestors and the police officers tasked with maintaining and restoring order.

Methods: The mission required rigorous preparation to ensure the team's safety outside its usual area of activity while maintaining full coverage of metropolitan Montreal, where the impacts of the G7 Summit were also felt. Emphasis was placed on intensive coaching of the tactical medics, on joint training, and on the coordination of intervention protocols across EMS, fire and law enforcement.

Results: A total of 14 tactical medics and two managers were sent to Charlevoix for the Summit. Before their departure, three joint training days were held, and our training center provided six days of training to our partners.

Discussion: While no CBRNE incident or major social disorder occurred during the Summit, USC was able to gain more visibility and therefore reach out to different organizations on site. Close ties were developed with the Sûreté du Québec (provincial police), with whom USC now regularly collaborates during training and interventions. The lessons learned also helped consolidate our extra-territorial deployment procedures.

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To Sedate or Not to Sedate? Lessons Learned from a Novel Pediatric Simulation-Based Training Curriculum for Procedural Sedation Privileges in Acute Care Pediatricians

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Aim: To develop a simulation-based pediatric procedural sedation curriculum for acute care attending physicians to achieve and maintain privileges in this important skill.

Methods: Neonatal and pediatric intensive care physicians participated in simulation-based sedation training to achieve and maintain sedation privileges. Participants were required to review pediatric sedation materials prior to participation. Demographic data were collected prior to the simulations, and all participants completed a pre-test to assess their baseline knowledge. Sessions were held in the simulation center or neonatal intensive care unit

(depending on group), and the attending physicians, in pairs, participated in two high-fidelity mannequin scenarios (sedation for a painful procedure; hypoxia during sedation). Simulations were followed by a facilitated debriefing session while utilizing a standard performance checklist. All participants completed a program evaluation at the conclusion of their training.

Results: Neonatal (n=11) and pediatric (n=9) intensive care attending physicians participated in the sedation simulation training. The program was well received and 100% rated it as "excellent" or "very good". All participants strongly agreed the instructors allotted time for questions/answers, 100% strongly agreed the debriefing/feedback was effective, 95% strongly agreed instructors had a thorough knowledge and understanding of the program, were supportive, and facilitated learning, and 95% strongly agreed the equipment and physical environment were conducive to learning. Participants reported that simulation-based training and the use of a standardized checklist during facilitated debriefing were very helpful and effective for sedation training. Additionally, many participants indicated the desire for more simulation-based training.

Discussion: Simulation-based sedation training is a feasible, easy to implement, and viable learning technique for acute care physicians.

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Train Related Injuries: Growing Concern in Developing Countries and Five-year Experience at Level-1 Trauma Center in India

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Introduction: Indian railway systems are fourth largest in the world, and cause on average 15 deaths daily due to various intentional and unintentional reasons. This study presents a 5-year retrospective data analysis of polytrauma patients with train-related injuries.

Aim: To highlight key lessons learned from data analysis to inform better safety measures and laws.

Methods: Trauma registry data between 2012 and 2016 were analyzed for patients with train-related injuries. Data from 726 patients were analyzed for demographics, event, injuries, management, and final outcome. ISS was used to quantify the extent of injury.

Results: Mean patient age was 33 years with an 86% to 14% male to female ratio. 62% of patients were in the 20- to 40-year age group. Average time of arrival at health facility post-injury was 3.3 hours. Half of the patients were trespassers. Mean ISS was 11.65. Chest injuries were present in 24.6% of patients, with half requiring interventions like ICD insertion or surgery. 20% of patients underwent amputations of extremities. 40% of patients needed admission to the ICU. 3.5% died in the Emergency Department (ED). Mean hospital stay was 17 days with an in-hospital mortality of 17.4%.

Discussion: This analysis is the largest to date showing comprehensive injury patterns and outcomes of train-related injuries

from a developing country. Patients injured on the platform and off the platform had the same severity of injuries. This analysis shows the need for safety measures and strict law enforcement both at the station and at the track.

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Transformative Surgical Team Training

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Introduction: Sudden onset disasters exceed the capabilities of local health services. Emergency Medical Teams (EMTs), including the Australian Medical Assistance Team (AUSMAT), are a vital element of the Australian Governments capacity to respond to regional and international sudden-onset disasters. AUSMAT has the capacity to deploy an EMT Type 2 surgical field hospital and has been successfully verified by the World Health Organisation (WHO). All AUSMAT members must complete AUSMAT Team Member training. The National Critical Care and Trauma Response Centre, Darwin, Australia is responsible for all AUSMAT training.

Aim: To educate and train the Surgical Team (perioperative nurses, surgeons, and anesthetists) in preparation for AUSMAT deployments in the austere environment.

Methods: Prior to 2015, the surgical AUSMAT training was conducted via two courses: one for perioperative nurses and a separate course for surgeons and anesthetists. In 2015, the course was redesigned with the aim of collaborative training with all the Surgical Team Members. The new Surgical Team Course (STC) engages all three professions to learn alongside each other and discuss potential difficulties in techniques, the daily running of the operating room, and ethical discussions.

Results: Since the rejuvenation of the STC, 15 surgeons, 17 anesthetists, and 18 perioperative nurses have completed the course. The attendees are familiarized with operational and clinical guidelines, the surgical field hospital, and operating room equipment including CSSD. A pivotal component of the course focuses on the essentials of medical records and Minimum Data Set reporting for EMTs as defined by WHO.

Discussion: Since 2015, the NCCTRC has successfully run two courses. The revised collaborative model for AUSMAT STC has enhanced the quality of the program and subsequent learning experiences for participants.

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Triage Problem Among the Ambulance Crew (Paramedic) in Japan

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Introduction: At various accidents or disaster sites, rescue, first aid, and transport to hospitals has been provided by ambulance

crews (paramedics). In the case of mass casualties, they also need to operate triage for injured people.

Aim: To consider and reveal challenges in triage by ambulance crews (paramedics) on-site.

Methods: Interviews of seven ambulance crews (paramedics) and their instructors were conducted and their answers were analyzed.

Results: (1.) Triage black tags: declaring “deceased: not able to survive” might give a heavy mental burden and psychological responsibility. Legal protection and an interstitial rule will be necessary in the future. (2.) Missed triage: the ambulance crew cannot perform a triage that may develop a legal problem. It is always important to prevent ambulance crews from being charged. (3.) Triage education and training: there are few triage trainings at fire departments although the number of emergency medical responses is increasing compared to fire response. It will be necessary to increase time of the triage education and training in near future. (4.) Command system (characteristic rank system in the fire department): There is a problem with the rank system in fire departments since confusion occurs when a commander of the First Aid Station is not a licensed paramedic. The ambulance crew (paramedic) usually consists of the three different ranked people. Individual operations are difficult during operation. Education for the paramedic executive is necessary for the fire organization.

Discussion: For the triage by ambulance crew (paramedic), legal protection by medical control operation is required, and it may lead to a reduction of heavy mental burden. Triage training is needed to improve the training of triage. The ambulance crew (paramedic) operates under the fire department command system. However, at the time of disaster, the ambulance crew (paramedic) should also work under the medical command system.

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Unexpected Lessons from a Mass Casualty Simulation: Strategies for Management of the Minimally Injured Can Increase Efficiency and Decrease Chaos

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Introduction: The SALT Triage system has been advocated as an easy-to-use sorting and treatment system for mass casualty incidents (MCI). Minimally injured (GREEN) patients tend to be in the majority and may cause impediments to access and treatment of the most critically injured (RED). By identifying flaws in MCI communications that impair effective patient care, responders can be more effective.

Aim: To discover strategies that effectively manage the minimally injured and leverage their help, increasing triage efficiency and treatment of the immediate casualties.

Methods: Direct observation, after-action debriefing, and literature search.