

**Introduction:** There is no universal agreement on what competence in disaster medicine is, nor what competences and personal attributes that add value in a medical disaster situation. Some studies suggest that not only technical skills are needed, but also non-technical skills. However, little is known about the actual demands and skills needed to manage a medical disaster situation. Therefore, this scoping review aimed to identify core competencies required for the disaster medicine response.

**Method:** A scoping review using the Arksey & O'Malley framework (1) was used. Structured searches in the databases PubMed, CINAHL full plus, Web of Science, PsychInfo and Scopus was conducted. Thereafter, data was structured and analyzed. Inclusion criteria were (1) original papers published in English during the last ten years, (2) covering any aspect of competence or skills needed to respond to a disaster situation. (3) Both qualitative and quantitative studies were included. Exclusion criteria were (1) reviews, editorial texts or similar, (2) papers focusing on the care of single patients.

(1) Arksey H, O'Malley L. Scoping Studies: Towards a methodological framework. *Int. J. Social Research Methodology*. 2005;8(1):19-32.

**Results:** To be presented at the congress.

**Conclusion:** To be presented at the congress.

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### Train the Trainer for Implementing Treatment Guidelines

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**Introduction:** A collaborative project between Sweden and Kosovo with the aim to develop treatment guidelines for the ambulance services was undertaken. Firstly, relevant guidelines were identified, then translated, and processed to fit with the Kosovan ambulance service system. The next step was to train instructors in becoming proficient in training colleagues to use the guidelines. A train the trainer approach was chosen as it can be seen as grounded in Kolb's experiential learning theory and Crossan et al. organizational learning theory. Those theories describe how individuals learn and how organizations develop.

**Method:** This implementation project supported training of local instructors to become proficient in training colleagues in 13 selected treatment guidelines for the ambulance services using scenario training. Initially, Kosovar instructors received directions from Swedish instructors then they observed the Swedish instructors. After this, they took more responsibility for the training. Seven Swedish instructors instructed eight Kosovar instructors for a week where about 100 Kosovan

doctors and nurses were trained in patient assessment and treatment guidelines. The trainees were divided into four parallel groups of 4-5 participants with one Kosovar instructor supported by a Swedish instructor.

**Results:** After the training week, eight instructors from two different ambulance service centers achieved proficiency in training colleagues in using treatment guidelines. Each Kosovar instructor was involved in 30 training occasions.

**Conclusion:** The training resulted in the involved Kosovar ambulance service centers being able to train new colleagues in providing standardized patient assessment and treatment using treatment guidelines. In addition, the trained Kosovar instructors will be able to contribute to the development of new guidelines and revision of established guidelines.

Applying a train the trainer approach, theoretically grounded in learning theories, provides a sound basis to achieve systematic change for improving patient safety. Here, the knowledge distribution among practitioners is improved in an inexpensive manner.

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### Efforts at our Emergency Department as a Designated Medical Institution for the Tokyo 2020 Games: How We Prepared for it during COVID-19 Pandemic

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**Introduction:** The Tokyo 2020 Games were held without spectators in the fifth wave of the COVID-19 pandemic after one-year postponement. From all over the world, approximately 11,000 Olympians and 4,400 Paralympians participated in the games. As one of the designated medical institutions, Tokyo Medical and Dental University Hospital provided emergency medical care for the personnel referred by medical staff at the venues or the Olympic Village clinics. On the other hand, it played a central role in treatment and care for COVID-19 patients in the Tokyo metropolitan area. The aim of this study was to review the emergency medical care system of the hospital as a designated hospital for the Tokyo 2020 Games and discuss the measures for future large-scale international events.

**Method:** A retrospective analysis of persons involved in the Games who visited our emergency department by request was conducted. COVID-19 patients who were admitted were also analyzed. The study period was from July 13 to August 11 for the Olympics and from August 17 to September 11 for the Paralympics, respectively in 2021. The data was derived from electronic health records from the hospital.

**Results:** The total number of ED visits was 38 during the period. One patient was hospitalized, and another patient was transferred. Twenty-one (55%) were athletes, seven (18%) were staff members, and ten (26%) were others. The reason for the visit was medical disease in 23 (61%) and surgical

disease in 15 (39%). There was one COVID-19 positive patient. The number of COVID-19 inpatients was 124.

**Conclusion:** Emergency medical care was provided for the persons involved in the Tokyo 2020 Games in cooperation with all the staff at the hospital. The COVID-19 pandemic 'disaster' may have had some impact on our hospital's role as the designated medical institution.

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### Exploratory Laparotomy Following the Mosul Offensive, 2016-2017: Results from a Dedicated Trauma Center in Erbil, Iraqi, Kurdistan

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**Introduction:** The Battle of Mosul (2016-2017) involved asymmetric warfare and excess civilian casualties. Emergency Management Centre (EMC) was a designated trauma center for the battle, located 80 km from Mosul. Exploratory laparotomy outcomes in local hospitals are poorly studied compared to military hospitals. Improving response to complex emergencies requires better contextual understanding.

**Method:** Prehospital and hospital data were collected from all patients undergoing exploratory laparotomy at EMC during the battle. Data were collected and validated by EMC's chief surgeon. New Injury Severity Scores (NISS) were calculated from operative data.

**Results:** Seventy-three patients were included. 22 (30.1%) were children; 40 (54.8%) were non-combatant adults. 51 (69%) were male. Bullets caused 74.0% of injuries. Children had prolonged time from injury to first laparotomy compared to adults (600 vs 208 minutes,  $p < 0.05$ ). Median hospital length of stay (LOS) was six days (IQR 4-10; children 16.4 days vs adults 8.6 days,  $p = 0.05$ ). Median NISS was 18 (IQR 12-27). NISS were significantly higher for women (28.5 vs 19.8), children (28.8 vs 20), and re-laparotomy (32.0 vs 19.0) compared to men, adults, and primary laparotomy, respectively. In univariate and multivariate analysis, NISS was associated with hospital, but not ICU, LOS ( $p < 0.01$ ). Twelve patients were re-laparotomies after surgery elsewhere: ten (83.3%) were for failed repairs or missed injuries. Median time to re-operation was 5.5 days (IQR 1-8). Re-operations had longer ICU (4.5 vs 2.9,  $p < 0.01$ ) and hospital stays (20.7 vs 7.6,  $p < 0.01$ ). Three (4%) patients died; two of which were re-laparotomies.

**Conclusion:** During the battle, civilians and combatants had similar injury mechanisms and outcomes. Children had a long

time to present and LOS. Low mortality likely reflects high pre-hospital mortality. Prolonged times to admission suggest the need for improved hospital transport. Re-operation was associated with increased complications and LOS. NISS demonstrated predictive value for hospitals, but not ICU, or LOS.

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### Community Advanced First Aid Training for Day-to-Day Emergency and Disaster Response in Nepal

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**Introduction:** Nepal is a country with geographical difficulties in tackling day-to-day emergency healthcare and disaster preparedness. The aim is to develop community preparedness by training for day-to-day emergency and disaster response in Nepal to generate preventive and first aid awareness of consequences and complications of simple to severe emergency conditions during day-to-day emergencies and disasters.

**Method:** It is an analysis of five years of advanced first-aid training at the Nepal Disaster and Emergency Medicine Center from July 2015 to March 2020. In April 2015, the earthquake affected 15 districts of Nepal.

**Results:** During July 2015 to March 2020, NADEM has been training 3,995 Community First Aiders for Male Leaders and Active Community people: 1,315 special mothers' group-Adolescent Maternity & Child Health First Aiders; 794 Ambulance Drivers-Advanced First Aid Trained of remote districts of Mountain and hilly region's ambulance's Drivers and Assistants; 637 ToT First Aiders for Community School Teachers (Training of Trainers); Total AFAT Trained by NADEM = 6,741 (Province 1 to 5); Total Population AFAT Trained = 52,610 (Province 1 to 5); Total Population Benefit by AFAT = 902,100 and its ongoing. NADEM Study Reports of Nepali community with 'Incident Rate of First Aid Required' is 9% per day with First Aid Services for 87.4% minor causes, 5.4% major causes, 0.5% gynecological causes, 1.7% AMCH causes, 4.5% trauma causes, 0.5% Prehospital Cardiac Arrest. With NADEM advanced first-aid training, now we are preventing 70% of deaths in remote parts of those districts before reaching the health care centers.

**Conclusion:** It is a great challenge to train community laypersons to be Community First Aiders who can tackle day-to-day emergencies and disasters in their community with knowledge, skills practice, and attitude to prepare and prevent the increased tendencies of disability, deformity, morbidity, and mortality in Nepal.

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