

100% of respondents including: ensure all ambulance services maintain readiness for MCIs; conduct joint training and exercise programs; adopt a common model for managing MCIs; and recognize the authority of only one on-site EMS commander. One policy that was proposed was that the senior EMS officer arriving on-site should not necessarily take over command and was endorsed by 92% in the 2<sup>nd</sup> e-Delphi cycle. Variability among experts according to origin country was noted concerning: (1) assign ambulances to off-duty EMS staff; and (2) dispatch two BLS and two ALS ambulances as an automatic MCI response.

**Conclusion:** Clear policies shared by all EMSs are needed to ensure effective management and maximal life-saving capacity in MCIs. The study presents consensus-based solutions to varied challenges common to EMS worldwide. Additional studies are needed to further develop policies into measurable and comparable international standards.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s93-s94

doi:10.1017/S1049023X17002424

### Evaluation of the Situation of Trainings Provided by Çanakkale 112 Ambulance Services

Hüseyin Koçak<sup>1</sup>, Cüneyt Çalışkan<sup>2</sup>, Bektaş Sari<sup>3</sup>, İsmail Köse<sup>4</sup>, İbrahim Tuncay<sup>5</sup>

1. Disaster Medicine Doctorate Student, Bezmialem Vakıf Univesity Institute of Health, İstanbul/Turkey
2. Emergency Aid And Disaster Management, Çanakkale Onsekiz Mart University, Çanakkale/Turkey
3. State Hospital, Ministry of Health, Çanakkale/Turkey
4. Director Of Education Unit, Çanakkale Provincial Health Directorate, 112 Ambulance Service Chief Physician, Çanakkale/Turkey
5. Orthopedics And Traumatology Department, Bezmialem Vakif University. Faculty of Medicine, İstanbul/Turkey

**Study/Objective:** The purpose of this study is to evaluate the present situation as of November 1, 2016, in regard to in-service training provided by the Training Unit of Çanakkale 112 Emergency Medical Services (ÇEMS).

**Background:** It is important to constantly update and improve personnel training in Emergency Medical Services. The following trainings are provided to personnel in pre-hospital health services: Basic Module Training (BMT), Trauma and Resuscitation Training (TRT), Advanced Life Support Training (ALST), Child Advanced Life Support Training (CALST) and Training for Ambulance Driving Techniques (TADT).

**Methods:** The study is a descriptive epidemiological study. The data was obtained from the records by Training Unit of Chief of Staff of Çanakkale 112 Ambulance Service.

**Results:** A total of 395 personnel are employed in ÇEMS. Of those, 57,5% (n = 227) are Emergency Medical Technicians (EMTs); 20,0% (n = 79) are Emergency Medical Technicians (Paramedics). In all, 89,8% of all of the personnel (n = 307) received the BMT; 90,1% (n = 308) received the TRT; 71,6% (n = 245) received the CALST; 61,1% (n = 209) received the ALST. Only 37,0% of them received the TADT. 97% of EMTs (n = 220) received the BMT; 99,0% of them (n = 224) received the TRT; 78,0% of them (n = 177) received the CALST; 70,0%

(n = 160) received the ALST; 32,0% (n = 72) received the TADT. Further, 86.0% of paramedics (n = 68) received the BMT; 87.0% of them (n = 69) received the TRT; 67,0% of them (n = 53) received the CALST; 53,0% (n = 42) received the ALST; and, 23,0% (n = 18) received the TADT. 25,0% of doctors received the BMT; 12,0% of them (n = 2) received the TRT; 38,0% (n = 6) received the CALST and 12,0% (n = 2) received the ALST.

**Conclusion:** It was concluded that since the BMT and TRT were performed in the city of Çanakkale, the participation of EMS personnel was high; on the other hand, since the ALST and CALST were performed in the city of Bursa, the participation percentage of EMS personnel was lower.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s94

doi:10.1017/S1049023X17002424

### Changes in Quality of Prehospital Care and Time Delays in Acute Stroke in Tallinn, Estonia from 2005 to 2016

Katrin Gross-Paju<sup>1</sup>, Kateriine Orav<sup>1</sup>, Raul Adlas<sup>2</sup>, Ulvi Thomson<sup>3</sup>, Helle Jaakmees<sup>4</sup>, Karin Kannel<sup>4</sup>, Svetlana Mironenko<sup>4</sup>, Agnes Reitsnik<sup>4</sup>, Valli Kaljula<sup>4</sup>, Ain Vares<sup>4</sup>, Sandra Ütt<sup>4</sup>

1. Tallinn University of Technology, Tallinn/Estonia
2. Tallinn Emergency services, Tallinn/Estonia
3. Stroke Centre, West.Tallinn Central Hospital, Tallinn/Estonia
4. West.Tallinn Central Hospital, Tallinn/Estonia

**Study/Objective:** The aim of the study was to analyze changes in quality and time delays in prehospital stroke management, and their influence on Door-to-Needle Time (DNT).

**Background:** Interval between stroke onset and thrombolysis determine the efficacy. Guidelines for stroke management were introduced in 2008 in Tallinn Emergency Medical Services (TEMS). Since 2014, the requirement of pre-arrival information by phone call of a possible thrombolysis patient to the West Tallinn Central Hospital (WTCH)-SS neurologist is in the TEMS guidelines. Since 2014, thrombolysis starts on Computed Tomography table (CT) at WTCH-SS.

**Methods:** Data of all consecutive thrombolysed stroke patients were recorded prospectively since January 1, 2005 to November 1, 2016 at WTCH-SS. Ambulance records of thrombolysed and non-thrombolysed stroke patients managed by TEMS were retrospectively analysed since 2009. Analysis was conducted for three periods: 2005-2009, 2009- 2011, and 1/1-1/11/2016.

**Results:** TEMS records were analyzed for 3666 stroke, including 243 thrombosed, patients during selected periods. Changes are depicted in the table. The exact time of onset was recorded on 38.9% (2009-20011) and on 62.4% (2016) of TEMS records. TEMS response time with ECG performed or ECG monitoring was 26.8 and 24.8 minutes, respectively versus 18.2 minutes without ECG. The pre-arrival information of possible thrombolysis to WTCH-SS was recorded in 28.7%. With pre-arrival information mean DNT was 25.8 versus 50.3 minutes without prior call.

**Conclusion:** TEMS adherence to guidelines has improved, but ECG is performed. DNT times have improved at WTCH-SS. The factors for improved DNT were related to pre-arrival information of possible thrombolysis patients by TEMS and start of thrombolysis in CT.

	2005-2009	2010-2011	2016	2009-2011	2016
	Thrombolysed			All stroke	
Dispatch high priority	66.2	88.9	87	61.9	72.7
Mean response time (minutes)	9	6.9	6.6	9.4	8.1
Recorded blood sugar (%)	NA	66.7	93.1	25.9	52.1
ECG/ monitoring done (%)	NA	54.2	49.5	43.6	31.5
DNT (minutes)	75.7	55.4	28		

**Table 1.** Changes in door to needle times at WTCH-SS (West-Tallinn Central Hospital). Since 2014 thrombolysis started in computed tomography (CT) room and pre-arrival information is provided by TEMS (Tallinn Emergency Services).

*Prehosp Disaster Med* 2017;32(Suppl. 1):s94-s95  
doi:10.1017/S1049023X17002436

### Resuscitation Team and Code Blue Practicing in Çanakkale State Hospital, Turkey

Bektaş Sari<sup>1</sup>, Hüseyin Koçak<sup>2</sup>, Cüneyt Çalışkan<sup>2</sup>, Yener Tutaş<sup>1</sup>

1. State Hospital, Ministry of Health, Çanakkale/Turkey
2. School Of Health, Çanakkale Onsekiz Mart University, Çanakkale/Turkey

**Study/Objective:** This study has two research objectives. The first aim is to evaluate the quality of resuscitation team and code blue practicing. The second is to determine which factors affect the code blue process.

**Background:** Code Blue Teams (CBTs) have crucial roles in every hospital or health care center in the world. With this important role, CBT must be well trained to save more lives. To train this team properly, hospitals and other health organizations have some responsibilities. If they do their responsibilities, and provide some conveniences to CBTs, the team can practice more and be trained well.

**Methods:** The authors conducted a retrospective data review of code blue frequency in three months (June 1- September 1, 2016). To carry out this study, permission was obtained from the hospital authority, then code blue forms reviewed. The personal information of the patients is not used in this paper.

**Results:** CBT has 40 code blue calls from different locations in the hospital. Of those calls, 20% (f = 8) are from the angiography unit, 35% (f = 14) from clinics, 30% (f = 12) from patient's rooms, 5% (f = 2) from cafe for syncope, and 10% (f = 4) from intensive care units. There was 45% (f = 18) of patients who were resuscitated by giving CPR and saved their life. There was 2.5% (f = 1) patients could not be saved in the angiography unit and 52.5% (f = 21) patients were given only first aid.

**Conclusion:** The arrival time to the patients is between in 20-120 seconds. Code blue forms need to be standardized. Having practiced regularly will be helpful for CBTs. Timing is very important and could affect the code blue quality. People who activate the CBT in hospitals must be educated about first aid and code blue process.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s95  
doi:10.1017/S1049023X17002448

### Quick Assessment of Intra Abdominal Pressure in an Emergency: An Option for Better Decision Making in Cases of Blunt Trauma Abdomen

Sankalp Dwivedi, Anand Tharwait

Surgery, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, Mullana/India

**Study/Objective:** The study was designed with an objective to measure intra abdominal pressure using intra vesicular pressure monitoring, in conditions predisposing to abdominal compartment syndrome in surgical trauma patients.

**Background:** Intra-Abdominal Hypertension (IAH) is defined as a sustained or repeated pathologic elevation of Intra-Abdominal Pressure (IAP), of greater than 12 mm Hg. Serial monitoring of IAP warrants early initiative for conservative treatment of IAH before dangerous levels of IAH develops.

**Methods:** This study comprised of 30 patients, who were above the age of 10 years, and presented with acute abdomen with suspected intra abdominal hypertension. IAP was measured at 0 hr, 8 hr, and 16 hours. Data included demographics, main diagnosis on admission, APP (MAP-IAP), APACHE II score; ICU stay, hospital stay, complication and mortality.

**Results:** Total data of 30 patients was taken and IAH (IAP  $\geq$  12-20 mmHg) was observed in 18 (60%) of cases and ACS (IAP  $\geq$  20 mmHg) was noted only in 3 (10%). There was male preponderance 2.33:1 and raised IAH in 61.9% of males. Majority (46.7%) of patients were admitted with perforation peritonitis with significant abdominal distention (96.7%). The mean IAP at the time of study was  $14.73 \pm 2.83$  (P = 0.92) in IAH group and was  $19 \pm 2.98$  (P = 0.74) in ACS group whereas the mean APP was  $53.60 \pm 11.01$  (P = 0.92) in IAH group and  $39 \pm 11.43$  (P = 0.97) in ACS group. Mean Acute physiology score was  $19.4 \pm 6.4$  while majority (47.6%) observed high APACHE II score (>20). Mean APACHE score in ACS group ( $27.3 \pm 10$ ) was higher with higher mortality rate  $58.3 \pm 31.94$  as compared to IAH group ( $20.4 \pm 6.04$ , mean mortality  $34.78 \pm 18.25$ ). Medical therapy (isotonic crystalloids in 100%) and surgical therapy (midline laparotomy 86.7%) was offered in majority.

**Conclusion:** Raised IAP leading to IAH and ACS, is a hidden threat to the surgical abdomen. For early prompt diagnosis and prediction of mortality, IAP and APP monitoring are effective.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s95  
doi:10.1017/S1049023X1700245X

### Patient Isolation Units, Performance-Avoidance: A Patient with Heat Stress Risk during Temporary Isolation and Transportation by the EMS Biohazard Team

Pavel Castulik

CBRNE Consultant, BRNO/Czech Republic