



# TRAINING STANDARDS FOR MARINE FIRST AID AND MARINE MEDICAL CARE

REVISION 03  
MAY 2008



<b>Responsible Authority</b>	<b>Approval</b>
<p>The Director, Marine Personnel Standards and Pilotage, is responsible for this document, including any changes, corrections, or updates.</p>	<hr/> <p>Capt. Naim Nazha  Director, Marine Personnel Standards and Pilotage  Marine Safety</p>

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## TABLE OF CONTENTS

<b>Chapter 1 – General.....</b>	<b>1</b>
1.1 Background.....	1
1.2 Objectives .....	1
1.3 Goals .....	1
1.4 Date of Application.....	1
<b>Chapter 2 – Approval of Training Courses .....</b>	<b>2</b>
2.1 General.....	2
2.2 Recognized Institution .....	2
<b>Chapter 3 – Marine Basic First Aid .....</b>	<b>3</b>
3.1 Number of Trainees in a Course .....	3
3.2 Course Goal .....	3
3.3 Course Criteria.....	3
3.4 Main Instructor Qualification .....	3
3.5 Course Outline.....	3
3.6 Knowledge and Competencies.....	4
<b>Chapter 4 – Marine Advanced First Aid .....</b>	<b>9</b>
4.1 Number of Trainees in a Course .....	9
4.2 Course Goal .....	9
4.3 Course Criteria.....	9
4.4 Instructor qualification.....	9
4.5 Course Outline .....	10
4.6 Knowledge and Competencies.....	11
<b>Chapter 5 – Marine Medical Care.....</b>	<b>17</b>
5.1 Course Duration, Pre-requisites and Goal .....	17
5.2 Number of Trainees per Instructor.....	17
5.3 Course Criteria.....	17
5.4 Instructor Qualification – Physician .....	17
5.5 Training Certificate.....	17
5.6 Course Outline and Duration .....	18
5.7 Knowledge and Competencies.....	18

<b>Table 1 – First Aid – Review .....</b>	<b>19</b>
<b>Table 2 – Care of Casualties.....</b>	<b>20</b>
<b>Table 3 – Aspects of Nursing.....</b>	<b>26</b>
<b>Table 4 – Treatment of Diseases.....</b>	<b>27</b>
<b>Table 5 – Alcohol and Drug Abuse and Psychiatric Disorders.....</b>	<b>29</b>
<b>Table 6 – Dental Care .....</b>	<b>30</b>
<b>Table 7 – Gynecology, Pregnancy and Childbirth .....</b>	<b>31</b>
<b>Table 8 – Medical Care of Rescued Persons, Including Distress, Hypothermia and Cold Exposure .....</b>	<b>32</b>
<b>Table 9 – Death at Sea.....</b>	<b>33</b>
<b>Table 10 – Environment Control On Board Ship .....</b>	<b>34</b>
<b>Table 11 – Disease Prevention .....</b>	<b>35</b>
<b>Table 12 – Record Keeping .....</b>	<b>36</b>
<b>Table 13 – Medicines and Medical Equipment .....</b>	<b>37</b>
<b>Table 14 – Surgical Equipment, Instruments and Supplies.....</b>	<b>38</b>
<b>Table 15 – External Assistance.....</b>	<b>39</b>

## **CHAPTER 1 – GENERAL**

### **1.1 BACKGROUND**

- (1) The International Convention on Standards of Training, Certification and Watchkeeping for seafarers, as amended (STCW Convention), provides standards regarding emergency, occupational safety and survival functions.
- (2) This document describes the revisions to Canadian Marine First Aid and Marine Medical Care training courses. The revisions are being made in order to align those courses with the requirements of Regulation VI of the STCW Convention and Chapter VI of the STCW Code.

### **1.2 OBJECTIVES**

Compliance with the above standards to meet mandatory minimum requirements before a person can be designated to take charge of medical care or provide first aid on board vessels.

### **1.3 GOALS**

- (1) To provide seafarer who is designated to provide medical first aid or to take charge of medical care on board a vessel with an understanding of the tasks, duties and responsibilities associated with the designation.
- (2) To provide, through approved shore-based courses, the level of knowledge, which enables the designated seafarer to take immediate action in case of accident or illness likely to occur on board vessels.

### **1.4 DATE OF APPLICATION**

This publication becomes effective on July 1<sup>st</sup>, 2007, with the coming into force of the *Marine Personnel Regulations*.

## **CHAPTER 2 – APPROVAL OF TRAINING COURSES**

### **2.1 GENERAL**

Canada's accession to the STCW Convention means that all approved marine training programs and courses must be delivered and monitored through a quality management system.

### **2.2 RECOGNIZED INSTITUTION**

- (1) Courses are to be provided by a “recognized institution” as defined in the *Marine Personnel Regulations*. Approval procedures are provided in the chapter entitled Approval of Marine Training Courses and Programs of the *Quality Management Manual – Marine Personnel Standards and Pilotage*, published by the Department of Transport, Marine Personnel Standards and Pilotage Directorate.
- (2) Institutions must submit for approval their course syllabus, training manual, instructor qualifications and any other information required by the above-mentioned document, to the following address:

Marine Personnel Standards and Pilotage (AMSP)  
Transport Canada, Marine Safety  
Tower C, Place de Ville,  
330 Sparks Street, 11<sup>th</sup> floor  
Ottawa, Ontario K1A 0N5

## **CHAPTER 3 – MARINE BASIC FIRST AID**

### **3.1 NUMBER OF TRAINEES IN A COURSE**

The number of trainees in a course must not exceed 18, under the supervision of one accredited instructor.

### **3.2 COURSE GOAL**

Every seafarer who is designated to apply immediate basic first aid in the event of an accident or illness on board a vessel must demonstrate competence to undertake the tasks, duties and responsibilities described in the subjects listed below.

### **3.3 COURSE CRITERIA**

Marine Basic First Aid is required by:

- (1) Any person who wants to obtain a rating certificate or endorsement or who wants to obtain a Master or Chief Mate Limited certificate;
- (2) The person designated to provide first aid on board a vessel engaged on a near coastal voyage, class 2 or sheltered waters voyage.

### **3.4 MAIN INSTRUCTOR QUALIFICATION**

- (1) The approved main instructor must be:
  - a) an experienced emergency professional;
  - b) an approved instructor certified by an approved agency.

### **3.5 COURSE OUTLINE**

<b>Course Outline</b>	<b>Time (hours)</b>
<b>Subjects</b>	<b>Lectures, demonstrations and practical work</b>
1. General Principles	1.0
2. Body Structure and Functions	2.0
3. Positioning of Casualty	1.5
4. The Unconscious Casualty	1.0
5. Resuscitation	2.0
6. Bleeding	1.5
7. Management of Shock	1.0
8. Burns and Scalds, and Accidents Caused by Electricity	1.0
9. Rescue and Transport of Casualty	1.5
10. Other Topics	2.5
11. Assessment	1.0
<b>TOTAL</b>	<b>16.0</b>

**Note:** Teaching staff should note that outlines are suggestions only as regards sequence and length of time allocated to each objective. These factors may be adapted by lecturers to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

### 3.6 KNOWLEDGE AND COMPETENCIES

Methods of demonstrating the competence are by assessment of evidence obtained from practical instruction, lectures, tests, demonstrations and practical instruction.

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>1. General principles (1 hr)</b></p>	<p><b>Assessment of Needs of Casualties</b></p> <ol style="list-style-type: none"> <li>1. The manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency; demonstrate how to raise the alarm.</li> <li>2. State that in emergency first consideration is for own safety; risk of further harm to self and casualty is minimized at all times.</li> <li>3. The identification of probable cause, nature and extent of injuries is prompt and complete and the priority and sequence of actions is proportional to any potential threat to life.</li> <li>4. Describe the sequence of immediate measures to be taken in cases of emergency:                             <ul style="list-style-type: none"> <li>– apply the principles of first aid</li> <li>– apply the principles of emergency scene management</li> <li>– examine and assess a casualty</li> <li>– provide follow-up care</li> <li>– apply the principles of safety universal precautions</li> </ul> </li> <li>5. State the content of an emergency checklist as:                             <ul style="list-style-type: none"> <li>– assessment of the accident situation</li> <li>– assessment of own hazards to self</li> <li>– unconsciousness</li> <li>– respiratory arrest</li> <li>– cardiac arrest</li> <li>– severe bleeding</li> <li>– rescue of casualty and notification</li> </ul> </li> <li>6. Ensure that treatment of injuries and the patient’s condition conforms to recognized first aid practice and national and international regulations.</li> </ol>	<p>Trainees must be able to assess needs of casualties and threats to own safety and take immediate action upon encountering an accident or other emergency.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>2. Appreciation of Body structure and Functions (2 hrs)</b></p>	<p><b>Knowledge of the anatomy and functions of the organism</b></p> <ol style="list-style-type: none"> <li>1. Describe body structure in terms of:                             <ul style="list-style-type: none"> <li>– skeleton, identify and name principal bones</li> <li>– joints, muscles and tendons, identify regions of the body</li> <li>– major organs, identify main organs of the chest and the functions of each (brain, heart, lungs, etc.)</li> <li>– Identify parts of the nervous system</li> <li>– Identify parts of the respiratory system</li> <li>– Identify parts of the circulatory system</li> </ul> </li> <li>2. State in simple words the functions of the parts forming the body structure.</li> </ol>	<p>Trainees must be able to appreciate the body structure and functions.</p>
<p><b>3. Positioning of Casualty (1.5 hrs)</b></p>	<ol style="list-style-type: none"> <li>1. Describe appropriate procedures for positioning a casualty in an emergency, such as:                             <ul style="list-style-type: none"> <li>– conscious</li> <li>– unconscious</li> </ul> </li> <li>2. Demonstrate the correct procedure for positioning casualties                             <ul style="list-style-type: none"> <li>– assess the need for moving a casualty</li> <li>– position a casualty from a prone (lying on stomach) to supine (lying on back)</li> <li>– position the casualty in the recovery position and provide follow up care.</li> </ul> </li> </ol>	<p>Trainees must be able to describe the correct procedure for positioning casualties.</p>
<p><b>4. The Unconscious Casualty (1.0 hr)</b></p>	<ol style="list-style-type: none"> <li>1. Recognize the signs and hazards of unconsciousness                             <ul style="list-style-type: none"> <li>– recognize respiratory emergencies</li> </ul> </li> <li>2. Apply appropriate measures, including:                             <ul style="list-style-type: none"> <li>– keeping air passages clear</li> <li>– positioning of an unconscious casualty</li> <li>– action in the case of respiratory or cardiac arrest</li> <li>– no food, liquid or other substances by mouth</li> </ul> </li> </ol>	<p>Trainees must be able to recognize the signs and hazards of unconsciousness and respiratory emergencies.</p>
<p><b>5. Resuscitation Techniques (2 hrs)</b></p>	<ol style="list-style-type: none"> <li>1. In case of respiratory / cardiac arrest state the methods and limiting factors of cardiopulmonary resuscitation (CPR)</li> <li>2. Recognize the sign of choking and understand the measures to take to avoid choking                             <ul style="list-style-type: none"> <li>– mild</li> <li>– severe</li> </ul> </li> <li>3. Provide first aid for a choking adult:                             <ul style="list-style-type: none"> <li>– conscious casualty</li> <li>– conscious casualty who becomes unconscious</li> <li>– casualty found unconscious</li> </ul> </li> </ol>	<p>Trainees must be able to recognize the necessity of immediate resuscitation in appropriate emergency situations.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>6. Control Bleeding (1.5 hrs)</b></p>	<ol style="list-style-type: none"> <li>1. Recognize the hazards of bleeding</li> <li>2. Apply appropriate basic measures to limit bleeding, in particular:                             <ul style="list-style-type: none"> <li>– recognize internal and external bleeding</li> <li>– use dressings, bandages and slings in first aid procedures</li> <li>– application of external pad and pressure to site</li> <li>– take measures to prevent further contamination and infection of wounds</li> <li>– control bleeding from wounds, nose, ear, scalp, tongue and cheek</li> <li>– provide first aid for internal bleeding</li> <li>– positioning of patient</li> <li>– discuss application and dangers of a tourniquet</li> </ul> </li> </ol>	<p>Trainees must be able to control bleeding and use dressings, bandages and slings in first aid procedures.</p>
<p><b>7. Management of shock (1 hr)</b></p>	<ol style="list-style-type: none"> <li>1. State the main factors causing shock</li> <li>2. Recognize the signs of shock as:                             <ul style="list-style-type: none"> <li>– skin colour and temperature</li> <li>– rate of pulse and respiration</li> </ul> </li> <li>3. Apply the appropriate measures of basic shock management                             <ul style="list-style-type: none"> <li>– provide first aid to lessen the severity of shock</li> <li>– recognize fainting</li> <li>– recognize levels of consciousness</li> <li>– provide first aid for fainting and unconsciousness</li> </ul> </li> <li>4. State the essential measures of shock management as:                             <ul style="list-style-type: none"> <li>– stopping of bleeding</li> <li>– protection from cooling</li> <li>– early intake of ample fluids if the patient is conscious</li> <li>– positioning of the patient</li> <li>– no smoking</li> <li>– no alcohol</li> </ul> </li> </ol>	<p>Trainees must be able to apply appropriate measures of basic shock management.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>8. Burns and Scalds and Accidents Caused by Electricity (1 hr)</b></p>	<p>Apply appropriate measures in event of burns and scalds, and of accidents caused by electric current, chemical substances and radiation burns:</p> <ol style="list-style-type: none"> <li>1. Recognize burns of:                             <ul style="list-style-type: none"> <li>– partial thickness burn</li> <li>– full thickness burn</li> </ul> </li> <li>2. Recognize the signs of burns and scalds and of accidents caused by electric current.</li> <li>3. Apply the appropriate measures for burns and scalds:                             <ul style="list-style-type: none"> <li>– assess extent of burned area</li> <li>– cooling of the area as quickly as possible</li> <li>– provide first aid for burns</li> </ul> </li> <li>4. Apply the appropriate measures for chemical burns:                             <ul style="list-style-type: none"> <li>– removal of clothes</li> <li>– rinsing with ample water</li> </ul> </li> <li>5. Apply appropriate measures for chemical burns of eyes:                             <ul style="list-style-type: none"> <li>– rinsing of eyes with ample water</li> </ul> </li> <li>6. Apply the appropriate measures for accidents caused by electric current:                             <ul style="list-style-type: none"> <li>– noting hazards to rescuers</li> <li>– isolation of the casualty</li> <li>– assess vital signs</li> </ul> </li> </ol>	<p>Trainees must be able to apply appropriate measures in event of heat, electric, chemical and radiation burns.</p>
<p><b>9. Rescue and transport of casualty (1.5 hrs)</b></p>	<ol style="list-style-type: none"> <li>1. Apply appropriate transportation alone and with the assistance of a further person, taking into account the confined spaces and varying heights on board ship;                             <ul style="list-style-type: none"> <li>– recognize the principles of safety</li> <li>– move the casualty away from immediate hazards</li> </ul> </li> <li>2. Identify and use;                             <ul style="list-style-type: none"> <li>– temporary and ad hoc aids for transport</li> <li>– stretcher transport</li> <li>– transport on a chair</li> </ul> </li> <li>3. Recognize the hazards of transporting a patient with injury of pelvis and/or spine and demonstrate the correct procedures for the transport of such casualties.</li> </ol>	<p>Trainees must be able to rescue and transport a casualty.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>10. Other Topics (2.5 hrs)</b></p>	<ol style="list-style-type: none"> <li>1. Improvise bandages and use materials in First Aid kit:                             <ul style="list-style-type: none"> <li>– awareness of the location of first aid kits and knowledge of its contents</li> <li>– improvise bandages by means available</li> <li>– ability to use correctly and quickly materials in first aid kit</li> <li>– demonstrate the correct use of bandages</li> <li>– recognize readily available items and materials that might be appropriately used as bandages</li> </ul> </li> <li>2. Enclosed spaces:                             <ul style="list-style-type: none"> <li>– recognize the dangers when making entry</li> <li>– state that the internal atmosphere may contain dangerous gases or lack sufficient oxygen</li> <li>– take all necessary and appropriate precautions</li> </ul> </li> <li>3. Infectious diseases:                             <ul style="list-style-type: none"> <li>– recognize the dangers from blood and other excretion from persons suffering from infectious diseases, particularly hepatitis, and from HIV-positive persons</li> <li>– take all necessary precautions for self protection when dealing with such cases</li> <li>– describe the correct procedures for disposing of blood and other excretions in such cases</li> </ul> </li> <li>4. Personal health and hygiene:                             <ul style="list-style-type: none"> <li>– apply simple rules for maintaining health and personal cleanliness.</li> </ul> </li> </ol>	<p>Trainees must be able to apply appropriate measures in other topics.</p>

## **CHAPTER 4 – MARINE ADVANCED FIRST AID**

### **4.1 NUMBER OF TRAINEES IN A COURSE**

The number of trainees in a course must not exceed 12, under the supervision of one accredited instructor.

### **4.2 COURSE GOAL**

Every seafarer who is designated to apply immediate advanced first aid in the event of an accident or illness on board must demonstrate competence to undertake the tasks, duties and responsibilities described in the subjects listed below.

### **4.3 COURSE CRITERIA**

Marine Advanced First Aid is required by:

- (1) Any person who wants to obtain a Master's or Officer's certificate or endorsement;
- (2) The person designated to provide first aid on board a vessel engaged on a near coastal voyage, class 1 or unlimited voyage.

### **4.4 INSTRUCTOR QUALIFICATION**

- (1) The approved instructor must be:
  - a) an experienced emergency professional;
  - b) an approved instructor certified by an approved agency.

**4.5 COURSE OUTLINE**

<b>Course outline</b>	<b>Time (Hours)</b>
<b>Subjects</b>	<b>Lectures, demonstrations and practical work</b>
1. Immediate Action	2.0
2. First-Aid Kit	1.5
3. Body Structure and Function	2.5
4. Toxicological Hazards Aboard Ship	3.5
5. Examination of Patient	1.5
6. Spinal Injuries	3.0
7. Burns, Scalds and Effects of Heat and Cold	3.0
8. Fractures, Dislocations and Muscular Injuries	3.0
9. Medical Care of Rescued Persons, Including Distress, Hypothermia and Cold Exposure	2.0
10. Radio Medical Advice	1.0
11. Pharmacology	2.5
12. Sterilization	0.5
13. Cardiac Arrest, Drowning and Asphyxia	2.0
14. Psychological and Psychiatric Problems	2.0
15. Assessment	1.0
<b>TOTAL</b>	<b>31.0</b>

**Note:** Teaching staff should note that outlines are suggestions only as regards sequence and length of time allocated to each objective. These factors may be adapted by lecturers to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

### 4.6 KNOWLEDGE AND COMPETENCIES

Methods of demonstrating the competence are by assessment of evidence obtained from practical instruction, lectures, tests, demonstrations and practical instruction

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>1. Immediate action (2 hrs)</b></p>	<p>Revise as necessary, important aspects of the Marine Basic First Aid training course;</p> <ol style="list-style-type: none"> <li>1. Identification of probable cause, nature and extent of injuries is prompt, complete and conforms to current first-aid practice.</li> <li>2. Indication of risks of harm to self and others is minimized at all times.</li> <li>3. Treatment of injuries and the patient’s condition is appropriate, conforms to recognize first-aid practice and international guidelines.</li> </ol>	<p>Trainees must be able to apply immediate first aid in the event of accident or illness on board.</p>
<p><b>2. First Aid Kit (1.5 hrs)</b></p>	<ol style="list-style-type: none"> <li>1. Describe and list the contents of the first-aid kit required by national regulations and the international convention.</li> <li>2. List location of first-aid kits on board.</li> <li>3. Describe contents of lifeboat kit.</li> <li>4. Demonstrate use of the first-aid kit in appropriate medical situations.</li> <li>5. Importance of routine checks.</li> </ol>	<p>Trainees must be able to describe and list the contents of the first-aid kit required by regulations.</p>
<p><b>3. Body structure and functions (1 hr)</b></p>	<p>Use a chart, dummy, human body or other suitable medium, such as audio-visual aids, to describe and explain the structure of the human body and functions of the important parts and systems; in particular;</p> <ol style="list-style-type: none"> <li>1. For the skeletal system:                             <ul style="list-style-type: none"> <li>– lists the major parts of the skeleton.</li> <li>– describe the different kinds of bones.</li> <li>– explain the function of the skeleton.</li> </ul> </li> <li>2. For the muscular system:                             <ul style="list-style-type: none"> <li>– list the major muscles of the human body.</li> <li>– explains their operation and function.</li> </ul> </li> <li>3. For the cardiovascular system:                             <ul style="list-style-type: none"> <li>– identify main organs of the chest and the location of the heart.</li> <li>– describe the distribution of arteries and veins.</li> <li>– describe the physiological function of the blood.</li> <li>– describe the heart as a pump.</li> <li>– explains how the circulatory system operates.</li> <li>– state the location of the arterial pressure points and explain how they can be effectively used in an emergency involving bleeding.</li> </ul> </li> </ol>	<p>Trainees must be able to describe and explain the structure of the human body and functions of the important parts and systems.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>3. Body structure and functions</b></p>	<p>4. For the respiratory system:</p> <ul style="list-style-type: none"> <li>– state the location of the lungs.</li> <li>– explain the function of the lungs in terms of gas exchange.</li> <li>– state the importance of respiratory rate.</li> <li>– explain the importance of the composition of inspired and expired air.</li> </ul> <p>5. For the digestive system and abdomen:</p> <ul style="list-style-type: none"> <li>– describe in simple terms the digestive system and its operation.</li> <li>– list the abdominal organs and describe their function.</li> </ul> <p>6. Identify parts of reproductive system and functions of each.</p> <p>7. Identify structures of the skin and related elements.</p>	<p>Trainees must be able to describe and explain the structure of the human body and functions of the important parts and systems.</p>
<p><b>4. Toxicological hazards aboard ship</b></p>	<p>1. State that there are important regulations to be observed for the transport of dangerous cargo aboard ship as required by the IMO/IMDG Code;</p> <ul style="list-style-type: none"> <li>– knowledge of potentially toxic substances.</li> <li>– WHMIS Class identification system and the information available.</li> <li>– Material Safety Data Sheets MSDS, their location and the type of information available.</li> <li>– proper safeguards to be followed in the use and storage of dangerous goods carried on board.</li> </ul> <p>2. Apply first-aid in accordance with the International First Aid Science Advisory Board or its national equivalent;</p> <p>3. Use, in particular, the appropriate First Aid techniques for:</p> <ul style="list-style-type: none"> <li>– identifying the symptoms and clinical aspects of poisoning.</li> <li>– applying first aid in cases of poisoning by ingestion, inhalation, or skin/eye injuries.</li> <li>– applying first aid in cases of acid and caustic solutions that have been swallowed.</li> <li>– identifying the symptoms of and treatment for acid and caustic burns.</li> </ul> <p>4. Use of oxygen administration:</p> <ul style="list-style-type: none"> <li>– components of the delivery system</li> <li>– operation of the delivery system.</li> <li>– changing cylinders.</li> <li>– CPR with supplemental oxygen.</li> <li>– after use care and servicing.</li> </ul> <p>5. Entry in confined spaces:</p> <ul style="list-style-type: none"> <li>– characteristics and dangers associated with confined spaces.</li> <li>– limitations of responsibilities and abilities when dealing with confined spaces.</li> <li>– appropriate precautions and procedures for incidents in and around confined spaces.</li> </ul>	<p>Trainees must be able to evaluate toxicological hazards aboard ship.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>5. Examination of patient</b></p>	<ol style="list-style-type: none"> <li>1. Conduct a systematic and complete:                             <ul style="list-style-type: none"> <li>– primary assessment (airway, breathing, circulation);</li> <li>– and secondary assessment ( history, vital signs, head-to-toe examination);</li> <li>– including appropriate record keeping of findings and action taken.</li> </ul> </li> <li>2. Provide assessment from a large variety of individual facts based on:                             <ul style="list-style-type: none"> <li>– information derived from medical history;</li> <li>– general appearance;</li> <li>– answers to specific questions;</li> <li>– physical examination.</li> </ul> </li> <li>3. Draw conclusions by process of elimination and comparison;                             <ul style="list-style-type: none"> <li>– recognize feigning of illness.</li> <li>– recognize airway obstruction and provide appropriate care for obstructed airways.</li> <li>– recognize breathing emergencies and provide artificial respiration for casualty without suspected head/spinal injury; for casualty with suspected head/spinal injury; and oxygen administration including an overview of endotracheal intubation.</li> <li>– recognize signs and symptoms of angina/heart attack.</li> <li>– recognize signs and symptoms of cardiac arrest.</li> </ul> </li> <li>4. Demonstrate one rescuer CPR, two rescuer CPR.</li> </ol>	<p>Trainees must be able to make detailed observations of casualty and provide assessment.</p>
<p><b>6. Spinal injuries</b></p>	<ol style="list-style-type: none"> <li>1. Recognize the signs and symptoms of spinal injury;                             <ul style="list-style-type: none"> <li>– recognize signs of possible head/spinal injury based on mechanism of injury.</li> </ul> </li> <li>2. Identify the complications, which may be caused by unconsciousness.</li> <li>3. Apply appropriate first aid measures, including:                             <ul style="list-style-type: none"> <li>– take precautions to avoid further damage where head/spinal injuries are suspected.</li> <li>– appropriate rescue transport and treatment for cases of suspected fracture of the spine.</li> </ul> </li> <li>4. Head injuries;                             <ul style="list-style-type: none"> <li>– levels of consciousness or unconsciousness.</li> </ul> </li> </ol>	<p>Trainees must be able to recognize the symptoms of spinal injury and provide suitable care.</p>
<p><b>7. Burns, scalds and effects of heat and cold</b></p>	<ol style="list-style-type: none"> <li>1. Recognize the signs of: burns, scalds, heatstroke, hypothermia, frostbite and identify them according to type (heat, electrical, chemical, radiation).</li> <li>2. Apply appropriate first-aid measures including;                             <ul style="list-style-type: none"> <li>– the definition, complications and treatment of the general condition of burns.</li> </ul> </li> <li>3. Distinguish between burns and scalds.</li> </ol>	<p>Trainees must be able to recognize signs of burns, scalds and effects of heat and cold and provide suitable care.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>7. Burns, scalds and effects of heat and cold</b></p>	<ol style="list-style-type: none"> <li>4. Describe the differences between partial thickness and full thickness burns.</li> <li>5. Classify burn and apply the correct first-aid procedures according to the seriousness of the burned area.</li> <li>6. State the importance of sterile dressings.</li> <li>7. Describe the effects of heat and state the importance of positioning the patient in the shade, providing the increased fluid requirement and careful cooling of the body.</li> <li>8. Distinguish between hypothermia and frostbite and apply the correct first aid procedures, including rewarming and attention to possible tissue damage</li> </ol>	<p>Trainees must be able to recognize signs of burns, scalds and effects of heat and cold and provide suitable care.</p>
<p><b>8. Fractures, dislocation and muscular injuries</b></p>	<ol style="list-style-type: none"> <li>1. Apply practical first-aid procedures for the assessment and treatment of fractures, dislocations and muscular injuries.</li> <li>2. Describe types of fractures as;                             <ul style="list-style-type: none"> <li>– open or compound, closed or simple, complicated</li> <li>– assess from indications that a bone is broken</li> </ul> </li> <li>3. Describe the treatment for injured parts;                             <ul style="list-style-type: none"> <li>– stop bleeding from open fracture</li> <li>– relieve pain and treat fractures</li> </ul> </li> <li>4. State the importance of immobilization of the injured part.</li> <li>5. Describe the special requirements for the treatment of pelvic and spinal injuries.</li> <li>6. Describe the signs, symptoms and treatment of sprains, strains and dislocations;                             <ul style="list-style-type: none"> <li>– recognize dislocations from signs.</li> <li>– prevent movement in affected area by suitable immobilization and take precautions during transportation.</li> </ul> </li> <li>7. Demonstrate the correct procedures to be used in cases of fractures, dislocations and muscular injuries.</li> <li>8. Recognize and treat muscular injuries.</li> <li>9. State the necessary precautions while using splints.</li> </ol>	<p>Trainees must be able to apply practical first-aid procedures for the assessment and treatment of fractures, dislocations and muscular injuries.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>9. Medical care of rescued persons, including distress, hypothermia and cold exposure</b></p>	<ol style="list-style-type: none"> <li>1. Apply appropriate skill in the care of rescued persons;                             <ul style="list-style-type: none"> <li>– handle immediate medical problems</li> </ul> </li> <li>2. Recognize the special problems in cases of;                             <ul style="list-style-type: none"> <li>– hypothermia, applying the correct treatment and taking precautions against heat loss and taking into account the effects of wind and humidity.</li> <li>– frostbite, applying the correct treatment for cold injury, immersion foot, etc.</li> <li>– treat for oil contamination, dehydration and malnutrition.</li> <li>– treat for sunburn, heat exhaustion, cramps and sunstroke.</li> <li>– seasickness, describing the cause and provide treatment.</li> <li>– sunburn, describing the cause and providing the correct treatment and prophylaxis (prevention).</li> <li>– dehydration and nutrition in rescue situations, describing frequent errors and hazards.</li> <li>– rewarming.</li> </ul> </li> <li>3. Provide follow-up care.</li> </ol>	<p>Trainees must be able to apply basic medical skill in the care of rescued persons.</p>
<p><b>10. Radio medical advice</b></p>	<ol style="list-style-type: none"> <li>1. State that radio medical advice is available using GMDSS Bmed 1.</li> <li>2. Describe the methods used to obtain radio medical advice;                             <ul style="list-style-type: none"> <li>– prepare information before asking for advice.</li> <li>– provide information to advisor and record exchange of information.</li> <li>– repeat information to advisor.</li> </ul> </li> <li>3. Interpret advice obtained from external sources.</li> <li>4. Maintain all records on board.</li> <li>5. Make all arrangements for helicopter or ship to ship transfer.</li> </ol>	<p>Trainees must be able to describe the methods used to obtain radio medical advice.</p>
<p><b>11. Pharmacology</b></p>	<ol style="list-style-type: none"> <li>1. Drug list on board;                             <ul style="list-style-type: none"> <li>– usage.</li> <li>– dosages.</li> <li>– side effects and precautions related to specific medications available on board</li> </ul> </li> <li>2. Describe how injections (sc/im) are given.</li> <li>3. Describe how a test dose for penicillin is given.</li> <li>4. Describe what qualifications are required to administer each medication.</li> </ol>	<p>Trainees must be able to list medications carried on board.</p>
<p><b>12. Sterilization</b></p>	<ol style="list-style-type: none"> <li>1. Discuss disinfection of surgical instruments.</li> <li>2. Apply knowledge of universal precautions.</li> <li>3. Take precautions against infecting the wound.</li> </ol>	<p>Trainees must have knowledge of methods of disinfection and of universal precautions.</p>

Competence	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>13. Cardiac arrest, asphyxia and drowning</b></p>	<ol style="list-style-type: none"> <li>1. State the cause of and apply the appropriate treatment for;                             <ul style="list-style-type: none"> <li>– recognize a stroke/TIA and provide first aid.</li> <li>– recognize signs and symptoms of congestive heart failure (CHF).</li> <li>– provide immediate first aid to casualty in a drowning emergency.</li> <li>– recognize asphyxia and provide first aid.</li> </ul> </li> <li>2. Explain how mouth-to-mouth resuscitation is applied and state under what conditions it cannot be used.</li> <li>3. Explain how chest compressions are applied and state the limiting factors related to the use of cardiopulmonary resuscitation CPR practice on a mannequin.</li> <li>4. Demonstrate the correct procedures for mouth-to-mouth resuscitation and chest compressions using a practice mannequin.</li> <li>5. Provide CPR.</li> </ol>	<p>Trainees must be able to apply the appropriate treatment for cardiac arrest, asphyxia and drowning.</p>
<p><b>14. Psychological and psychiatric problems</b></p>	<ol style="list-style-type: none"> <li>1. Explain that situational disturbances may be influenced by;                             <ul style="list-style-type: none"> <li>– psychological characteristics of seafarers.</li> <li>– psychological consequences of separation.</li> </ul> </li> <li>2. State that these may be contributory factors for psychological malfunctioning.</li> </ol>	<p>Trainees must be able to recognize contributory factors for psychological malfunctioning.</p>

## **CHAPTER 5 – MARINE MEDICAL CARE**

### **5.1 COURSE DURATION, PRE-REQUISITES AND GOAL**

- 1) The Marine Medical Care course has a duration of 50 hours and is provided to those seafarers who are designated to provide medical care on board vessels at sea. In order to register for this course, trainees must have completed the 31-hour training course in Marine Advanced First Aid during the previous three years.
- 2) This course may be combined with the Marine Advanced First Aid course to facilitate the training of any individual who wishes to take the Marine Medical Care course but does not have the necessary prerequisite. A combined program will include the content of both courses for a total of 75.5 hours.
- 3) Every seafarer who is designated to provide medical care in the event of an accident or illness on board a vessel at sea is required to demonstrate competence to undertake the tasks, duties and responsibilities described in items 1 to 15.
- 4) Teaching staff should note that this outline is offered for guidance purposes only as regards the different learning objectives and the length of time to be allocated to each objective. These factors may be adapted by instructors to suit individual groups of trainees depending on their experience and abilities as well as the equipment and staff available for training.

### **5.2 NUMBER OF TRAINEES PER INSTRUCTOR**

The number of trainees in a course must not exceed eight when under the supervision of one accredited instructor.

### **5.3 COURSE CRITERIA**

Marine Medical Care is required by:

The person designated to take charge of medical care on board a vessel carrying less than 100 crew members and is engaged on a voyage of a duration of more than three days that is an unlimited voyage or a near coastal voyage, class 1.

### **5.4 INSTRUCTOR QUALIFICATION – PHYSICIAN**

This course must be delivered by a physician and a team whose knowledge and qualifications are recognized by a professional body.

### **5.5 TRAINING CERTIFICATE**

After successfully completing this training, candidates will receive a training certificate titled:

Marine Medical Care in Accordance with STCW Convention, Regulation VI/4-2.

**5.6 COURSE OUTLINE AND DURATION**

<b>Section</b>	<b>Subject</b>	<b>Time (in hours)</b>
1.	First aid – review	6.0
2.	Care of casualties	7.0
3.	Aspects of nursing	3.5
4.	Treatment of diseases	4.5
5.	Alcohol and drug abuse	3.0
6.	Dental care	1.0
7.	Gynecology and pregnancy	2.0
8.	Medical care of rescued persons, including trauma, hypothermia and cold exposure	3.0
9.	Death at sea	1.0
10.	Environment control on board ship	2.0
11.	Disease prevention	1.0
12.	Record keeping and regulations	0.5
13.	Medicines and medical equipment	4.0
14.	Surgical equipment, instruments and supplies	4.0
15.	External assistance	3.0
	<b>TOTAL</b>	<b>45.5</b>
16.	Assessment	4.5

**5.7 KNOWLEDGE AND COMPETENCIES**

Methods of demonstrating competency are by assessment of the candidate on instruction received and demonstration of the acquired skills. When available, approved practical experience at a hospital or similar establishment should be encouraged.

**TABLE 1 – FIRST AID – REVIEW**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>1.</b></p>	<p><b>1.1 First Aid – Review</b></p> <p>1.1.1 Review the knowledge and associated practical skills contained in the Marine Basic First Aid and Marine Advanced First Aid training courses as specified in document TP 13008, emphasizing:</p> <ul style="list-style-type: none"> <li>– anatomy and physiology</li> <li>– toxicological hazards on board ships with special reference to oil tankers, chemical tankers and liquefied natural gas tankers</li> <li>– the examination of patients</li> </ul> <p>1.1.2 Describe and carry out simple laboratory tests for:</p> <ul style="list-style-type: none"> <li>– the use and evaluation of urine testing sticks</li> <li>– the collection of blood for malaria smears</li> </ul> <p>1.1.3 Explain the concepts of clinical examination and medical history tracking under seagoing conditions.</p>	<p>Trainees must be able to review the basic and intermediate knowledge, as contained in the Marine Basic First Aid and the Marine Medical courses.</p>

**TABLE 2 – CARE OF CASUALTIES**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
2.	<p><b>2.1 Head and spinal injuries</b></p> <p>2.1.1 Recognize the mechanisms and symptoms of head and spinal injuries:</p> <ul style="list-style-type: none"> <li>– assess the casualty’s level of responsiveness</li> <li>– describe the significance of the casualty’s level of consciousness in assessing the seriousness of the casualty’s condition</li> <li>– assess the seriousness of head and spinal injuries based on the mechanism of injury and signs and symptoms</li> </ul> <p>2.1.2 Describe how to care for an unconscious casualty and emphasize that no anesthetic or sedative should be used unless prescribed.</p> <p>2.1.3 Describe and demonstrate the technique to use for a case of suspected spinal fracture:</p> <ul style="list-style-type: none"> <li>– the safe approach to patient treatment</li> <li>– the treatment to be applied; selection, sizing and positioning of a commercial cervical collar</li> <li>– decide whether the patient should be transported and how</li> <li>– how to stabilize and prepare a casualty for transport according to established protocols</li> </ul> <p><b>2.2 Injuries to the ears, nose, throat and eyes</b></p> <p>2.2.1 Recognize the mechanisms and symptoms of injuries to the ears, nose, throat and eyes:</p> <ul style="list-style-type: none"> <li>– assess injuries to ears, nose, throat and eyes and determine their seriousness, according to signs and symptoms;</li> <li>– assess the nature of injuries to the eyes and related hazards</li> </ul> <p>2.2.2 Describe the appropriate treatment for such injuries:</p> <ul style="list-style-type: none"> <li>– determine care appropriate for common injuries to ears, nose and throat</li> </ul> <p>2.2.3 For injuries to the ears, nose and throat:</p> <ul style="list-style-type: none"> <li>– establish a diagnosis</li> <li>– identify possible cause(s)</li> </ul> <p>2.2.4 For injuries to the eye region and external eye:</p> <ul style="list-style-type: none"> <li>– assess situations where removal of foreign bodies from the eye or area around the eye should not be attempted</li> <li>– provide appropriate care for removal of foreign bodies from the eye</li> <li>– provide appropriate care for injuries to the eyes or around the eyes</li> <li>– provide appropriate care for burns to the eyes</li> <li>– describe and demonstrate the use of a moistened cotton pad or swab for the removal of foreign bodies</li> <li>– use of fluorescent stain for corneal ulcers</li> <li>– describe the correct aftercare to be applied</li> </ul>	<p>Trainees must be able to ensure that identification of symptoms is based on the concept of clinical examination and medical history and treatment of injury is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
2.	<p><b>2.3 External and internal bleeding</b></p> <p>2.3.1 For external and internal bleeding:</p> <ul style="list-style-type: none"> <li>- recognize the symptoms</li> <li>- identify the causes</li> <li>- explain the risks</li> <li>- describe and demonstrate the appropriate treatment</li> <li>- use of tourniquets and pressure points</li> </ul> <p><b>2.4 Burns and frostbite</b></p> <p>2.4.1 Recognize the signs of burns and frostbite.</p> <p>2.4.2 State the possible complications that can arise from such injuries:</p> <ul style="list-style-type: none"> <li>- assess burned area</li> </ul> <p>2.4.3 Define a burn and recognize burns according to type: heat, hot liquid, electrical, chemical, radiation.</p> <p>2.4.4 Explain the difference between first-degree, second-degree and third-degree burns:</p> <ul style="list-style-type: none"> <li>- determine seriousness of injury based on degree and area involved</li> <li>- recognize special considerations and types of burns</li> </ul> <p>2.4.5 For the further treatment of a burn:</p> <ul style="list-style-type: none"> <li>- state the need for and importance of sterile dressings</li> <li>- prevent shock</li> <li>- explain the importance of fluid balance</li> <li>- calculate fluid requirements</li> <li>- evaluate the need for prophylactic treatment or antibiotics in cases involving radio communication</li> <li>- describe antibiotic prophylaxis</li> <li>- explains the procedures for pain relief</li> </ul> <p>2.4.6 Explain the difference between burns and frostbite.</p> <p>2.4.7 Describe how tissues can be damaged by frostbite:</p> <ul style="list-style-type: none"> <li>- recognize frostbite and determine seriousness of the casualty's condition based on signs and symptoms</li> <li>- provide care appropriate to the nature of the frostbite</li> </ul> <p>2.4.8 Describe and demonstrate appropriate procedures for:</p> <ul style="list-style-type: none"> <li>- immediate first aid</li> <li>- further treatment</li> </ul>	<p>Trainees must be able to ensure that identification of symptoms is based on the concept of clinical examination and medical history and treatment of injury is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
<p><b>2.</b></p>	<p><b>2.5 Fractures, dislocations and muscular injuries</b></p> <p>2.5.1 Describe, explain and demonstrate for fractures, dislocations and muscle injuries:</p> <ul style="list-style-type: none"> <li>- procedures for diagnosis</li> <li>- recognition of muscle strains</li> <li>- appropriate practical treatment</li> </ul> <p>2.5.2 List and describe the types of fractures:</p> <ul style="list-style-type: none"> <li>- open or compound</li> <li>- closed or simple</li> <li>- complicated or mixed</li> <li>- controlling bleeding from an open fracture</li> </ul> <p>2.5.3 Describe and demonstrate the methods used for:</p> <ul style="list-style-type: none"> <li>- immobilization of an injury, including the application of tape</li> <li>- treatment of suspected sprains, fractures and dislocations by immobilizing the injured area and providing support during transportation</li> <li>- the prevention of infection</li> </ul> <p>2.5.4 Describe the special requirements for the treatment of pelvic, femoral and spinal injuries.</p> <p>2.5.5 Describe the mechanisms and symptoms for the treatment of:</p> <ul style="list-style-type: none"> <li>- sprains</li> <li>- strains</li> <li>- dislocations</li> </ul> <p><b>2.6 Wounds, wound healing and infection</b></p> <p>2.6.1 Recognize and list the different kinds and types of wounds:</p> <ul style="list-style-type: none"> <li>- abrasions</li> <li>- contusions</li> <li>- excoriations</li> <li>- incisions</li> <li>- lacerations</li> <li>- perforations.</li> </ul> <p>2.6.2 Describe and demonstrate the different techniques for wound treatment:</p> <ul style="list-style-type: none"> <li>- provide care for wounds and bleeding, including wounds to the eyes, ears, nose, mouth, knocked out or damaged teeth and crush injuries</li> </ul>	<p>Trainees must be able to ensure that identification of symptoms is based on the concept of clinical examination and medical history and treatment of injury is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

	<p align="center"><b>Knowledge, Understanding and Proficiency</b></p>	<p align="center"><b>Criteria for Evaluating Competence</b></p>
<p><b>2.</b></p>	<p>2.6.3 Describe the general process of wound healing.</p> <p>2.6.4 List the measures to prevent infection:</p> <ul style="list-style-type: none"> <li>- correct aseptic procedures</li> <li>- wound cleaning</li> <li>- stopping bleeding</li> <li>- correct procedure for wound dressing, using both commercial materials and improvised dressings</li> <li>- immobilization</li> <li>- tetanus prevention</li> </ul> <p>2.6.5 Describe the treatment of infected wounds:</p> <ul style="list-style-type: none"> <li>- sources of infection</li> <li>- procedures for treatment</li> </ul> <p>2.6.6 Demonstrate treatment procedures to be used for infected wounds.</p> <p>2.6.7 Describe the physiological state of shock and its importance in the care of persons suffering from an illness or injury:</p> <ul style="list-style-type: none"> <li>- identify the signs and symptoms of shock</li> <li>- provide appropriate care for shock, taking into consideration the nature of the illness or injury involved.</li> </ul> <p><b>2.7 Pain relief</b></p> <p>2.7.1 State the general principles of pain relief and anaesthesia, and apply simple procedures.</p> <p>2.7.2 Describe the simple procedures for non-medicinal relief:</p> <ul style="list-style-type: none"> <li>- psychotherapy</li> <li>- relaxation</li> <li>- positioning</li> <li>- cooling</li> <li>- warmth</li> </ul> <p>2.7.3 Describe the medicinal treatment:</p> <ul style="list-style-type: none"> <li>- methods available</li> <li>- application</li> <li>- risks of abuse</li> <li>- characteristics of medicines</li> <li>- procedures for administration by intramuscular injection</li> <li>- procedures for administration by injection (maintenance of proficiency)</li> <li>- procedures for administration of vaccines</li> </ul>	<p>Trainees must be able to ensure that identification of symptoms is based on the concept of clinical examination and medical history and treatment of injury is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
<p><b>2.</b></p>	<p>2.7.4 Knowledge of appropriate medications and products available on board:</p> <ul style="list-style-type: none"> <li>– qualifications required for administration of the medications available on board in case of an emergency</li> </ul> <p>2.7.5 Describe non-invasive pain assessment and list the methods used:</p> <ul style="list-style-type: none"> <li>– administration of acetaminophen</li> </ul> <p><b>2.8 Suturing and clamping techniques</b></p> <p>2.8.1 Apply simple measures to stop bleeding and close wounds.</p> <p>2.8.2 Describe and demonstrate the stoppage of bleeding by:</p> <ul style="list-style-type: none"> <li>– surgical means</li> <li>– the use of a ligature</li> </ul> <p>2.8.3 Describe and demonstrate the surgical treatment of a wound by:</p> <ul style="list-style-type: none"> <li>– the application and removal of sutures</li> <li>– the setting and removal of clamps</li> </ul> <p><b>2.9 Management of acute abdominal conditions</b></p> <p>2.9.1 Recognize the signs and symptoms of acute abdominal conditions, including:</p> <ul style="list-style-type: none"> <li>– peritonitis</li> <li>– intestinal obstruction and urinary retention</li> <li>– abdominal trauma</li> </ul> <p>2.9.2 Describe and apply emergency treatment.</p> <p>2.9.3 Recognize the need for radio medical advice and describe the procedures used.</p> <p><b>2.10 Minor surgical treatment</b></p> <p>2.10.1 State that, for surgical instruments:</p> <ul style="list-style-type: none"> <li>– sterile packaging can be used</li> <li>– instruments can be sterilized by placing them in boiling water for 20 minutes</li> </ul> <p>2.10.2 Demonstrate the correct preparations for casualty and equipment before proceeding with minor surgical treatment:</p> <ul style="list-style-type: none"> <li>– knowledge of surgical equipment available on board and use of same</li> </ul> <p>2.10.3 Demonstrate how to proceed with minor surgical treatment for localized skin injuries and infections.</p> <p>2.10.4 Local anesthesia</p>	<p>Trainees must be able to ensure that identification of symptoms is based on the concept of clinical examination and medical history and treatment of injury is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
2.	<p><b>2.11 Dressings and bandages</b></p> <p>2.11.1 Indicate that dressings are sterile gauze or cotton padding with a layer of cotton fabric to cover a wound or injury.</p> <p>2.11.2 State the main functions of bandages:</p> <ul style="list-style-type: none"> <li>- application of pressure to stop bleeding</li> <li>- keeping a dressing in the correct position</li> <li>- providing support</li> <li>- preventing movement</li> </ul> <p>2.11.3 Demonstrate the use of simple dressings and bandages for injuries to:</p> <ul style="list-style-type: none"> <li>- head</li> <li>- limbs</li> <li>- torso</li> </ul> <p>2.11.4 Demonstrate the use of elasticized gauze and bandages (RETELAST).</p>	<p>Trainees must be able to ensure that identification of symptoms is based on the concept of clinical examination and medical history and treatment of injury is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

**TABLE 3 – ASPECTS OF NURSING**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
<p><b>3.</b></p>	<p><b>3.1 General principles</b></p> <p>3.1.1 Describe the general principles of nursing:</p> <ul style="list-style-type: none"> <li>– observation of patients’ condition</li> <li>– observation of patients’ behaviour</li> <li>– observation and noting of vital signs: skin, respiration, excretion, pulse, blood pressure, body temperature</li> </ul> <p>3.1.2 Ensure that clinical examination procedures are complete and comply with instructions received:</p> <ul style="list-style-type: none"> <li>– maintain accurate and up-to-date records of vital signs and other clinical information</li> <li>– demonstrate the application of nursing principles and the keeping of clinical and medical records</li> </ul> <p><b>3.2 Nursing care</b></p> <p>3.2.1 Describe and apply simple nursing care procedures for:</p> <ul style="list-style-type: none"> <li>– the control of pain</li> <li>– giving injections</li> <li>– washing and cold sponging patients</li> <li>– installing a catheter</li> <li>– forms should be available in the infirmary to record patients’ pulse, blood pressure and respiration</li> </ul>	<p>Trainees must be able to ensure that personal attitude is calm, confident and reassuring, provide medical care to the sick and injured while they remain on board and the significance of changes in patient’s condition is promptly recognized.</p>

**TABLE 4 – TREATMENT OF DISEASES**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
4.	<p><b>4.1 Medical conditions and emergencies</b></p> <p>4.1.1 Recognize medical emergencies involving:</p> <ul style="list-style-type: none"> <li>– disorders of the mental and central nervous system</li> <li>– disorders of the digestive system and abdominal organs</li> <li>– diseases of the heart, cardiovascular system and respiratory systems</li> <li>– diseases of the genito-urinary system</li> <li>– diseases of the eyes, skin, ears, nose and throat</li> <li>– diseases of the musculoskeletal system and joints</li> <li>– poisoning and allergic reactions</li> <li>– emergency resuscitation procedures</li> </ul> <p>4.1.2 Use of O<sub>2</sub> resuscitators: (a 7200-capacity oxygen bottle should be available in the infirmary)</p> <ul style="list-style-type: none"> <li>– parts of the resuscitator</li> <li>– operation of resuscitator</li> <li>– changing cylinders</li> <li>– CPR with resuscitator</li> <li>– after-use care and servicing</li> </ul> <p>4.1.3 Apply measures and treatments to deal with medical emergency conditions:</p> <ul style="list-style-type: none"> <li>– pathological conditions: diabetes, epilepsy, respiratory diseases such as asthma or emphysema, allergic reactions</li> <li>– contagious diseases: German measles, chicken pox, scarlet fever, tuberculosis, yellow fever, hepatitis</li> </ul> <p>4.1.4 Demonstrate the use of the WHO’s International Medical Guide for Ships (IMGS) or similar national guides in conjunction with radio medical advice until more expert help is available or the patient recovers.</p>	<p>Trainees must be able to ensure that identification of symptoms is based on the concepts of clinical examination and medical history and treatment of condition is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
	<p><b>4.2 Sexually transmitted diseases</b></p> <p>4.2.1 Name the primary sexually-transmitted and blood-borne infections.</p> <p>4.2.2 Apply basic medical treatment and counselling after receiving radio medical advice.</p> <p>4.2.3 Obtain medical advice for:</p> <ul style="list-style-type: none"> <li>- Gonorrhea</li> <li>- Human Immunodeficiency Virus (HIV)</li> <li>- Herpes</li> </ul> <p><b>4.3 Tropical and infectious diseases</b></p> <p>4.3.1 Recognize and identify infectious diseases.</p> <p>4.3.2 Define infectious diseases and describe their characteristics, including:</p> <ul style="list-style-type: none"> <li>- diseases caused by viruses: influenza, pneumonia, Acquired Immunodeficiency Syndrome (AIDS), hepatitis, etc.</li> <li>- diseases caused by bacteria: salmonella, typhoid fever, cholera, etc.</li> <li>- diseases caused by parasites: dysentery, malaria, etc.</li> <li>- tropical diseases other than malaria (salmonella, AIDS, hepatitis, cholera, plague, yellow fever, Ebola fever, dengue, typhoid fever)</li> </ul> <p>4.3.3 State that particular emphasis should be placed on the causes, treatment and prevention of gastrointestinal illnesses aboard ship.</p> <p>4.3.4 For tropical diseases:</p> <ul style="list-style-type: none"> <li>- identify types of poisons based on routes of entry</li> <li>- identify the sources of potentially serious infections transmitted via insect and animal bites and stings, and provide appropriate care</li> </ul> <p>4.3.5 Describe prevention techniques and procedures.</p>	<p>Trainees must be able to ensure that identification of symptoms is based on the concepts of clinical examination and medical history and treatment of condition is appropriate and conforms to accepted medical practice and relevant national and international medical guides.</p>

**TABLE 5 – ALCOHOL AND DRUG ABUSE AND PSYCHIATRIC DISORDERS**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
5.	<p><b>5.1 Recognize alcohol abuse and signs of alcohol dependence.</b></p> <p><b>5.2 Describe potentially addictive drugs and narcotics.</b></p> <p><b>5.3 List the most common substances that can lead to addiction and describe their effects on people.</b></p> <p><b>5.4 Describe and implement treatment measures.</b></p> <p><b>5.5 Describe the risks associated with withdrawal.</b></p> <p><b>5.6 Recognize the importance of alcohol and drug counseling.</b></p> <p><b>5.7 Indicate where such counseling can be obtained.</b></p> <p><b>5.8 Demonstrate the important aspects of counseling.</b></p> <p><b>5.9 Indicate that behavioral and psychiatric problems are sometimes influenced by:</b></p> <ul style="list-style-type: none"> <li>– factors unique to seafaring</li> <li>– the psychological consequences of distance and separation</li> </ul> <p><b>5.10 Understand the concepts of civil and criminal liability in connection with suspected drug abuse.</b></p>	<p>Trainees must be able to provide counselling and care with cases of alcohol and drug abuse.</p>

**TABLE 6 – DENTAL CARE**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
6.	<p><b>6.1 Describe basic dental care:</b></p> <ul style="list-style-type: none"> <li>– ability to recognize dental emergencies</li> </ul> <p><b>6.2 Describe the principles of oral hygiene.</b></p> <p><b>6.3 Apply appropriate emergency treatment, including temporary fillings.</b></p>	<p>Trainees must be able to apply adequate emergency dental care.</p>

**TABLE 7 – GYNECOLOGY, PREGNANCY AND CHILDBIRTH**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
7.	<p><b>7.1 With respect to pregnancy, describe:</b></p> <ul style="list-style-type: none"> <li>– signs</li> <li>– side effects</li> <li>– complications</li> </ul> <p><b>7.2 Describe miscarriage:</b></p> <ul style="list-style-type: none"> <li>– recognize signs of miscarriage</li> <li>– provide first aid for the mother in cases of miscarriage</li> </ul> <p><b>7.3 Identify and describe diseases specific to women.</b></p> <p><b>7.4 Recognize labour and imminent delivery:</b></p> <ul style="list-style-type: none"> <li>– assist the mother in delivery</li> <li>– provide care for the newborn child</li> <li>– provide care for the mother</li> <li>– take care of the placenta</li> </ul>	<p>Trainees must be able to assist and provide gynecologic care, as indicated.</p>

**TABLE 8 – MEDICAL CARE OF RESCUED PERSONS, INCLUDING DISTRESS, HYPOTHERMIA AND COLD EXPOSURE**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
8.	<p><b>8.1 Describe and apply the procedures for dealing with rescued persons.</b></p> <p><b>8.2 Recognize the special problems that can affect rescued persons, and explain the causes and treatment for:</b></p> <ul style="list-style-type: none"> <li>– hypothermia, including its various stages</li> <li>– precautions against heat loss and the effects of wind and humidity</li> <li>– exposure to cold, cold injury, immersion foot, etc.</li> <li>– seasickness, causes and treatment</li> <li>– dehydration and nutrition in rescue situations, frequent errors and hazards</li> <li>– sunburn, cause, treatment, prophylaxis and effects</li> <li>– hypoxia, gassing on ships, and entry into enclosed spaces</li> </ul> <p><b>8.3 Recognize the signs and symptoms of heat-related illness:</b></p> <ul style="list-style-type: none"> <li>– cramps, heat stroke, heat exhaustion</li> <li>– provide care in cases of heat-related illness</li> </ul> <p><b>8.4 Knowledge of casualty care in near drowning incidents, decompression illness:</b></p> <ul style="list-style-type: none"> <li>– resources available and how to access the for treatment (intravenous hydration)</li> </ul>	<p>Trainees must be able to evaluate condition of rescued persons and apply immediately medical care as appropriate.</p>

**TABLE 9 – DEATH AT SEA**

	Knowledge, Understanding and Proficiency	Criteria for evaluating competence
9.	<p><b>9.1 Recognize and describe the general principles of care for the dying person.</b></p> <p><b>9.2 Recognize and describe the general principles of care for the deceased:</b></p> <ul style="list-style-type: none"> <li>– signs of death</li> <li>– examination of the corpse</li> <li>– recording time of death</li> <li>– keeping a corpse on board</li> <li>– burial at sea</li> </ul>	<p>Trainees must be able to follow prescribed procedures related to death on board or at sea.</p>

**TABLE 10 – ENVIRONMENT CONTROL ON BOARD SHIP**

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
<b>10.</b>	<p><b>10.1 Hygiene</b></p> <p>10.1.1 Describe the general principles of shipboard hygiene and health education aboard ship.</p> <p>10.1.2 Apply the main principles to:</p> <ul style="list-style-type: none"> <li>– potable water, chlorination, hardening of water from evaporators, reverse osmosis</li> <li>– sewage disposal</li> <li>– ventilation and air-conditioning</li> <li>– water and food storage</li> <li>– food hygiene and galley hygiene</li> <li>– food handling</li> <li>– defrosting of frozen foods</li> <li>– food contamination</li> </ul> <p>10.1.3 Maintain a nursing station.</p>	<p>Trainees must be able to ensure that sanitary and hygiene standards are maintained on board ship.</p>

**TABLE 11 – DISEASE PREVENTION**

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
<p><b>11.</b></p>	<p><b>11.1 Disinfection, disinfestation, de-ratting</b></p> <p>11.1.1 Describe the general principles and apply the procedures for protection against the transmission of disease and the control of epidemics.</p> <p>11.1.2 State the regulations regarding waste and sewage disposal:</p> <ul style="list-style-type: none"> <li>– waste disposal manual.</li> </ul> <p>11.1.3 Define and apply methods for:</p> <ul style="list-style-type: none"> <li>– disinfection</li> <li>– de-ratting</li> </ul> <p><b>11.2 Vaccination</b></p> <p>11.2.1 Describe the general principles regarding the protection of persons by vaccination.</p> <p>11.2.2 Describe the different kinds of vaccination required for seafarers:</p> <ul style="list-style-type: none"> <li>– vaccination procedures and protocols</li> </ul>	<p>Trainees must be able to ensure that protection against infection and spread of diseases is complete and effective.</p>

**TABLE 12 – RECORD KEEPING**

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
<b>12.</b>	<p><b>12.1 Records of signs, symptoms and medicines given</b></p> <p>12.1.1 Describe the general principles regarding the keeping of medical records:</p> <ul style="list-style-type: none"> <li>– applicable record keeping procedures</li> <li>– responsibilities for completion and retention of medical records</li> </ul> <p>12.1.2 Describe, in particular, the keeping and contents of:</p> <ul style="list-style-type: none"> <li>– medical logs</li> <li>– a controlled drugs register</li> <li>– reports to port health authorities</li> <li>– communications to physicians in port</li> </ul> <p>12.1.3 Verification of medical history.</p> <p><b>12.2 Inventory control of medicines (storage standards)</b></p> <p>12.2.1 Describe expiry dates on drug packaging and the need for timely supply of replacements.</p> <p>12.2.2 Knowledge of national and international regulations.</p> <p>12.2.3 State that international and national health regulations apply to medicine at sea, including recommendations by WHO, IMO, and ILO:</p> <ul style="list-style-type: none"> <li>– location of relevant documents on board</li> </ul>	<p>Trainees must be able to maintain inventory control of medicines and keeping of medical records.</p>

**TABLE 13 – MEDICINES AND MEDICAL EQUIPMENT**

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
<b>13.</b>	<p><b>13.1 Medicines</b></p> <p>13.1.1 List the contents of the ship’s medicine chest.</p> <p>13.1.2 State for the medicines and drugs contained in the chest:</p> <ul style="list-style-type: none"> <li>– dosage level</li> <li>– beneficial action</li> <li>– side effects</li> </ul> <p><b>13.2 Medical equipment</b></p> <p>13.2.1 Knowledge of the use of medical equipment kept on board ship.</p> <p>13.2.2 State procedures for destruction of date-expired medicines:</p> <ul style="list-style-type: none"> <li>– check drug expiry dates</li> </ul> <p>13.2.3 Describe the procedure for the disposal of hospital waste.</p>	<p>Trainees must be able to ensure that the dosage and application of drugs and medication complies with manufacturers’ recommendations and accepted medical practice.</p>

**TABLE 14 – SURGICAL EQUIPMENT, INSTRUMENTS AND SUPPLIES**

	Knowledge, Understanding and Proficiency	Criteria for Evaluating Competence
14.	14.1 Describe and apply appropriate measures for disinfection and sterilization. 14.2 Demonstrate the use of the surgical equipment and instruments available on board ship.	Trainees must be able to use sterilized surgical equipment.

**TABLE 15 – EXTERNAL ASSISTANCE**

	<b>Knowledge, Understanding and Proficiency</b>	<b>Criteria for Evaluating Competence</b>
<b>15.</b>	<p><b>15.1 Radio medical advice</b></p> <p>15.1.1 Apply and demonstrate the general principles of radio medical advice, including:</p> <ul style="list-style-type: none"> <li>– GMDSS</li> <li>– use of the appropriate checklist section of the International Code of Signals.</li> </ul> <p>15.1.2 Establish effective radio communication.</p> <p>15.1.3 Complete appropriate verbal reports at time of patient hand-over.</p> <p><b>15.2 Transportation of the ill and injured, including helicopter evacuation</b></p> <p>15.2.1 Identify the problems involved in the transport of the ill and injured:</p> <ul style="list-style-type: none"> <li>– rapidly remove casualties from the accident site, confined space or vehicle</li> <li>– perform effective carries involving one, two or multiple rescuers</li> </ul> <p>15.2.2 Ability to use approved stretchers:</p> <ul style="list-style-type: none"> <li>– stretcher carries</li> <li>– other equipment available on board, e.g., stokes basket for helicopter evacuation</li> </ul> <p>15.2.3 Describe the procedures for evacuation by helicopter and by boat or lifeboat:</p> <ul style="list-style-type: none"> <li>– knowledge of other resources, e.g. Coast Guard, international assistance, and the requirements and procedures for gaining assistance from same</li> </ul> <p><b>15.3 Medical care of the ill and injured, involving cooperation with port health authorities or out-patient wards in port</b></p> <p>15.3.1 Describe the procedures for cooperating with port health authorities and out-patient wards in port.</p> <p>15.3.2 Identify possible problems with language and cultural differences.</p> <p>15.3.3 Describe the detailed medical records that must be kept and demonstrate their use.</p>	<p>Trainees must be able to participate in co-ordinated schemes for medical assistance to ships and ensure that procedures for seeking radio medical advice conform to established practice and recommendations.</p>