

Assessment Tool for Prehospital Emergency Curriculum in Eastern Europe

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Objective: To assess effectiveness in improving patient outcomes of a new prehospital emergency care training curriculum paired with a quality assessment tool for prehospital care providers in Eastern Europe.

Introduction: A first responder curriculum that includes a mechanism for documenting clinical data and prompting critical interventions is planned for 14 EMS training centers in the CIS for 2001. Measuring effectiveness is critical for quality improvement and securing ongoing approval from the project stakeholders as well as support for similar projects in other parts of the world.

Methods: A dual phase evaluation process is proposed. In the first phase (precurriculum), prospective students will identify patients with an acute illness or injury most likely to benefit from field interventions with a standardized, validated case severity scale (CSS). The CSS categorizes patients on their initial level of severity and their interval status change upon arrival at the emergency department. The second phase (postcurriculum) would combine the CSS with a structured patient encounter data collection (quality assessment) tool, which would document clinical data and serve as a prompt for critical interventions. A cohort will be followed prospectively for 12 months to evaluate changes in CSS based on clinical interventions. Observed interventions will be controlled for a given locale's resources and prehospital infrastructure. The curriculum and quality assessment tool will be implemented in staggered intervals throughout the each center's jurisdiction allowing for comparisons between pre- and postcurriculum cohorts.

Conclusion: A combination severity scale and quality assessment instrument may be useful in measuring patient outcomes, and in addition, have universal applications for improving and reinforcing the performance of prehospital providers.

Key words: assessment; case severity scale; curriculum; emergency medical services; evaluation; prehospital; quality

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Prehosp Disast Med 2001;16(2):s12.

The Perceived Usefulness of the Hospital Emergency Incident Command System and an Assessment Tool for Hospital Disaster Response Capabilities and Needs in Hospital Disaster Planning in Turkey

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Objective: To determine the perceived usefulness of the Hospital Emergency Incident Command System (HEICS) and an assessment tool for hospital disaster response capabilities and needs in hospital disaster planning in Turkey.

Methods: During the conference, Turkish medical profes-

sionals and hospital staff members were introduced to HEICS via lectures, interactive discussions, and a tabletop disaster drill. They also were taught capabilities and needs assessment tool for hospital disaster response, modified from the Community Medical Disaster Planning and Evaluation Guide, via lectures and interactive hospital disaster planning sessions. At the conclusion of the conference, Turkish participants were surveyed regarding their attitudes about the usefulness of HEICS and this assessment tool for disaster planning in their hospitals. Descriptive statistics are used to present the results of this post-conference survey.

Results: Thirty-three Turkish medical professionals and hospital staff members participated in the survey. 31% of those responding reported that they had previous experience in hospital disaster planning; 100% stated that they intended to participate in hospital disaster planning in the future; and 43% of those responding stated that their hospitals already have a disaster plan. Of those whose hospitals have disaster plans, 54% reported that their hospitals already utilize some other type of command and control system in its disaster plan, and 46% reported that their hospitals previously used some other type of capabilities and needs assessment tool in hospital disaster planning. All of those responding, felt that HEICS would be useful in their hospital disaster response and planning, and 97% of those responding believed that the hospital disaster response capabilities and needs assessment tool they were taught in the conference would be useful for future disaster planning in their hospitals.

Conclusion: With disasters occurring more frequently and with greater impact around the world, an international search is under way for useful and appropriate strategies for hospital disaster planning. Concepts about HEICS and an assessment tool for hospital disaster response capabilities and needs can be taught to medical professionals and hospital staff in a developing country with relative ease. The vast majority of participants in this Turkish conference on hospital disaster planning felt that HEICS and the assessment tool they were taught would be useful in their future hospital disaster planning.

Key words: command; control; disaster; education; hospitals; incident command system; planning; training

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Prehosp Disast Med 2001;16(2):s12.

Japan Disaster Relief Medical Team Activity for the El Salvador Earthquake in 2001

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Members of the Japanese Disaster Relief Medical Team were dispatched to the Republic of El Salvador in order to conduct relief activities for people affected by the earth-

quake that occurred on 13 January 2001. We report on this mission. The duration of the activities was from January 16 to January 25. The Japanese Medical Team for Disaster Relief (JMTDR) consisted of 18 members.

The place of activities was Hospital Nacional de Santiago de Maria and Colegio Santa Gema. Medical treatment rendered included first aid and primary health care. During the nine days, we treated 1,573 patients including 1,284 in Santiago de Maria and 289 in Santa Gema. There were 1,496 new patients and 77 revisits; 565 patients were <15 years old, 767 between 16 and 59 years, and 244 were >60 years old. The three most common final diagnoses were respiratory diseases in 716 (45.5%), acute stress syndrome in 322 (20.5%), and neurological/orthopedic diseases in 257 (16.3%).

The suggestions at the time of withdrawal were as follows: (1) to consider the preventive measures for infection affected by the earthquake, such as appropriate lavatories; (2) because many catch colds after staying or sleeping outside the home they need sufficient blankets and air mattresses (3) to maintain abdominal hygiene, the affected population should be supplied with insecticide; and (4) to keep conditions sanitary and to maintain good hygiene, menstruating women must obtain enough sanitary napkins.

Key words: demography; disasters; earthquake; public health; relief

Prehosp Disast Med 2001;16(2):s13.

Homeostasis Correction in Burns Complicated by Blood Loss

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Homeostatic changes have been studied, and some methods for correcting the revealed disturbances have been developed on the model of deep burns (IIIB,IV degree) of >10% of body surface and acute blood loss of 20–25 ml/kg in experiments on 50 dogs. The control series (no therapy) was noted to develop a hypodynamic syndrome, decompensated metabolic acidosis, hyperfermentemia, electrolytic shifts, and inhibition of myeloerythroproliferation. The resulting polyorganic pathology due to mutual aggravation syndrome caused death of all of the animals by the 4th–5th hour post-injury.

Intravenous infusive therapy with rheopolyglukin, isotonic solution of sodium chloride and antihypoxants (sodium oxybutyrate [SOB], 200 mg/kg, dimephosphonium, 1100 mg/kg, mexidol(e) 50 mg/kg) appeared to correct the principal parameters of homeostasis: it stabilized the central haemodynamics, normalizes the acid-base balance (ABD), reduced hyperfermentemia and endogenous intoxication along with a decrease in lipid peroxydation products. The therapeutic effect was noted to rise in intraosseous infusion of antihypoxants. Maximal antihypoxic effects of SOB was registered by 3 h after infusion, and that of dimephosphonium by the 6th h; the ABD normalizing effect of antihypoxants persisted for 24h. Intraosseous infusive therapy of combined injury in the presence of SOB helped to provide

100% survival rate within 24h; with dimephosphonium, the rate was 50%; mexidol (e) prolonged the life span to 72h.

Polycomponent infusive therapy in combined injury (deep burns complicated by acute blood loss) including antihypoxants seems to be valid and, should be taken into account in clinical practice.

Key words: antihypoxants; antioxidants; blood loss; burns; hemodynamics; hemostasis; hypodynamics; hypoxia; intoxication; survival; therapy

Prehosp Disast Med 2001;16(2):s13.

Effect of Antihypoxants on Bone Marrow Blood Formation in Burns Complicated by Blood Loss

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The efficacy of the use of antihypoxants in deep burn therapy (IIIB-IV degree), 10% of body surface, with acute blood loss 20–25 ml/kg has been studied in three series of experiments on 30 dogs, 10 animals in each. The control series received no therapy; the second group received intravenous infusions of rheopolyglukin, isotonic sodium chloride solution, sodium oxybutyrate (SOB, 200 mg/kg), and autoblood 1h post-trauma; and in the 3rd series, SOD was replaced by dimephosphonium (100 mg/kg).

The royelogram taken 1 h post injury, showed a sharp decrease in total myelokaryocytes (57% to the original level), increase in mature myeloid components, reduction of immature forms, and erythrokaryocytes. In the control series, mitosis increased in numbers along with the rise in erythrokaryocyte share by the 5th day post-injury. Leukoerythroblastic (l/e) ratio was 3:1 (4.5:1 in the norm). The use of SOB was not observed to correct the myelogram: decrease of blast and immature forms along with rapid maturing of neutrophils continued; the share of erythroid forms in the punctate was sharply decreased; the l/e ratio became 27:1; the mitosis number went down to 2%. Signs of activation in erythropoiesis of erythroblastic type with predominant basophilic and polychromatophilic normocytes were noted after dimephosphonium infusion; the l/e ratio comprised 4.5:1. The number of mitoses returned back to the original level.

Combined injury (deep burns complicated by blood loss) causes inhibition of erythropoiesis and speeds up neutrophil maturation. The use of SOB provided a reversible picture of regenerative bone marrow, while diroeposphonium infusion tends to restore haemopoiesis.

Keywords: antihypoxants; blood loss; burns; erythrokaryocytes; erythropoiesis

Prehosp Disast Med 2001;16(2):s13.