

P r o c e e d i n g s
16th IAMU Annual General Assembly
Opatija, Croatia, 2015



Sveučilište u Rijeci
Pomorski fakultet Rijeka
University of Rijeka
Faculty of Maritime
Studies Rijeka



IAMU

International Association of Maritime Universities

EDUCATING/TEACHING STUDENTS OF MARITIME STUDIES ABOUT MEDICINE FOR SEAFARERS

Mulić, Rosanda^{1*}; Vidan, Pero²

¹ School of Medicine
Croatia

² Faculty of Maritime Studies
Split

Abstract. Life on board ships is very demanding. Seafarers live and work together in a confined and isolated environment and may be away from home for months at a time. Sailing increases the chances of sustaining serious injury or loss of health. Medical assistance on board is provided by doctors only on large passenger ships (transatlantic and cruise ships) and with the exception special purpose ships such as research ships or off-shore vessels designed for divers. Merchant navy ships do not have a doctor on board. There is often no immediate access to medical care. Therefore, according to international conventions, all crew members must know how to provide first aid. If the provision of medical care involves more complex procedures or if there are doubts as to proper treatment, the vessel may request radio medical advice or helicopter transport.

At the Faculty of Maritime studies in Split, Medical First Aid is mandatory for all graduate students (as a course on its own or as part of a course), while Medicine for Seafarers is a mandatory course for the students of Nautical Engineering, Marine Engineering, and Marine Electrical Engineering and Information Technologies. The course in Medicine for Seafarers includes Medical First Aid and Medical Care. During the course, it is very important to keep in mind that one is teaching medicine to lay persons with no medical background and with no or very scarce knowledge of medical issues.

Key words: education, first aid, medical care, students of Maritime studies

***Corresponding author**

e-mail: rosanda.mulic@mefst.hr

1 INTRODUCTION

Maritime professions have been considered dangerous since the beginning of sailing until today.

Throughout history, ships of various European navies often boarded physicians as crew members. However, physicians were rarely found on board merchant navy ships and the trend persists to this day.

Although injuries and poisoning account for most of the health problems on board merchant ships, contagious diseases may pose a serious threat, bringing into danger not only the health of other seafarers but also the safety of the ship and, where carried, passengers. It is particularly important that seafarers concerned with the preparation of food do not suffer from conditions which may be transmitted to others through their work. Therefore seafarers should know the basic concepts of how infectious diseases are transmitted.

Ships carrying 100 or more persons and ordinarily engaged on international voyages of more than three days' duration shall carry a qualified medical doctor who is responsible for providing medical care. According to the Maritime Labour Convention (MLC, 2006; Standard A4.1- Medical care on board ship and ashore), ships that do not carry a medical doctor shall be required to have either at least one seafarer on board who is in charge of medical care and administering medicine as part of their regular duties or at least one seafarer on board competent to provide medical first aid. Persons in charge of medical care on board who are not medical doctors shall have satisfactorily completed training in medical care. Hence, what must be made available is medical equipment, a person trained to use it and ready access to information on the prevention, diagnosis and treatment of a disease. Normally this is in the form of a manual and is supported by international arrangements for access to radio medical advice all over the world.

In the Republic of Croatia, according to the above Convention (MLC 2006) and national laws and regulations, all ships shall carry a medicine chest, medical equipment and a medical guide, the specifics of which shall be prescribed and subject to regular inspection by the competent authority; the national requirements shall take into account the type of ship, the number of persons on board and the nature, destination and duration of voyages and relevant nationally and internationally recommended medical standards.

2 ABOUT THE FACULTY OF MARITIME STUDIES IN SPLIT

The basic activity of the Faculty of Maritime Studies is the establishment and performance of university un-

dergraduate, graduate and post-graduate studies in compliance with the Bologna declaration, as well as the organization and performance of highly professional and scientific research in the area of maritime affairs.

Undergraduate (Bachelor's Degree) and graduate (Master's Degree) university studies are: Nautical Engineering, Marine Engineering, Marine Electrical Engineering and Information Technologies, Maritime Management, and Maritime Yacht and Marina Technologies.

The study programmes of the Faculty belong to the scientific area of technical sciences, scientific field of traffic and transport technologies, under the branch of maritime traffic.

The programmes imply the study of basic and elective courses with the continuous updating of the process of education. The objective and the purpose of all study programmes is the education of maritime experts according to international standards and regulations as well as the implementation of the principle of life-long education as the basic element of European higher education.

A specific feature of the studies is comparability with study programmes of similar higher education institutions in the world and the European Union, significant multidisciplinary and intertwining of science and profession.

The Faculty of Maritime Studies is equipped with the most sophisticated educational equipment that meets the requirements of world maritime organizations. There are the nautical, marine engine room and GMDSS simulators, well-equipped information technology rooms, an electrical engineering laboratory and a first aid room.

The Faculty staff also performs seafarer training for the certifications required on board. The teaching consists of theoretical and practical parts as well as special training programme on the most up-to-date training devices and simulators used worldwide.

There are around 1400 students enrolled at the Faculty in all of its programmes and undergraduate and graduate studies.

3 MARITIME LABOUR CONVENTION (MLC 2006)

The Maritime Labour Convention is a very important document with which we have to acquaint the students of the Faculty of Maritime Studies. The purpose of this Convention is to protect the health of seafarers and ensure their prompt access to medical care on board ship and ashore.

Contents of this Convention are:

- Minimum requirements for seafarers to work on a ship,

- Conditions of employment,
- Accommodation, recreational facilities, food and catering,
- Health protection, medical care, welfare and social security protection,
- Compliance and enforcement.

The Convention lays down that each Member shall ensure that all seafarers on ships that fly its flag are covered by adequate measures of health protection and that they have access to prompt and adequate medical care whilst working on board.

The protection and care shall, in principle, be provided at no cost to the seafarers.

Each Member shall ensure that seafarers on board ships in its territory who are in need of immediate medical care are given access to the Member's medical facilities on shore.

The requirements for on-board health protection and medical care set out in the Code include standards for measures aimed at providing seafarers with health protection and medical care as comparable as possible to that which is generally available to workers ashore.

In terms of medical care on board ships and ashore, the Convention lays down the following:

1. Each Member shall ensure measures to provide health protection and medical care, including essential dental care, for seafarers working on board a ship that flies its flag, which:
 - (a) ensure the application to seafarers of any general provisions on occupational health protection and medical care relevant to their duties, as well as of special provisions specific to work on board ship;
 - (b) ensure that seafarers are given health protection and medical care as comparable as possible to that which is generally available to workers ashore, including prompt access to the necessary medicines, medical equipment and facilities for diagnosis and treatment, and to medical information and expertise;
 - (c) give seafarers the right to visit a qualified medical doctor or dentist without delay in ports of call, where practicable;
 - (d) ensure that, to the extent consistent with the Member's national law and practice, medical care and health protection services while a seafarer is on board ship or landed in a foreign port are provided free of charge to seafarers; and
 - (e) are not limited to treatment of sick or injured seafarers but include measures of a preventive character such as health promotion and health education programmes.
2. The competent authority shall adopt a standard medical report form for use by the ships' masters

and relevant onshore and on-board medical personnel. The form, when completed, and its contents shall be kept confidential and shall only be used to facilitate the treatment of seafarers.

3. Each Member shall adopt laws and regulations establishing requirements for on-board hospital and medical care facilities and equipment and training on ships that fly its flag.
4. National laws and regulations shall as a minimum provide for the following requirements:
 - (a) all ships shall carry a medicine chest, medical equipment and a medical guide, the specifics of which shall be prescribed and subject to regular inspection by the competent authority; the national requirements shall take into account the type of ship, the number of persons on board and the nature, destination and duration of voyages and relevant national and international recommended medical standards;
 - (b) ships carrying 100 or more persons and ordinarily engaged on international voyages of more than three days' duration shall carry a qualified medical doctor who is responsible for providing medical care; national laws or regulations shall also specify which other ships shall be required to carry a medical doctor, taking into account, inter alia, such factors as the duration, nature and conditions of the voyage and the number of seafarers on board;
 - (c) ships which do not carry a medical doctor shall be required to have either at least one seafarer on board who is in charge of medical care and administering medicine as part of their regular duties or at least one seafarer on board competent to provide medical first aid; persons in charge of medical care on board who are not medical doctors shall have satisfactorily completed training in medical care that meets the requirements of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended ("STCW"); seafarers designated to provide medical first aid shall have satisfactorily completed training in medical first aid that meets the requirements of STCW; national laws or regulations shall specify the level of approved training required taking into account, inter alia, such factors as the duration, nature and conditions of the voyage and the number of seafarers on board; and
 - (d) the competent authority shall ensure by a pre-arranged system that medical advice by radio or satellite communication to ships at sea, including specialist advice, is available 24 hours a day; medical advice, including the onward

Table 1 Medical training for seafarers

Certificate of Qualification	STCW number	Hours	Mandatory participants
Basic First Aid	D2-STCWVI/4	8	All crew members
Certificate on qualification to provide medical first aid	D19-STCW VI/4	21	All crew members
Qualified to provide medical care on board ship	D19-STCW VI/4	45	officers

transmission of medical messages by radio or satellite communication between a ship and those ashore giving the advice, shall be available free of charge to all ships irrespective of the flag that they fly.

4 THE LEGISLATION AND EDUCATION IN CROATIA RELATED TO THE TRAINING OF SEAFARERS IN FIRST AID AND MEDICAL CARE

All national documents about maritime affairs are in accordance with the Maritime Labour Convention (MLC 2006) and international conventions. The *STCW Convention* from 1978 is a very important convention from the maritime health professional's point of view. It is the convention regulating the pre-sea medical and periodic examinations of seafarers, despite being very general in its approach. It also set up the standards for emergency medical training requirements for different groups of personnel on board. Training in medical emergency procedures and medical care is another very important issue for the *STCW Convention*. The training requirements differ according to position on board.

All ships shall carry a medicine chest, medical equipment and a medical guide. At national level there is the Ordinance on the minimum requirements and conditions for providing medical care on board vessels, boats and yachts (*Official Gazette of the Republic of Croatia*, No 14/2008) which takes into account the type of ship, the number of persons on board and the nature, destination and duration of voyages and relevant national and international recommended medical standards.

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

(*STCW*) requires that all maritime officers get a certificate in *First Aid* and in *Medical Care on Board Ships*. The company designates the officer in charge of the ship's pharmacy and healthcare of the crew on board in line with its company policy. In practice, the level of knowledge acquired through seafarer training (Table 1) is often inadequate for any more complicated interventions or first aid treatment.

The training/education of students of the Faculty of Maritime Studies is in accordance with the most recent editions of the *International Medical Guide for Ships*, the *Medical First Aid Guide for Use in Accidents Involving Dangerous Goods*, the *Document for Guidance – An International Maritime Training Guide*, and the medical section of the *International Code of Signals* as well as similar national guides.

5 OUR EXPERIENCE

Undergraduate students are mostly focused on learning the necessary minimum in order to pass the exam and obtain a certificate at the end of the course. Students who work and study have shown a much greater interest in the material presented since they are aware of the fact that they will sooner or later need to be able to apply it in practice.

It takes vast amounts of experience and effort to bring medical topics closer to students of technical sciences and to make them interested in the field. At the same time, it is very important to keep in mind during the course that one is teaching medicine to laypersons with no medical background and with no or very scarce knowledge of medical issues.

REFERENCES

- [1] Maritime Labour Convention (MLC 2006). Available at: <http://www.ilo.org/global/standards/maritime-labour-convention/lang--en/index.htm> Date of access: May, 2015.
- [2] International Medical Guide for Ships. 3rd Edition. WHO, Geneva, 2007. Available at: <http://www.stkittsnevisregistry.net/Forms/mlc/WHO%20Medical%20Guide%20for%20Ships,%203rd%20Edition.pdf> Date of access: May, 2015.
- [3] Jeroncic I, Mulic R. Maritime Medicine and Medicine for Seafarers. *IMSC Proceedings 2014*, Solin, Croatia.
- [4] Mulic R, Vidan P, Bošnjak R. Comparative Analysis of Medical Assistance to Seafarers in the World and the Republic of Croatia. *IMSC Proceedings 2013*, Split, Croatia.
- [5] Barbagelata A, Bagnoli F, Gemelli A. (2002). Telemedicine By Satellite. Experiences on Cruise Ships in the Mediterranean Sea. *The Medical Journal of the International Radio Medical Centre*, (pp. 121-123) *Proceedings of C.I.R.M./I.M.H.A. Workshop on Telemedicine for Improving Medical Assistance for Seafarers*, Rome, Italy.
- [6] Nikolic N, Mozetic V, Modrcin B, Jaksic S. (2002). Might telesonography be a new useful diagnostic tool aboard merchant ships? *A pilot study, The Medical Journal of the International Radio Medical Centre, Proceedings of C.I.R.M./I.M.H.A. Workshop on Telemedicine for Improving Medical Assistance for Seafarers*, Rome, Italy.
- [7] Kasum J, Vidan P, Skracic T. (2011). Maritime radiation protection and seamen's safety, *ISEP Proceedings 2011*, Ljubljana, Slovenia.
- [8] Guidelines for the Development of Tables of Seafarers' Shipboard Working Arrangements and Formats of Records of Seafarers' Hours of Work or Hours of Rest. IMO. Available at: http://www.imo.org/OurWork/HumanElement/VisionPrinciplesGoals/Documents/ILO-IMO-Hours%20of%20rest_1.pdf Date of access: May, 2015.
- [9] Textbook of Maritime Medicine. Norwegian Centre for Maritime Medicine. Available at: <http://textbook.ncmm.no/> Date of access: May, 2015.