

A Medical Support in Offshore Racing Workshop on Learning Competences/Outcomes, 4–5 November 2016, Barcelona, Spain

**Nebojša Nikolić¹, Alf Magne Horneland², Ilona Denisenko³, Tomo Thompson⁴, Roger Nilson⁵,
Michael Jacobs⁶, Jean Cristophe Fimbault⁷, Carmen Vaz Pardal⁸, Joseph Abesamis⁹, Simon Forbes¹⁰**

¹Workshop Chairman, World Sailing Medical Commission, Croatia

²Norwegian Centre for Maritime Medicine, Norway

³International Maritime Health Association, President, Russia

⁴Volvo RWR, United Kingdom

⁵Volvo Ocean Race and Trophy Jules Verne, Sweden

⁶United States Sailing Safety at Sea Committee, Wilderness Medical Society, United States

⁷French Society of Maritime Medicine, France

⁸Spanish Olympic Sailing Team, World Sailing Medical Commission, Spain

⁹Medical Trainer MARCDOC, Philippines

¹⁰World Sailing, Technical and Offshore Manager, United Kingdom

INTRODUCTION

The safety and health of sailors offshore is of major concern. World Sailing (WS) and International Maritime Health Association (IMHA) are taking seriously the potential dangers to the safety and health at sea. By the nature of their sport, the sailors' racing in offshore racing environment can be exposed to injuries and other health problems that can endanger their lives. Being aware of the potential dangers caused by the distance from onshore health facilities and lack of professional help on board, IMHA and WS decided to support the activities that are leading to the enhancement of safety and health protection on board.

There is an obvious overlap and the shared areas of concern of maritime medicine with the newly-emerging field of sailing sport medicine. Although on-board environment and the population of sailors is somewhat different in sailing, much value in commercial shipping guidelines and practices will benefit sailors undertaking offshore yacht racing. Medical teams involved in planning and managing offshore yacht racing will benefit from an internationally recognised reference document which addresses all aspects of medical support for such events. Also, forming a central forum for discussing common medical problems that arise in this arena will facilitate future development of medical support for offshore yacht racing.

With common initiative, such forum was formed in the format of the joint Workgroup on Medical Support in Offshore Racing.

The first Workshop on Medical Support for Offshore Yacht Races was held from 6 to 7 November 2015, in San-ya, China, during the WS Annual Conference. Its aim was to agree on the WS/International Sailing Federation (ISAF) position paper on best practice to promote and maintain health in offshore yacht racing that would set up the goals for further workshops and areas that should be covered and agreed upon with the final aim to reach internationally recognised standard and reference document(s), which address all aspects of medical support for such events.

General agreement on current situation was that discrepancies and lack of concordance between medical training, medical kits and recommended medical manual may cause suboptimal treatment of sailors suffering from serious illness or injuries. WS/IMHA work group defined several major areas where further work should be taken – possibly in the format of the joined WS/IMHA Workshops: Medical training, Medical kit on board, Medical Manual and Telemedical advice systems (TMAS – Tele-medical Maritime Assistance Service).

General position on each element was agreed upon while regarding the medical training it was agreed that it must consider the type of yacht racing undertaken, the time and the distance remote from definitive medical assistance, and the medical kit carried by the yacht. In general, yacht races venturing into more challenging environments require more extensive medical training. Ideally, medical training should involve theory, practical skills, and simulation of practical scenarios on board the vessel, including at sea.

✉ Dr. Nebojša Nikolić, Riva Boduli 1, 51000 Rijeka, Croatia, e-mail: travel-medicina@ri.htnet.hr

SECOND WORKSHOP ON MEDICAL SUPPORT FOR OFFSHORE YACHT RACES

Based on WS/IMHA position paper from Sanya that set up the field of further work, Second WS/IMHA workshop was organised during the WS Annual Conference from 4 to 5 November 2016, in Barcelona, Spain. Following the recommendation on further actions from the ISAF/IMHA Position Paper – November 2015 Medical Support for Offshore Yacht Races on examining the “Efficacy of medical training and learning outcomes” its aim was to produce the WS/IMHA position paper on learning outcomes in medical training for offshore yacht racing.

Again, the same format of the workshop was used where 8 participants (4 from WS and 4 from IMHA side were divided into task groups where each task group was formed from 1 participant from WS side and 1 participant from IMHA side. Before the task group work, several presentations were made, like presentation about the context of medical training for on-board medical providers in merchant marine and training of yacht crews in offshore yacht racing. As the tuning method of learning competences was used, one presentation introduced the *tuning method of curriculum design* in European medical schools that was already successfully used in MEDINE 1 and 2 project of the European Union programme Erasmus.

Each task group had a task to evaluate, tune and refine the ‘Learning Outcomes/Competences for Undergraduate Medical Education in Europe’ document in the context of medical training for the crews in offshore yacht racing. That European Union document today presents the base model of designing the curriculums in European medical schools. That concept of defining the leaning outcomes is nowadays enabling European (and significant part of international) medical schools to develop their own curriculums that differs one from the other, but at the same time to reach the same final product – equally well trained medical professionals that can work in any country regardless of the training programme.

In the context of sailing, having the list of necessary competences of the person designated for providing medical help on board means that, regardless of what training programme a race organiser or national authority chooses, whether it is privately owned company or government run training programme, by reaching the set of agreed outcomes we will be sure that the sailors have appropriate level of medical competences on board. With such document agreed upon by the relevant international experts, WS and IMHA will set up the highest possible and realistic standard, which will allow race organisers to choose their

own solution in fulfilling it. At the same time the race organisers will benefit from having the strong benchmark that will enable them to provide the appropriate medical support on board. The sailors will benefit from having the best possible safety and health protection in offshore environment of the race.

The second workshop produced ‘Expert Consensus Paper’ on learning outcomes in medical training for crews in offshore yacht racing. As the tuning process included some more expert documents and further post-workshop tuning, document was completed and agreed upon as a part of the 3rd WS/IMHA Workshop on Medical Help in Offshore Races held in Lorient, France, 12–13 May 2017.

WS/IMHA POSITION PAPER ON LEARNING OUTCOMES IN MEDICAL TRAINING FOR OFFSHORE YACHT RACING

After evaluating the gathered evidence on medical training for crews in offshore yacht racing, each of the learning outcomes/competencies are rated on the extent to which they should have been achieved by a designated provider/crew on board who has successfully completed the training in medical care on offshore racing yachts on the following Likert scale, which is based on “Miller’s triangle” (Miller 1990):

- Not Learned allocated “1” on Likert scale
- Knows (about it) allocated “2” on Likert scale
- Knows How (to do it) allocated “3” on Likert scale
- Shows How (in simulation) allocated “4” on Likert scale
- Does (in real practice) allocated “5” on Likert scale

For each of the learning outcomes/competences in ‘Yacht Medic Professionalism’ learning outcomes/competences relating to medical professionalism are rated on the extent to which they should have been achieved by a designated provider/crew on board who has successfully completed the training in medical care on off shore racing yachts:

- Not Learned allocated “1” on Likert scale
- Knows (aware of issues) allocated “2” on Likert scale
- Knows How (understands principles) allocated “3” on Likert scale
- Shows How (in artificial scenarios) allocated “4” on Likert scale
- Does (consistently in real practice) allocated “5” on Likert scale

After the training in medical help on board, designated provider on board/crew who has successfully completed the training in medical care on off shore racing yachts will have the ability to – see Tables below:

Outcomes	Designated provider	Crew
Carry out a consultation with a patient		
Take a history	4	1
Carry out physical examination	4	1
Make clinical judgements and decisions	3	1
Provide explanation and advice to the patient	3	1
Provide reassurance and support	4	1
Assess the patient's psychological state	4	1
Assess clinical presentations, order investigations, make differential diagnoses, and negotiate a management plan		
Recognise and assess the severity of clinical presentations	4	1
Make differential diagnoses	2	1
Provide immediate care of medical emergencies, including first aid and resuscitation		
Recognise and assess acute medical emergencies	4	4
Treat acute medical emergencies	4	1
Provide basic first aid	4	4
Provide basic life support and cardio-pulmonary resuscitation according to current international guidelines	4	4
Provide advanced life support according to current international guidelines	2	1
Provide trauma care according to current international guidelines	4	1
Prescribe drugs		
Prescribe drugs (if no contact with TMAS) according to guidelines	4	1
Treat pain and distress	4	1
Carry out practical procedures		
Measure blood pressure and other vital signs	4	4
Cannulation of veins	4	1
Administer IV therapy and use infusion devices	4	1
Fluid administration: hypodermoclysis, intraosseous and rectal	3	1
Subcutaneous and intramuscular injection	4	1
Administer oxygen	2	1
Move and handle patients	4	4
Wound closure	4	1
Splinting	4	1
Bladder catheterisation	4	1
Bleeding control (clotting)	4	4
Urinalysis	4	1
Basic respiratory function tests	2	1
Communicate effectively in medical context		
Communicate with patients	4	1
Communicate with TMAS	4	1
Communicate in breaking bad news	2	2
Communicate with others (social media, internet, media)	2	2
Communicate in seeking informed consent	2	1
Communicate in writing (including medical records)	3	1
Communicate in dealing with aggression	2	1
Communicate by telephone/VHF/radio	4	1

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Outcomes	Designated provider	Crew
Ability to apply ethical and legal principles in medical practice		
Maintain confidentiality	4	3
Apply ethical principles to patient contact	3	1
Obtain and record informed consent	3	2
Certify death	2	1
Apply flag state and international law to clinical care	2	1
Assess psychological and social aspects of patient's illness		
Assess psychological factors in presentations and impact of illness	3	2
Assess social factors in presentations and impact of illness	3	2
Detect stress in relation to illness	3	2
Detect alcohol and substance abuse, dependency	2	2
Apply the principles, skills and knowledge of evidence-based medicine		
Keep accurate and complete clinical records	3	2
Use information and information technology effectively in a medical context		
Use computers/communication equipment	4	3
Access information sources	4	2
Store and retrieve information	3	1
Promote health		
Provide patient care which minimises the risk of harm to patients	3	3
Apply measures to prevent the spread of infection	4	4
Recognise own health needs and ensure own health does not interfere with professional responsibilities	3	3
Conform with regulation to be in charge of medical care on board	4	1
Engage in health promotion at individual level	2	2

TMAS – Tele-medical Maritime Assistance Service

Yacht medic professionalism	Designated provider	Crew
Professional attributes		
Probity, honesty	4	4
Commitment to maintaining skill competency and knowledge	4	2
Interpersonal skills	5	2
Professional working		
Abilities to recognise limits and ask for help	5	3
Capacity to deal with uncertainty	4	2
Ability to lead others	4	1
Ability to solve problems	4	2
Ability to make decisions	4	2
Ability to work safely and independently when necessary		
Ability to communicate with shore-based TMAS and Search and Rescue (SAR) services	4	3
Capacity and ability to organise and plan medical support	5	1
Ethics/confidentiality		
Maintaining confidentiality	4	5
Informed consent	4	1
Concept of 'Acting in the patients best interests'	4	2
Probity, honesty	4	4

After the training in medical help on board, designated provider on board/crew who has successfully completed the

training in medical care on offshore racing yachts should be able to demonstrate knowledge of – see Table below:

Knowledge outcomes	Designated provider	Crew
Basic sciences		
Normal function (physiology)	2	1
Normal structure (anatomy)	2	1
Normal body metabolism and hormonal function (biochemistry)	2	1
Drugs and prescribing		
Use of antibiotics and antibiotic resistance	2	1
Principles of prescribing	2	1
Drug side effects	2	1
Drug interactions	2	1
Individual drugs	2	1
Public health		
Disease prevention	2	2
Ethical and legal principles in medical practice		
Rights of patients	2	1

After the training in medical help on board, designated provider on board/crew who has successfully completed the

training in medical care on offshore racing yachts should have experienced the practical work in these areas – see Table below:

Experiential learning	Designated provider	Crew
Care of acutely ill or traumatized patients	4	3
Care of general (internal) medical patients	3	2
Care of general surgical patients	3	2
Care in the community/family practice/primary care	2	1

Further WS/IMHA workshops are planned in 2016 on medical chest on board and for 2017 with the participation of telemedicine experts where already created position papers will be

put in the context of telemedical advice in offshore racing with the aim to reach completely synchronized and tuned system that will enable higher level of protection of health and lives at sea.