



emdm

EUROPEAN MASTER IN DISASTER MEDICINE

European Master in Disaster Medicine

EMDM
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www.dismedmaster.com



Introduction

The management of the medical effects of a disaster is one of the most difficult tasks to be performed by medical personnel. It requires specific knowledge, the ability to plan and organize a health system, adapted to the disaster situation and the professional skill to provide medical care of high quality in an austere environment. Many recurring difficulties or problems that plague the medical response in disasters are due to insufficient education and training of the involved personnel, poor understanding of the medical disaster plans, procedures and protocols and low levels of skill and experience. Therefore, an appropriate education and training in all aspects of disaster medicine are essential for planners, key personnel and all actors involved in the disaster medical and health response. This will necessitate the educational involvement of academic authorities in association with qualified professionals in disaster medicine and disaster management.

New information technologies, particularly related to distance E-learning and interactive multimedia and problem-based exercises are easily applicable to teaching disaster medicine and these educational methodologies are the backbone of the EMDM.

Background

The project of the EMDM was launched during the First Congress of the European Society for Emergency Medicine in April 1998 in San Marino, as a pilot project to be implemented in the framework of a European interuniversity cooperation. The European Centre of Disaster Medicine (CEMEC) and the Eur-OPA project of the Council of Europe, decided to support the project. Consequently, an agreement for the organization of a European Certificate in Disaster Medicine, has been signed by University "A. Avogadro" Eastern Piedmont, Novara - Italy and the Free University of Brussels to raise the Certificate to a level - two Master in Disaster Medicine based on Italian legislation. So far, 187 students from 46 nationalities participated to the EMDM.

Target group

The course is of interest to all those involved in the medical preparedness and response in disaster situations at local, national and international level.

Applicants must hold an approved master degree in a subject of health care or health management. Practical experience in disaster preparedness or management is welcome.

Course aim and objectives

The Master is intended to provide participants with a clear picture of current concepts and developments in the medical preparedness and management of disasters.

At the end of the course we expect the participants to be able to:

- evaluate health risks in disaster situations;
- participate in the medical disaster preparedness;
- direct the medical response team in case of disasters;
- organize and manage evaluation and debriefing sessions;
- provide introduction and awareness to disaster management for medical response personnel;
- conduct research on the medical aspects of disasters.

Course organization

The EMDM is organized by the two founding universities, in collaboration with other six Universities/Institutions:

- Centre for Teaching & Research in Disaster Medicine and Traumatology, Linköping, Sweden
- Irvine University, Department of Emergency and Disaster Medicine, California, USA
- Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland
- Harvard Humanitarian Initiative, Harvard University, Boston, USA
- Yale New Haven Center for Emergency Preparedness and Disaster Response. USA
- National Center for Emergency Preparedness at Vanderbilt University Medical Center, Nashville, TN, USA

The founding universities have final responsibility for the scientific content and the format of the EMDM, the quality of the educational methodology, the evaluation procedures, and the awarding of the Master Degree.

The EMDM is supported by international and scientific organizations with interest in disaster medicine and disaster management:

- the European Society for Emergency Medicine (EuSEM).
- the World Health Organization (WHO)
- the International Committee of the Red Cross (ICRC)

The faculty members of the EMDM are qualified professionals in disaster medicine and disaster management coming from European and extra-European countries, affiliated with academic and worldwide renowned institutions.

Course initiators:

- Prof. Michel Debacker (Free University Brussels, Belgium)
- Prof. Francesco Della Corte (University "A. Avogadro" Eastern Piedmont, Novara - Italy)
- Prof. Herman Delooz (Free University Brussels, Belgium)

The EMDM is a level - two Master, a 70 credit unit programme, and lasts one academic year.

Educational format

The maximum number of students is limited to 35 due to the educational format of the EMDM.

The EMDM consists of different parts that must be completed successfully by the students.

1. A self-directed study under faculty guidance based on problem-based learning, integrated in an e-learning curriculum and provided on the website of the Master (56 units or 1400 hours).

The EMDM is composed of eight modules:

- Module 1. Introduction to Disaster Medicine
- Module 2. Research in Disaster Medicine
- Module 3. General Medical Disaster Management
- Module 4. Specific Multiple Casualty Treatment
- Module 5. Disaster Mental Health
- Module 6. Education and Training in Disaster Medicine
- Module 7. Complex Humanitarian Emergencies
- Module 8. Legal, Ethical and Moral Aspects of Disaster Medicine

2. A live-in course where the students meet the faculty and interact in debates and exercises, assessing the student's ability to recall and apply an integrated knowledge base for solving problems in disaster situations (4 units or 100 hours).
3. A thesis related to a topic of disaster medicine or disaster management under the supervision of a tutor (min 10 units or 250 hours).
4. A final on-line examination provided on the Internet composed of an electronic simulation exercise of a disaster presenting medico-organizational and medical care problems and a multiple choice questionnaire on the content of the electronic textbook.



Student of the Seventh Edition

Selection of Students, fees, bureaucracy, duration of the Master and the academic degree

The application form are available at the Secretary Office in Novara or could be downloaded at the EMDM website at www.dismedmaster.com or at the website of the Faculty of Medicine, Università degli Studi del Piemonte Orientale "Amedeo Avogadro" (<http://www.med.unipmn.it/>).

The application form should be accompanied by

- a copy of a diploma giving proof of the university graduate level in a subject of health care or all documents certifying equivalent professional qualification or a formal declaration (Art. 46 m DPR 28/12/2000, n. 445, Italian law);
- a copy of all the documents that could be considered valuable for the admission to the EMDM.
- a curriculum vitae;
- an e-mail address.

EMDM factoids



For students coming from European Community countries, the diploma should be officially translated into Italian.

All the documents should be sent from October 1, and not later than December 15, to the following address:

Segreteria dello European Master in Disaster Medicine, Segreteria degli Studenti dell'Università del Piemonte Orientale, Via Perrone 18, 28100 Novara, Italia

For students coming from Extra European Community countries, the application form and all the required documents should be delivered to the Italian Consulate or Embassy (M.I.U.R. Prot. N. 1129 del 08.05.2003) of their own country of residency. The Consulate/Embassy will send the application form and the documents directly to the Secretariat of the EMDM. The deadline will usually be on December 15.

All the applications will be evaluated by the Executive Committee and acceptance will be notified before December 31.

The Master program starts on February 1, and will last one academic year.

The registration fee is 4000 EURO (+ 29,24 Euro for taxes).

The fee includes the participation in the full academic programme of the EMDM, the educational material, the social programme and medical insurance for the two-week live-in course. Total fee should be paid at the registration procedure. If appropriate, the Executive Committee can decide that the fee could be paid in two instalments.

After having been selected by the Executive Committee, the student must present to the:

Segreteria dello European Master in Disaster Medicine,
Segreteria degli Studenti dell'Università del Piemonte Orientale,
Via Perrone 18, 28100 Novara, Italia

not later than 20 days since the official list of selected students has been issued by the School of Medicine's Secretariat, the following documents:

- a request of enrolment, signed in original, addressed to the Rector of the University (provided by the Administrative Secretariat of the EMDM or downloaded from the EMDM website www.dismedmaster.com/home or from the website of the Faculty of Medicine of the Università "A. Avogadro" Eastern Piedmont, at www.med.unipmn.it);
- a formal declaration not being a student of another university course;
- payment of the due fee (total fee or half of total fee) or an official document giving proof of a scholarship;
- two photographs.

A personal identification booklet will be given to each selected student.

The Master Degree will be awarded by the two founding universities to the candidate who has fulfilled all the requirements of the degree including:

- participation in the problem-based e-learning program;
- active contribution to the residential course;
- successful presentation of a thesis;
- final examination on the Internet.



CITE Explorer desktop view. Multimedia replay and visualization, used in Casalvolone exercise 2005.

EMDM Course content outline

Course director: F. Della Corte

Educational Credits (CFU) have been divided in theoretical activity credits (Cdf) and practical training credits (Cpr) according to the directives of the Ministry of Education and to the statements of the Councils of Faculty of Medical Studies.

Module 1. Introduction to Disaster Medicine (CFU 3)

Coordinator: H. Deloos

0. Preliminary unit

Use of the E-Learning platform and principles of distance learning

1. Emergency Medicine, Disaster Medicine and Public Health
2. Definition of Disaster and Disaster Medicine
3. Modeling medical disaster management
4. Disaster epidemiology
5. Module Library
6. Post-test
7. Exercise

Module 2. Research in Disaster Medicine (CFU 4)

Coordinator: K. Koenig

1. Research models in disaster medicine
2. Thesis concept and methodology
2. Evaluation and interpretation of experiences on the field
3. Planning and organisation of research studies at national and international level
4. Module Library
5. Post-test
6. Exercises

Module 3. General Medical Disaster Management (CFU 18)

Coordinator: M. Debacker

1. Risk management: definition, prevention, warning
2. Public awareness and information as measures of prevention
3. General and medical disaster planning
4. The Role of Health Authority in Disaster Preparedness
5. Command-control-coordination
6. Information strategy and management
7. Logistics
8. Protection and safety
9. Triage
10. Prehospital management
11. Hospital management
12. Nursing management



Electronic simulation - Riceland.

13. Volunteer management in Disasters
14. Medical Planning for Specific Populations:
 - Children
 - Vulnerable populations
15. Management of the Fatalities
16. Public health management
17. Environmental Health
 - General aspects of environmental health
 - Water
 - Food
 - Waste Disposal (Excreta, Liquid and Solid Waste)
 - Housing – Shelters
 - Climate
 - Infectious Diseases
 - Vector Control
 - Hazardous Materials
18. Veterinary Aspects
19. Principles of medical management
20. Principles of Analgesia and Anesthesia
21. Principles of surgical treatment
22. Veterinary Aspects

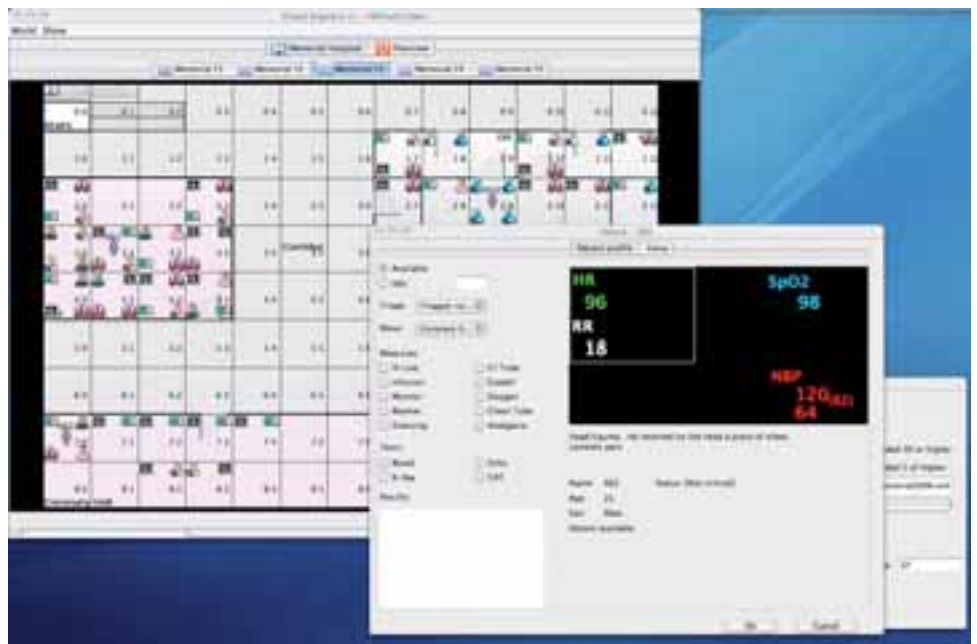
23. Module Library
24. Post-test
25. Exercises
 - a. Rail disaster exercise - EMDM
 - b. Accident in the tunnel exercise - EMDM
 - c. Chemical disaster exercise - EMDM
 - d. Hospital Disaster preparedness exercise - EMDM
 - e. Avalanche exercise - EMDM
 - f. OP Festival exercise - EMDM

Module 4. Specific Multiple Casualty Treatment (CFU 5)

Coordinator: Gregory Ciottono

Each topic consists of expected pathologies, planning, scene management and medical care of casualties

1. Natural Disasters
 - Avalanche
 - Cyclones, Hurricanes and Typhoons
 - Earthquake
 - Fire
 - Flood and tsunami
 - Heat Wave
 - Landslide
 - Tornado
 - Volcanic Eruption
 - Winter Storm



2. Technological Disasters
 - Airport Incidents
 - Chemical Incidents
 - Explosions
 - Maritime Incidents
 - Radiation Incidents
 - Rail Incidents
 - Road Traffic Incidents
 - Tunnel Incidents
3. Social Disasters
 - Mass Gathering
 - Epidemics and pandemics
 - Gunshot mass casualties
 - Civil unrest and rioting
4. Terrorism
 - Bombings
 - BWA
 - CWA
 - Ecological
 - Electronic
 - Nuclear and Radiation Attacks
5. Module Library
6. Post-test
7. Exercises

Module 5. Disaster Mental Health (CFU 4)

Coordinator: D. Schonfeld

1. Psychological aspects of disasters
2. Individual and collective psychological reactions
3. Intervention in the immediate, post-immediate and chronic phase
 - a. Prevention and treatment
 - b. Immediate psychological care
 - c. Postimmediate psychological care
4. Stress and burn-out of rescuers
5. Psychological aspects of information and the use of the media
6. Mental health in disasters for children
7. Hospital Emergency Management Guidelines for Mental Health Support
8. Module Library
9. Post-test
10. Exercises

EUROPEAN MASTER IN DISASTER MEDICINE – Learning Exercise Rail Disaster

Learning Exercise Rail Disaster



Interactive problem-based rail disaster exercise complicated by a chemical incident.

© 2001, European Master in Disaster Medicine

Module 6. Education and Training in Disaster Medicine (CFU 6)

Coordinator: T. Vikstrom

1. Training and Education in Disaster Medicine where results can be measured
2. Defining learning objectives and curriculum
3. Training process and material
4. Testing and evaluation techniques
5. Simulation and virtual reality in Training
6. Organizing operations-based exercises

7. Module Library
8. Post-test
9. Exercises

Module 7. Complex Humanitarian Emergencies (CFU 4)

Coordinator: F. Del Ponte

- Definition, causes and consequences of the CHE
1. Principles, roles and mandates of the main international players during the CHE, in particular UN-OCHA, WHO and ICRC
 2. Role and importance of the NGO's and local and regional actors
 3. International Legislation and International Humanitarian Law
 4. The Civil-military relation during a CHE
 5. The medical coordination during a CHE
 6. Mass movement of population - Refugees and Internally Displaced Persons
 7. Management of sanitary needs in a CHE, including refugee camps
 8. Nutrition, Water and Sanitation during a CHE

 9. Module Library
 10. Post-test

Module 8. Legal, Ethical and Moral Aspects of Disaster Medicine (CFU 3)

Coordinator: H. Delooz

1. General introduction to legal, ethical and moral aspects of disaster medicine
2. International legal aspects of disaster medicine
3. Ethical aspects of disaster medicine
4. Moral aspects of disaster medicine

5. Module Library
6. Post-test
7. Exercises



*Interactive lesson.
Prof. K. Peleg.*

EMDM - Alumni



In 2005 the students of the EMDM met together and established the EMDM Alumni association. This decision came from the common desire to bring together dynamic forces and to create an International network of experts in Disaster Medicine.

One of the key elements of the Association is the constant attention paid to all its members, maintaining their professional skills and establishing national and international relations and the public diffusion of a culture of disaster prevention and preparedness.

The Association offers various services, such as continuing education, exchange sessions between alumni and personalities from society, the elaboration of joint projects, participation in topical forums through its website and the distribution of its news bulletin.

The main purpose of the Association is to serve the medical community by supporting the development of Disaster Medicine and Disaster Management, in order to reduce the effect of disasters on the health of affected populations, including:

- a. to establish a network of qualified professionals;
- b. to provide a forum for research in all aspects of Disaster Medicine;
- c. to provide effective communication between the EMDM and its Alumni by keeping Members informed of EMDM matters and to assist in maintaining the educational tradition and spirit of the EMDM;
- d. to provide information on the achievements and activities of the Alumni of the EMDM and assist Alumni in their professional endeavors;
- e. to organize meetings and conferences to bring together the EMDM graduates and others devoted to Disaster Medicine.

Ramachandran Madhavan, President

Tudor Codreanu, President Elect

Pier Luigi Ingrassia, Secretary

Demetrios Pyrros, Treasurer

Narayan Ramachandran, Executive Member

Stefania Pace-Shanklin, Executive Member

Herman Delooz, representative of EMDM Executive Committee



*Functional real size exercise:
accident in the tunnel, Aosta, Italy,
May 2006*



Final exercise EMDM 2006: interactive problem-based avalanche exercise

Abstract from "La Stampa"
May 20, 2006

QUARTE 400 PERSONE COINVOLTE, CHIUSO IL RACCORDO

Ore 16, inferno nella galleria ma è soltanto un'esercitazione

Specialisti da tutto il mondo impegnati in un master di Medicina dell'emergenza

Giampaolo Charrier

Un'agguata al chilometro 2,9 ad Aoste, ambulanze e vigili spediti, vigili del fuoco e volontari della Croce Rossa un po' dispettosi. I soccorsi non erano veri. Al nostro fianco, a un'esercitazione, era il terribile incidente nel raccordo tra l'autostrada e la statale del Gran San Bernardo. La Valle del passaggio è stata teatro dell'esame finale di un master internazionale di Medicina delle emergenze, organizzato dall'Università del Piemonte Orientale di Novara. Erano intervenute la Protezione civile della Valle d'Aosta, l'Onu e le forze dell'ordine, 400 persone. A finire sotto la luce di un'addebiatamento sono stati i portavoce provenienti da più di venti Paesi di tutto il mondo. Il disastro ipotizzato è stato un pullman con 56 studenti che prende su tre auto ferme in mezzo alla strada dopo un incidente. Nel giro di un'ora, il pullman è stato investito dall'avalanche di neve. Totale: 100 persone coinvolte, diversi feriti e un colpo, quindi persone che hanno avuto esito fatale, quindi di in pericolo di vita, e feriti di ogni grado.

Per scelta dei docenti, chi esercitava questo esame sul campo non sapeva nulla di

quanto si sarebbe trovato davanti. Il tutto era stato simulato, anche se era davvero impossibile che la situazione comparsa assoluta riuscisse a simulare il gran panico scatenato da un evento del genere. I feriti erano interpretati da studenti di medicina, per una volta impegnati dall'altra parte della barricata.

Il via è stato dato poco dopo le 16, con un fumo bianco, anche se il Raccordo nella realtà era chiuso dalle 15. All'arrivo a valle, a due passi dal Grand Chalet, si è realizzata una piccola folla di soccorritori e addetti ai lavori. Qualcuno, passato sulla statale, si fermava accudendo, intratteneva alcuni quali disegni. Per 45 minuti non è successo nulla, dopo che un unico intervento dei vigili del fuoco era cominciato e tutti ridotti nel tunnel. Poi sono venuti a piedi i primi soccorritori, assistiti da volontari della Croce Rossa. Intorno alle 17.25 è stato allestito un posto medico avanzato dove accorrere e stabilizzare i feriti, sempre più gravi, che venivano portati fuori, prima di arrivare al pronto soccorso ricostruito in un hangar del aeroporto. Tutto è finito alle 18, ma si aspetta di rivedere la zona ricominciata, si capirà cosa ha funzionato e cosa no e dove si può migliorare.

LE IMMAGINI DEL FINITO DISASTRO



Le vittime nell'auto. I soccorritori impegnati attorno a quattro vittime dello sfortunato incidente avvenuto al chilometro 2,9 della galleria di Sommay, sul Raccordo autostradale che collega a A5 con la statale 27 del Gran San Bernardo.



Si è lavorato il pronto soccorso. Per non interferire con la normale attività dell'ospedale regionale di valle Granera, durante l'esercitazione di ieri è stato ricostruito un pronto soccorso all'interno di un hangar del aeroporto Corrado Gea di Saint-Chisostofa. Nell'immagine, gli specialisti al lavoro mentre il presidente della Regione Luciano Cavero assiste vicino all'incidente.



Gli infermi dopo il rogo. Sul'arbitro all'interno della galleria sono stati ricoverati i feriti non trasportabili dai soccorritori. Un maggior parte sono persone ricoverate attorno del fumo originatosi dall'incidente avvenuto in seguito allo scontro tra un pullman e tre vetture fermi.



L'assistenza ai feriti più gravi. Un ferito grave viene trattato da medici e infermieri verso il pronto soccorso che è stato ricostruito in un hangar del aeroporto Corrado Gea per non interferire con la normale attività dell'ospedale di valle Granera. All'esercitazione hanno partecipato 400 persone.



I vigili del fuoco in allarme. Sono le 16, è scattato l'allarme per l'incidente al chilometro 2,9 e i vigili del fuoco prendono l'ingresso della galleria di Sommay mentre arrivano altri soccorritori.



Pronto medico avanzato. All'interno della galleria è stato allestito un Posto Medico Avanzato, per le prime cure ai feriti prima del loro trasferimento all'ospedale.



Gli infermi dopo il rogo. Sul'arbitro all'interno della galleria sono stati ricoverati i feriti non trasportabili dai soccorritori. Un maggior parte sono persone ricoverate attorno del fumo originatosi dall'incidente avvenuto in seguito allo scontro tra un pullman e tre vetture fermi.



Real size exercise in Casalvolone (NO) Italy, May 2005

GALLO arti grafiche VC

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