

**Andrzej Ostrowski, Tadeusz
Ambroży, Dariusz Mucha,
Mirosław Juskiewicz, Marek
Strzała**

Safety in yachting and motor boating

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Andrzej Ostrowski, PhD

University School of Physical Education in Krakow

Associate Prof. Tadeusz Ambroży, PhD

Associate Prof. Dariusz Mucha, PhD

University School of Physical Education in Kraków,

Mirosław Juszkiewicz, PhD

University School of Physical Education in Krakow

Marek Strzala, PhD

University School of Physical Education in Krakow

Safety in yachting and motor boating

Abstract:

There are many different areas in which a human¹ may improve the quality of his life due to his work, as well as to the proper usage of free time. An interesting example of The spreading of the idea of Modern Bushido is an interesting example of the processes of globalization². The authors of holistic training³ refer in their experiences to modern bushido, which is based on its main elements such as culture of honor, “learning with the whole body” and being close to the nature. The last element is basic for gaining good health and appeasing psyche by aiming at slowing down.

Key words:

Free time, holistic training, Bushido, yachting, safety, rescue.

There are many different areas in which a human⁴ may improve the quality of his life due to his work, as well as to the proper usage of free time. An

¹ W. Czajkowski, J. Piwowarski, *Administrowanie jakością życia*, „IDO – Ruch dla kultury”, 2010, nr 10., s. 17–23

² Piwowarski, *Droga do Modern Bushido*, „Zeszyt Naukowy Apeiron”, Wyższa Szkoła Bezpieczeństwa Publicznego i Indywidualnego „Apeiron” w Krakowie, 2010, nr 4, s. 157–186

³ Ambroży T., *Trening holistyczny – metodą kompleksowej uprawy ciała*, EAS, Kraków 2004.

⁴ W. Czajkowski, J. Piwowarski, *Administrowanie jakością życia*, „IDO – Ruch dla kultury”, 2010, nr 10., s. 17–23

interesting example of The spreading of the idea of Modern Bushido is an interesting example of the processes of globalization⁵. The authors of holistic training⁶ refer in their experiences to modern bushido, which is based on its main elements such as culture of honor, “learning with the whole body” and being close to the nature. The last element is basic for gaining good health and appeasing psyche by aiming at slowing down.

Slowing down counteracts stress caused by the influence of the accelerating globalization. Classic meditative training and mountains or water expeditions may also conduce to this. All of these elements give satisfaction and improve psychophysical human condition provided that they take notice of the so-called culture of safety⁷. It eliminates rising danger in the quality of life, which is inherently related to taking up more ambitious challenge.

Considering unquestionably large touristic and recreational values, practicing yachting and motor boating is a very attractive and popular form of spending free time. However, it may result in a higher risk of different accidents which may happen when going overboard or during onboard activities, often while encountering raging water. So, operations on each yacht or a motor boat should be performed by a qualified team, prepared and trained in safe yachting and rules of first aid in different states of danger to the health and life. Such trainings are provided during yachting courses, but they are often not sufficient enough, because they are mainly limited to emergency buoyancy resources and rescue operations in case of a man overboard. The risk of accident often rises when crewmen are people without any course preparation for sailing and they are not aware of possible dangers.

⁵. Piwowarski, *Droga do Modern Bushido*, „Zeszyt Naukowy Apeiron”, Wyższa Szkoła Bezpieczeństwa Publicznego i Indywidualnego „Apeiron” w Krakowie, 2010, nr 4, s. 157–186

⁶ Ambroży T., *Trening holistyczny – metodą kompleksowej uprawy ciała*, EAS, Kraków 2004.

⁷ Pierwszym filarem kultury bezpieczeństwa w koncepcji Mariana Cieślarczyka jest filar mentalny, zawierający również elementy duchowe, jak wartości, zasady, wiedzę czy normy. Umiejscowiony on został obok filaru drugiego – elementów kultury organizacyjnej (zawierającej regulacje prawne, struktury organizacyjne, procedury, itp.) oraz filaru trzeciego, zbudowanego z elementów kultury materialnej (obejmującej infrastrukturę, sprzęt techniczny, stanowiska pracy, itd.). M. Cieślarczyk, *Fenomen bezpieczeństwa i zjawisko kryzysów postrzegane w perspektywie kulturowej*, [w:] *Jedność i różnorodność. Kultura vs. kultury*, R. Reklajtis, R. Wiśniewski, J. Zdanowski (red.), ASPRA-JR, Warszawa 2010, s. 96

Frequency of motor sailing and yachting accidents is not high, but there is a lack of detailed statistics. Last three years data provided by WOPR (Polish abbreviation for Volunteer Water Lifeguards Association) from the tracks of Great Lakes of Masuria, the most popular sailing region in Poland, shows that preventive measures result in reduction in amount of accidents and victims (table 1).

Table 1. Accidents on Masuria between 2009–2011, source: WOPR (Volunteer Water Lifeguards Association of Masuria).

	2009	2010	2011
Interventions of MWOPR	266	207	174
Amount of people, who got help form MWOPR	534	490	44
Amount of people directed to hospital treatment	6	17	8
Interventions of WA	367	346	264
Amount of people who got help form WA	393	357	271
Amount of people directed to hospital treatment	57	63	81

MWOPR – Polish: Mazurskie Wodne Ochotnicze Pogotowie Ratunkowe, English: Volunteer Water Lifeguards Association on Masuria

WA – Water Ambulances

Understanding dangers which occur on yachts is related to knowledge of the risk factor for boating accidents, which are divided into dependent factors and independent factors. According to some authors, dependent factors are the internal conditions related to a sailing vessel, such as nautical ability of a yacht, the equipment, technical state and actions of the person leading a yacht and the whole team. To those actions included are: experience, knowledge, skills, state of health and psychophysical aptitude. These factors may be controlled and eliminated and it should be noted that letting them to occur is very often a huge mistake. Independent factors, known also as external factors, are the weather conditions such as: temperature, insolation, wind, [visibility](#), fog, rainfall, waves and navigation marking of the reservoir. Despite being independent of man, they may often be predicted and limited.

Basis for safe navigation is the adherence to principles of seamanship, which are the preventive actions and skills of predicting dangerous situations for both the crew and the yacht and also the preparation of a plan of action in emergencies. Preventive actions are all the activities which aim to the avoidance or limitation of accidents during navigation. They are also related to the development and implementation of systems to prevent the formation of accidents, as well as procedures of action when an accident happens and there is a need of rescuing people and equipment on inland and marine waters. These actions are conducted at administrative level and by the crew on the boat.

Preventive actions of [administrative organs](#) consist of preparation and introduction of legal regulations (statutes, dispositions) and the appointment, management and monitoring of institutions involved in fulfilling the regulations. The role of the administrative authorities, although indirect is very important, because it sets all the standards of conduct for those who want to have safe navigation. Legal regulations specify technical requirements for vessels used for inland waterways and maritime navigation in terms of their construction, fixed devices and equipment, maneuverability, protection of water and air quality, noise emission, sanitary conditions, [occupational safety and health](#) and the amount of crew and their qualifications. They also specify the action of a leader of a ship when an accident happens, obligating him to act immediately and make all efforts to rescue people and property, and to reduce the extent of injuries. In case of serious injury, death of a man, an explosion, fire on board, the ship sinking or destruction of property of considerable value, the ship manager is required to notify relevant services .

Legal regulations have been established on national and international level, like for example International Convention on Maritime Search and Rescue adopted at a Conference in Hamburg, on 27 April 1979, of which Poland is also a cosignatory. On this basis, on 1 January 2002, the Maritime Search and Rescue Service (SAR service), a state budget unit subordinated to the Minister responsible for Maritime Affairs was established in our country. SAR service aimed for aid and wathing for possible threats in the Baltic Sea in the Polish zone of responsibility. This unit works with Marine Offices, Navy, Border Guard, the State Fire Service and the Police

On the area of inland waters Voluntary Water Rescue is engaged in rescue, cooperating with The Inland Office, the State Fire Service and the Police. In addition, from 2004 during the sailing season (from June to September) on Great Lakes waterways of Mazury there are Water Ambulances, [which](#) were filled and equipped in accordance with the Regulation of the National Health Fund. They were commissioned by the [voivode](#) of Warmia and Mazury in cooperation with Mazury Water Voluntary Rescue Service and Private Health Care “IMPULS”. In the initial period there were 3 basic teams and in 2008 a fourth specialized ambulance was set up.

Undoubtedly, an important link in the water rescue service is an efficient telephone and radio contact for rapid expert support. In Poland, for inland and coastal parts of the Baltic Sea, perfectly working is the emergency number 601 100 100, which is sponsored by one of the mobile networks. This number provides rapid contact with the local branch of WOPR. This number should be set in the phone as one of the shortcut keys, while the phone itself is being carried by the owner, preferably in a waterproof casing. Furthermore, each mobile phone user can use the emergency number 112, which is a uniform European emergency number used in the landline network in the European Union and in the GSM network in the world. To dial 112 there is no need to unlock the mobile phone keyboard, as well as to have a SIM card. In Poland the number 112 should be chosen, when there is a need of the arrival of at least two services. In case of calling for one service we should dial: 999 for an ambulance, 998 for a fire brigade, 997 the police, 985 for WOPR. The situation becomes more dangerous, when an accident happens outside the range of mobile network, what may happen for example during deep-sea sailing. Then it is necessary to use radio or telephone means of communications. At the sea SAR services may be called via radio channel 16 VHF. In order to improve maritime safety, many countries introduced an obligation or recommendation for operators to have a short-wave certificate - an international authority to operate equipment, which works on frequencies and techniques used on seagoing ships, as a condition of charter of sailboats and motorboats

The most important function on a vessel has the sea captain, who is responsible for safety of the whole navigation. Before leaving a port, the captain of a vessel should familiarize the crew with rules of using security measures, in which a yacht is equipped and with emergency procedures. The captain may delegate to a member of the crew the accomplishment of each activity or function related to navigation, having in regard the members' qualifications, but this does not absolve him from responsibility of the safety of navigation. To ensure safety during practicing sailing, the captain is also obliged to use appropriate precautions which result from the principles of seamanship

Preventive actions which cause the increment of safety concern the members of a crew as well. Despite security measures related to the prevention of falling overboard, attention should also be paid to the limiting of other risk factors, such as proper preparation of the trip. Before going to exotic countries it is important to consult a doctor about vaccinations and other forms of preventing infectious diseases.

As it has been written in the introduction each sailor with the authority to conduct a boat goes through a training course, which involves information about safe navigation and helping in life - or health threatening situations. However, this knowledge is sometimes forgotten and it is worthwhile to refresh it before each sailing, the same goes for the content of general topics related to sailing. It is so important, because some rules may change, like for example guidelines for cardiopulmonary resuscitation, updated every 5 years

Before going to a cruise one should prepare proper clothing bearing in mind the highly changeable weather conditions. High insolation, wind, rainfall or temperature changes - all require appropriate clothing, sunglasses with the UV protection. Directly before sailing one should check the technical state of yacht and on-board equipment, and in particular emergency flotation devices and first aid kits. All faults and damages should be fixed immediately and not postponed – if an emergency situation might occur with the need for emergency equipment there will be no time to repair it. In case of sailing with a new crew, despite their qualifications, there should be conducted a short course focusing on safety while on board. There should also be conducted an

interview about ability to swim, which should result in an obligation to wear protective measures for those, who cannot swim or who have limited ability to swim. The same obligation concerns all members of the crew in difficult weather conditions and at night. The captain has a right to require the wearing of a lifejacket when he sees the need to do it. Before setting out, basic maneuvers should be discussed especially when there on board are people on board with no experience in sailing. The crew should be informed about procedures in case of an accident. Attention should be paid to inform the crew that during sailing they should move with caution, bearing in mind the rule “one hand for yacht, one for you”, which is important in case of tilting or pitching, when the risk of slipping and falling increases.

It is necessary to discuss action after the boat capsizes. Accidents often happen due to port maneuvering, therefore it is worth to recall basic rules: while approaching quay, you mustn't jump to the land with a hawser in hands - kept or caught may cause unexpected slowdown and falling into the water or hitting the wharf starboard or larboard. The jump should be short-distanced, the boat's deck is often moisty, and does not provide good adhesion. In emergencies the possibility of hand repulsion from neighboring boats in the wharf should be determined by the speed and weight of the vessel. It is better to use a boat hook or fenders and damage the kick strip than to damage a limb. While moving away from the quay it should be remembered that a man pushing out the yacht has to return to to the yacht.

An important factor which increases the risk of sailing accidents is a deteriorating weather, which can be predicted from for example clouds or wind, but the best option is to check regular weather forecasts via the Internet or radio. If the weather worsens a lot or there is a storm, it is better to wait it out on the shore.

The most important factor, which should be taken into consideration before leaving the port is safety. Meticulously checked equipment, the knowledge of weather forecasts and qualifications of the crew can greatly reduce the risk of an accident.

Relevant legal acts regulate how should a yacht or a motorboat be equipped in life saving equipment on inland waterways. Required are: mov-

able equipment, especially signaling and communicating devices, life saving appliances as well. It all should meet the technical regulations requirements of Polish Classification Society or relevant national and international standards. A yacht and a motorboat should be equipped in safety harnesses or life jackets and their number should be corresponding to the number of people on board. There should be also life buoys, their amount depends on the size and purpose of a vessel. Emergency measures must always be in a place, where they can be possible to use at any time.

A motorboat must be equipped with appropriate fire extinguisher and firefighting equipment in the number determined by size, purpose and the power of propulsion devices.

Protection from falling overboard or other accidents is in the attention of preventive activities of institutions, organizations and people associated with sailing. Despite all these actions the risk of an accident still exists, so the ability to deal with such cases is essential.

A man falling overboard seems to be the most dangerous accident, so in that case an alarm is announced and the whole crew is required to take actions accordingly to regulations. Any measures that can help to save a man in the water are good, when effectiveness is taken into consideration. This can be a beach ball, closed portable refrigerator, inflatable mattress, a paddle, boat hook, mooring etc. A priority for the crew is to rescue the victim. Rescuing action consists of immediate application of emergency measures, constant observation, the quickest return to the scene of an accident and getting the man on the deck back. In case of missing the man and failing to recover him to the deck, searching for him should be at least 2 times longer than his possible survival in the given temperature of water. For the Baltic Sea this period is from 3 to 12 hours between April and October. Calling for help of the rescue specialist units SAR means that when they appear on the scene of an accident, they take command of the search action. The responsibility of a person leading the yacht or motorboat is to provide as much information related to the accident as possible (the time of an accident, the position at the time of the accident and during the eye contact, the direction of drift,

the approximate area of current search, the amount and type of used rescue measures and signals). An imminent danger for a person overboard is the possibility of drowning – in the first period as a result of losing strength related to maintaining floating on the surface of water and later as a result of hypothermia. The factor of hypothermia in water becomes very important with time and the loss of strength related to movements. It concerns mainly those who do not have a sufficient emergency flotation device. Maintenance of body temperature at a stable level can be preserved to some extent, thanks to the protective clothing which by holding it up close to the skin, preventing air or water creates a microclimate, allowing for a longer survival in such extreme conditions. When the body temperature goes below 35 ° C, it results in rapid collapse of the metabolism of the body, increment in ischemia causing hypoxia of the brain. There are also consciousness disturbances, hallucinations and a loss of orientation, in both space and time. Unaware of his condition a man drowns and if he is in properly functioning life jacket, he dies after earlier loss of consciousness. The risk of drowning increases when a man in the water has his face against the wind and waves or he has undone his life jacket. Frequent flooding of the face by waves causes choking and aspiration of water into the respiratory system, which consequently can lead to death by drowning. Dealing with a man in hypothermia requires from a rescuer wariness and caution. The state of a victim should be recognized and if it is possible the rescuer should proceed in accordance with the procedures for such cases, and on the boat the actions are determined by the present conditions. The active heating is recommended. It consists of immersing the body in warm water with a temperature higher than 5 ° C to 10° C than the body temperature and controlling the growth of warmth, so that it is raised 1- 2 ° C per hour. There is also a possibility of passive heating, meaning covering the victim still wearing wet clothes, with foil insulated jacket or blankets. A period of being in wet clothes should be as short as possible, because clothes which have a isolator functions in water, become heat conductor on the ground. The insulation of the head should be especially ensured, because without it a man may lose even 50 % of heat.

The behavior of a person who suddenly and imperceptibly falls into the water is unpredictable and is a result of stress related to the situation, the weather conditions, level of water and extent of familiarity with the water. The earlier a man overcomes stress and starts to think rationally, the greater chances of being rescued. Each situation of falling overboard is specific and the behavior of the person in water may be different, but there are self-rescue permanent rules that apply to everyone, they include:

Recognition of situation – applies to the clothes of the victim, available emergency buoyancy resources, weather conditions, water temperature, distance from shore, direction and strength of wind, the possibility of self-help and other vessels, swimming skills, health and others.

Saving strength and warmth – being in water after falling into it, is more related to keeping the head on the surface of water, than swimming in order to move. Knowing the principle of buoyancy, the more the body is in water the greater is the buoyancy, it is not advisable to pull hands out of the water, waving them, etc. These moves cause drowning of the head, which may result in choking or obstruction of breathing, they also require increased footwork to compensate sinking of the body. Warm clothing, shoes, loose oilskin reduce buoyancy and at the same time hamper moves – so a man should get rid of some of them. Total undressing in a long-term stay in the water is not recommended, because clothes adherent to the body are a protective layer, limiting hypothermia. Long-term staying in water even for a good swimmer is tiring, especially in clothes, so if one wants to move effectively, he should choose the best solution. Moves should be calm. The best option is a breast stroke, because it is the least tiring style. One may also swim on his back with legs working alternately and hands in the water. Slow, quiet and economical moves are the least energy-intensive, in effect cause slower tiredness and hypothermia. In addition, these movements cause least water exchange under clothing.

adoption of an action plan – after falling overboard, one should scream to be noticed from a yacht, from which he dropped out. While being in water, screaming and uncontrolled, panic moves can be dangerous. With a scream

man exhales, which results in decrease of buoyancy worsened by waving above the water with upper limbs. This causes flooding of the head and even greater panic, and uncontrolled breath after screaming is a danger of choking. If the crew notice a man overboard, they probably would throw him a life saving equipment and start to take actions related with swimming and pulling a victim out of water. Then the victim is supposed to keep calm and wait for help. In a worst situation is a person, who cannot expect that a yacht from which he fell overboard would arrive. After an initial shock and surprise this person has to decide what kind of self-rescuing actions should he take. First, he should assure that the buoyancy is the best as can be. If he has a life jacket, he should fasten the zippers and tighten belts to make the life jacket adherent to his body. With a life buoy it is an obligation to go into it or even link to it. There are known cases when people became so weak that they released a life buoy and drowned. Without any buoyancy equipment flotation of a body improves by getting rid of clothes which can be an unnecessary weight, items from pockets etc. However, it is not advisable to get rid of all clothes. Flotation of a body is also improved by the ability to breath properly , which is means holding of air after a deep breath and a rapid exchange of air re-suspended after a deep breath. The next step is to estimate whether there are any chances of reaching shore. In this case the direction of wind, expected time of reaching the shore and swimming skills should be taken into account. On a river one should go with the flow and observe which of the riversides is softer, where the water is slower and where is easier to get out of the water. On the lake, where the shore is too far, you need to pay attention to the distance to a waterway and swim there or wait for an accidentally passing boat. Attempts of swimming in the direction of a really distant shore can be ineffective, as one may loose strength and minimize the chance to survive.

While waiting for help, it is good to lie down on the water and get your hands behind to reach a position of floating on the back on water with the mouth above the surface of water. Very useful is the previously described ability to increase buoyancy. Motivation of survival and self-control make a person persist longer in water, increasing the chances for help to arrive

During the cruise various accidents may happen, from seemingly not serious accidents to really serious ones, so members of the crew should be able to recognize life-threatening conditions and emergencies and provide appropriate help. Skin damages like wounds or other bruises are very frequent and they should not be underestimated, because they may be a potential gateway for infection. In such cases injury should be disinfected and covered with sterile dressing, the best would be waterproof dressing. In case of external hemorrhage, it should be stopped with pressure dressing. In injuries of motoric organs (muscle tension, muscle tear, twisted pounds, muscle contusion) it is worth to apply the PRICE M principle, which reduces the acute phase of inflammation after injury and has an analgesic and anti-endema action, which helps to shorten the time of later treatment. It is performed as follows:

P-protection – unloading and immobilization of the damaged section of motoric organ (for at least 2-3 days);

R-rest – elimination or limitation of local and general physical activity;

I-ice– applying cold compresses for example from synthetic ice spray or cotton cloth or towel;

C-compression – compression on the place of injury;

E-elevation – lifting damaged section (limb) above the level of the heart,

M-medication – giving medicines (non-steroidal anti-inflammatory drugs NLP or Paracetamol);

Principle PRICE M creates optimal conditions for rapid healing of injury. In case of any joints' injury (twist, dislocation) it is important to remember about immobilizing at least two adjacent joints - Pott's rules

Sometimes, however, the case is very serious and appropriate actions of witnesses, who have the first and direct contact with the victim, may save his life. They include cases leading to cardiac arrest. To increase the chance of survival of cardiac arrest it is very important to implement activities related to the chain of survival. It's concept involves the help on the place of an accident to the providing of qualified medical help. An effective pre-hospital

help is supposed to fulfill the role of “an extended arm of the clinic”, as it was presented by Ahnefeld – the creator of the chain concept. This fact is reflected in the individual elements of the adopted concept:

- Early recognition of a life-threatening situation and call for help,
- Early initiation of cardiopulmonary resuscitation (CPR),
- Early defibrillation,

Taking advanced life support and providing post-resuscitation care early.

The identification of cardiac arrest is based on the absence of signs of circulation, which include a lack of consciousness and normal breathing. In such cases, one should immediately call for help and begin to perform basic life support (BSL) and if it is possible, use a defibrillator.

Adult BLS sequence:

Safety of a rescuer

Checking consciousness

NO RESPONSE – UNCONSCIOUS

Loud calling for help

Opening the airways and checking proper breathing

NOT BREATHING PROPERLY

Calling for emergency services

999 – only in Poland,

112 – international number

601 100 100 – on water in Poland

30 chest compressions
2 rescue breaths
30 chest compressions
(repeating cycles until help arrives,
recovery of normal breathing
or rescuer exhaustion)

This sequence applies to adults, for whom cardiac arrest occurs most often as a result of heart diseases. For this reason, before the cruise someone should make an interview about chronic diseases with the members of the crew. These chronic diseases in unfavorable conditions during the cruise (exhaustion, prolonged sun exposure, temperature, emotions, etc.) may result in exacerbation of the disease and, consequently, lead to cardiac arrest. [In case of](#) experiencing symptoms of unstable angina (stenocardiac pain at rest, not responsive to nitrates) someone should as soon as possible call the emergency services. For drowning people cardiac arrest may occur as a primary mechanism (for example due to hypothermia). However, in most cases cardiac arrest is secondary, as an asphyxia (sudden stop of the flow of air to the lungs) related with the aspiration of water into the airways. During the rescue of drowning people without proper breathing, artificial ventilation should be applied immediately - first five rescue breaths made even in water before starting intermediate heart massage. A priority for a rescuer is to perform rescue operations, which should be stopped for a break after about 1 minute to call the emergency services. If there are more people on the scene of an accident, they should immediately call for help⁸.

An important factor of a safe navigation is to have a proper first aid kit, its content depends on the character and time of navigation, the number of the crew and their health problems. In selecting the proper content of a first aid kit it is also important to know the medical qualifications of the crew. When there is no one with a medical degree it is worth to have a previously trained crewman, who would be responsible for the care of a first aid kit, providing

⁸ Andres J. *Pierwsza pomoc i resuscytacja krążeniowo-oddechowa*. Polska Rada Resuscytacji, Kraków, 2011

help and dosing the medicines. This person should have an interview with the rest of crew before starting the navigation, as well as he should know the procedures of calling for help from outside. It is worthwhile to have on board guidance about how to identify medical conditions and how to provide first aid. For vessels on inland waters there is are no regulations on the content of first aid kit, but it is recommended for sea going yachts and motorboats, over 15 meters long, to have the content the same as for ships⁹.

For navigation on inland waters there is freedom of having and equipping first aid kit for a yacht. When sailing in the harbor area and the places where you can get immediate medical attention just a standard first aid kit is enough, and sailing away from the port and to places where you cannot quickly get the medical help, we should have a better-equipped first aid kit. With choosing the content of the kit, most common medical conditions, which may happen during the cruise should be considered. The table below shows an example of qualitative content of the medicine chest. It should be noted that some medications may be ordered only by physicians, so that when it is possible one should seek medical advice. In case when there is no contact with a specialist one may use a handy list of medicines and their use: Pharminindex with particular emphasis on the restrictions of using them, contraindications, side effects and possible allergic. When choosing medicines one should take into account the specificity of the health of the crew, location, time of shipping, and those with health problems, drug users who regularly take their medicines should have their own first aid kit. This especially involves people with hypertension, ischemic heart disease, asthma and diabetes. People with chronic diseases should inform other members of the crew on how to help them. First aid kit should be in a waterproof, hard pack, easily accessible, yet not exposed to damage and flooding¹⁰.

Table 2 Proposed marina equipment medical kits

⁹ Rozporządzeniu Ministra Zdrowia z dnia 3 listopada 2003 r. Dz. U. 03. Nr 194, poz. 1904. w sprawie minimalnych wymagań w dziedzinie bezpieczeństwa i ochrony zdrowia w celu zapewnienia wyższego poziomu leczenia na jednostkach pływających

¹⁰ Szatanek M., Życki D. *Zestaw na wszelki wypadek*. Żagle, nr 5, 2004

EWENTUALNE STANY CHOROBY	SKŁAD APTECZKI
nagle zatrzymanie krążenia	jednorazowe rękawiczki, środki zabezpieczające do wentylacji (ustnik, pocket mask, ewentualnie worek samorozprężalny typu <i>Ambu</i>), na dużych jednostkach dobrze jest rozważyć zakup automatycznego defibrylatora zewnętrznego (AED)
Zaopatrywanie ran (skaleczenia, obtarcia, rany, krwotoki)	jałowe rękawiczki, środki dezynfekujące (woda utleniona, rywanol), wodoodporne jałowe opatrunki, jałowe gaziki, gaza, bandaże różnej szerokości, plastry,
Urazy tkanek (skręcenia stawów, naderwania mięśni stłuczenia, złamania, zwichnięcia)	bandaże elastyczne o różnej szerokości, zimne okłady (doskonale sprawdzają się okłady „ <i>Cito</i> ”, które nie wymagają chłodnego miejsca przechowywania) lub lód syntetyczny w spray-u, niesterydowe leki przeciwzapalne NPL (<i>Aspiryna, Nimesil, Ibuprofen</i>) lub <i>Paracetamol; Altacet</i> , NLP w formie żeli i maści (<i>Fastum, Ketonal</i>), preparaty przyspieszające resorpcję krwiaków (<i>Arcalen, Aescin</i>), plastry na rany (<i>Strile Strips</i>), szyny usztywniające (<i>Splint</i>), chusta trójkątna, bandaże, siatka do przytrzymania opatrunku (<i>Codofix</i>), nożyczki, peseta, ewentualnie jałowy zestaw do zszywania ran i <i>Lignokaina</i> (+strzykawki i igły) do znieczulenia miejscowego,
oparzenia (także słoneczne)	środki profilaktyczne (kremy i mleczka z wysokim filtrem UV, najlepiej wodoodporne), środki łagodzące (<i>Panthenol, Alantan</i>), antybakteryjne (<i>Argosulfan</i>),
Środki przeciw owadom (zwłaszcza na wodach śródlądowych), leki przeciwozuleniu	preparaty profilaktyczne w aerozolu i tabletkach (<i>100P, Antykomar Spray, KomarOff</i>), opaski zapachowe, moskitiery, olejek goździkowy (<i>Etja, Tag-Pol</i>) leki antyhistaminowe (<i>Zyrtec, Diphergan, Clemastinum, Fenistil, Dermophenazol</i>),
Infekcje, kaszel, nieżyty nosa	Niesterydowe leki przeciwzapalne (<i>Aspiryna, Polopiryna</i>), antybakteryjne leki na gardło (<i>Cholinex, Sprepsils, Septotele</i>), leki przeciwkaszlowe (<i>Thiocodin</i>), mukolityki (<i>Flegamina, Ambroxol, ACC</i>), antybiotyki (<i>Duomox, Sumamed, Doxycyclinum</i>), leki na nieżyt nosa (<i>Xylometazolin, Sudafed, Cirrus</i>), krople do uszu (<i>Otinum</i>), leki przeciwwirusowe (<i>Hascovir, Vratizolin</i>), krople do oczu (<i>Starazolin, Alcaina</i>), leki w zakażeniach układu moczowego (<i>Urosept, Furaginum, Ciprobay Uro</i>)

Dolegliwości gastryczne	leki rozkurczowe (<i>No-Spa, Buscopan</i>), krople żołądkowe, (<i>Smecta Gastrolit, Laktid, Metoclopramid</i>), zobojętniacze kwasu solnego (<i>Manti, Rennie, Maalox</i>), H ₂ blokery (<i>Ranigast</i>), leki przeciwbiegunkowe (<i>Loperamid, Stoperan</i>) i przeciwzaparciami (<i>Regulax, Alax, Bisacodyl, Carbo medicinalis</i>), chemioterapeutyki stosowane w zatruciach (<i>Nifuroksazyd</i>),
Choroba lokomocyjna, choroba morską	<i>Aviomarin, Metoclopramidum</i> ,
Dodatkowo	izotermiczna folia ratunkowa, termometr, aparat do pomiaru ciśnienia, stetoskop, <i>PharmindeX</i> , zestaw przeciw-wstrząsowy

Finally, our attention should focus on an often underestimated problem which can affect safety of navigation. It is alcohol consumption, which reduces self-criticism and psychophysical human condition, leading consequently to accidents. Therefore it is necessary to reduce its consumption and to ensure that people responsible for leading the navigation do not consume it.

It is easy to note that culture of safety has its reflection even on water. There can be easily specified three pillars. The first mentally-spiritual can include, among others: responsibility and increased awareness that prevents tragedies and accidents in contact with the elements. It is also important to prevent the so-called diffusion of responsibility¹¹. The second pillar related with organizational and legal side is widely described here. The third includes medical and rescue equipment, which is also important. In this way it is perceptible how the culture of safety functions on vessels and is involuntary internalized by the participant of such projects. The authors hope this article will help to contribute to this internalization not only involuntary, but mostly aware.

¹¹ Aronson, E., *Psychologia społeczna*, Wydawnictwo Zysk i S-ka, Poznań 2006, s. 152–177