

## NATO ADVANCED TRAINING COURSE – THE BEST WAY OF TRAINING FOR MASS CASUALTY SITUATIONS

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### Summary

*The NATO Advanced Training Course on training for mass casualty situations was held in cooperation with Traumacenter Rambam Hospital in Haifa, Israel from November 16–18, 2009. In total, 22 participants from 8 countries of the Partnership for Peace and Mediterranean Dialogue Programmes attended the course. The participants, divided into three groups, discussed and practised scenarios of mass casualty management in the area of pre-hospital care, hospital care and use of non-conventional weapons. The international team of instructors used the following teaching methods: general lectures, guided discussions, use of advanced multimedia tools, tabletop drills, clinical simulations in a specialized center and a large-scale drill. The mass casualty drill was held at the end of the course. The trainees of the course also participated as observers and reviewers in the drill, and debriefed it together with Traumacenter medical staff. The course was made possible by the provision of a grant by the NATO Science for Peace and Security Programme.*

**Key words:** Mass casualty situations; Training for MCS management; Teaching methods; Medical simulation; Tabletop and large-scale drills; NATO programmes.

### Mezinárodní kurz NATO pro nácvik a výuku řešení situací s hromadným výskytem raněných

#### Souhrn

*Mezinárodní kurz pro nácvik a výuku řešení situací s hromadným výskytem raněných ve spolupráci NATO s Traumacentrem nemocnice Rambam v Haifě v Izraeli se uskutečnil 16.–18. listopadu 2009. Kurzu se zúčastnilo 22 odborníků z 8 zemí, které spolupracují s aliancí v rámci programů Partnerství pro mír a Středozevního dialogu. Účastníci pracovali ve 3 skupinách, v nichž se řešily a nacvičovaly různé aspekty situací hromadných neštěstí – v oblasti přednemocniční péče, v nemocniční fázi i za podmínek použití nekonvenčních (toxikologických) zbraní. Mezinárodní lektorský tým mimo jiné využíval metod úvodních lekcí, řízených diskusí ve skupinách, pokročilých technologií v multimediálních pomůckách, praktických cvičení na mapách, klinických simulací ve specializovaném centru i skutečného cvičení většího rozsahu. Toto cvičení, v němž účastníci byli zapojeni jako pozorovatelé i hodnotitelé, bylo uspořádáno na závěr kurzu. Cvičící se rovněž aktivně zúčastnili debriefingu se stálým stavem traumacentra. Uskutečnění kurzu bylo výsledkem realizace grantu NATO v rámci programu Vědou za mír a bezpečnost.*

**Klíčová slova:** Situace s hromadným výskytem raněných; Výcvik zvládnutí situací při hromadných neštěstích; Učební metody; Simulace zdravotnických situací; Cvičení na mapách a v praxi; Programy NATO.

### Introduction

A mass casualty situation (MCS) is an unexpected emergency, with a large number of casualties, that requires special organization and the response of local, regional and national services, within the parameters of the Integrated Rescue System. Such a situation may be the result of natural disasters or

man-made activity, either inadvertent (e.g. traffic or industrial accidents) or intentional (e.g. war, conflict, terrorist attacks). Unfortunately, international experiences, such as in the first decade of the 21<sup>st</sup> century, show that terrorist attacks and consequent mass casualty situations can happen anywhere. Nowadays, no country is immune. Organization, co-ordination and co-operation between the different

civil forces (rescue, military, fire department, police, etc.) involved in the aftermath of such attacks are the key to a successful response. Therefore, there is great importance in preparing medical teams for emergency situations based on the assumption, repeatedly proven in practice that operations which function well in peace time will most probably function well in an emergency situation. However, it is also known that mass casualty situations may occur in places where treatment of casualties during M.C.S. is not common, usual activity. Thus, drill-methods, teaching-methods and organizational guidelines for the preparation of medical teams were developed, and are now systematically used in peace-time training. The State of Israel is among those countries with the most frequent experiences in dealing with mass casualty situations due to heavy casualties during the long-standing conflict in the Near East. Education, training, drills and the sharing of experience with other experts at international level is indubitably a way of improving medical efficiency during such critical situations.

### Aim

In April 2005, an international workshop on “Preparedness of Medical Systems – Guidelines for Mass Casualty Situations” was held in Haifa, Israel, under the auspices of NATO. Specialists from many countries dealt with problems arising in the hospital and pre-hospital phase of the medical response to mass casualty situations; and also in the preparations for a potential toxicological event. Methods for evaluating the quality of care provided during such situations were also discussed (3). During the workshop, the first two authors of this report co-operated closely, and continue to maintain professional contact. From personal consultations ensuing during the 2<sup>nd</sup> and 3<sup>rd</sup> Czech medical delegation’s visits to Israel in 2006 and 2008 (2), the idea emerged of organizing a course involving NATO and the State of Israel (as an active member of Mediterranean Dialogue Countries co-operating on a certain level with NATO).

NATO maintains and develops contacts with many countries in areas where health-care occupies a prominent place. The two biggest groups of countries with which NATO co-operates comprehensively are the 24 countries from Europe and Asia participating in the Partnership for Peace Programme (PfP countries), initiated by President Clinton; and the

group of Mediterranean Dialogue Countries (MD countries), i.e. 7 countries from Northern Africa and the Near East, including Israel and Jordan. After finishing preparation for the theme, structure and content of the course, and planning its pedagogical, materiel and logistic support, at the beginning of 2008, both authors jointly applied for a NATO grant for 2009. In NATO Headquarters in Brussels, co-operation with PfP countries and MD countries falls within the compass of the Public Diplomacy Division, specifically the Science for Peace and Security Section. After the application was discussed, and approved, in relevant NATO committees in February 2009, a grant was awarded /PDD(SPS)-(CBP.MD.ATC.983603)/ for the organization of a “NATO Advanced Training Course – Best Way of Training for Mass Casualty Situations” for specialists from PfP and MD countries. The date of the 3-day course was decided as 15–17 November, 2009.

### Preparation for and establishment of the course

The aim of the course was to inform its participants, all experienced protagonists in the field of emergency medical services, hospital management, or ministry of health officials in their own countries, about methods of teaching and training in preparation for mass casualty situations. Medical solutions to individual cases were not discussed; the course was aimed at methods for organizational support in the suppression of all medical short-comings during a MCS. Methods of instruction were: short introductory lessons, table-top drills, a full-blown large drill, demonstrations and practical training (in the Israeli Medical Simulation Centre), video-projections and computer programmes, analysis of real events, drills-and-debriefings. Participants took an active part in the drill as instructors, and also “judges” as they assessed the performance of other trainees. The announcement of the course was published on the web-pages of NATO, and also sent to all PfP and MD countries. In the end, 22 participants who met all the criteria were chosen. The allocation of places for participants in alphabetical order of their home countries is shown in the table 1.

The first two authors of the report, the two main organizers of the course, had then to ensure good lecturers and instructors for individual activities. As well as more than 10 home experts, international per-

sonnel also took an active part: Prof. Eric Fryberg MD, FACS; Jorie Klein, RN from the USA, and Ari Leppaniemi MD from Finland. During the first day, Dr. Walter Kaffenberger, a former representative of the NATO Headquarters in Brussels, gave an instructive lecture. The whole course was held in the agreeable and, for this purpose, technically perfectly-prepared Dan Panorama Hotel in Haifa. Two outside visits were made – one to the National Medical Simulation Centre, and the other to the Rambam Health Care Campus, for the drill.

Tab. 1

Country and number of participants

Country	Number
Azerbaijan	1
Croatia	4
Georgia	6
Jordan	4
Malta	3
Russia	1
Serbia	1
Ukraine	2
Total	22

### Outline of the course

After the ceremonial opening by representatives of the Israeli Ministry of Foreign Affairs and Ministry of Health, the programme assumed introductory, general lectures relevant to different problems of given topics: the pre-hospital aspect; hospital aspects in the minimization of mass casualties, and specific situations concerning the use of non-conventional means of warfare (toxic materials). Another group of lectures dealt with the use and effectiveness of different didactic methods and tools – usage of multi-media means, types of courses as training-tools, advantages and disadvantages in the medical simulation of different situations. Then, all the participants were divided into three working-groups in which moderated discussions, practical training and table-top drills took place. Different groups discussed pre-hospital care, hospital care and possible situations caused by the use of non-conventional weapons.

During the first two days, all groups were able to cover all themes. Preparation of the drill, the method for evaluating the full-blown large drill, and the role of several hospital departments, was a specific

chapter. At the end of each activity, representatives of individual groups presented the findings of their experiences and discussions.

The visit, displays and practical training in the National Medical Simulation Centre was an exceptional experience for all participants. This institution is technically and personally equipped for the simulation of various medical conditions not only in one patient, but also in multiple types of casualty. There is advanced audiovisual equipment, and computer-driven physiological mannequins attached to monitoring-instruments which record patients' reactions to the application of their treatment, or to other measures administered by the trainee. An authentic background-noise from the scene of the disaster is created. During the drill for non-conventional warfare situations, a smoke-screen necessitates gas-masks and exposure suits. It is also interesting that professional actors took part in the simulation of stress-situations for intervening medical personnel – they played the roles of the injured, mourners or relatives; and by “panicking”, they distracted the attention of the medics. The activity of all participating instructors and trainees is recorded and, after the training, a detailed analysis took place. A discussion and debriefing was held in every group after carrying out its specific task. It is worth mentioning that Israeli physicians compulsorily train in this centre (during their specialized training) and meeting the requirements is an essential condition of success in the practical examination of the accreditation procedure.

The last day was dedicated to a practical display (a drill with 20 casualties) and its evaluation. First of all, participants visited the newly-reconstructed Department of Emergency Care Medicine on the Rambam Health Care Campus in Haifa, only opened the day before. Material and technical aspects of the preparedness of the hospital for the mass admission of casualties were explained, together with an aspect of practical training for the hospital staff; and the participants were also shown the documentation and a system of communication suitable for all similar situations. When the players were ready, the drill took place. The participants followed it from the initial alarm, through the first-aid intervention at the scene of the disaster, to the admission of casualties firstly to the hospital and later to treatment at the Department of Emergency Care. Each participant was given the task of assessing an individual carer and his activity. The drill ended with the stabilization of admitted “patients” and the plan-

ning for subsequent medical treatment (indications of surgical care).

At the end, a collective debriefing of all participating physicians, nurses and other medical staff was held. Since this drill was the first test of a newly-opened department, the discussion was very analytical. There was a clear effort made to detect even the smallest imperfections by both trainees and observers. However, any discussion on inconsistencies, intricacies or mistakes had a really clear, constructive purpose: to improve standards either for the next drill or for the real thing. Despite this detailed analysis, the day was spent in a friendly, pleasant mood. During the closing ceremony, at the end of the last course-day, certificates were handed out to all participants. The importance of this ceremony and of the course within its NATO context, was underlined by the presence of the First Lady of Georgia who had accompanied the President on his official visit to Israel.

### Conclusion

The Rambam Hospital in Haifa has had more than 70 years of eventful history (1). It is the largest medical centre in northern Israel. The Trauma Centre, also the largest, has a rich experience in dealing with the wartime- and peacetime-injuries commonly present in mass casualty situations. The staff of the Trauma Centre and of its study- and training-group have developed teaching- and training-methods which are used all over Israel. The Centre also organizes international courses in emergency medicine and disaster medicine. The course organized in co-operation with NATO revealed possibilities of co-operation between NATO and the participating countries. At the close, the participants evaluated the course anonymously, and their feedback showed that the course had not disappointed their primary

expectations. Thus, the participants will be able to use their newly-acquired knowledge to develop and improve the methodology and instructional techniques in disaster medicine in their respective countries. The lecturers were also content with the activity and enthusiasm of their students, and their exchanges of experiences will undoubtedly lead to mutual enrichment.

Photodocumentation in colourful attachment.

### Acknowledgment

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