



**Interreg**



EUROPEAN UNION

Danube Transnational Programme

**Danube SKILLS**

*Increased institutional capacity in Danube navigation by boosting joint transnational competences and skills in education and public development services*

# **SAFETY PRACTICES IN EMERGENCY SITUATIONS DURING SHIP OPERATION**

## ***MODULE II – MEDICAL FIRST AID***

*Cristina CUS/CER*

*Doina MUNTEANU/CER*

*12.02.2018*

# 1. INTRODUCTION

**These course notes were designed** both for trainers who will be involved in training of such training module and the trainees as learning aids in order to facilitate the learning process.

**The main objective** of these training course is to provide practical guidance for trainers and trainees to administer medical first aid and to be able to apply true emergency measures on board the vessels and decide when treatment can be safely delayed until more skilled personnel arrive.



## 2. LEARNING OUTCOMES

**By the end of this course, trainees will be able to:**

- Manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency;
- Identify the probable cause, nature and extent of injuries, prompt and complete and the priority and sequence of actions is proportional to any potential threat to life;
- Minimizes the risk of further harm to self and casualty at all times.



## 3. SAFETY INTERVENTIONS IN EMERGENCIES SITUATIONS ACCORDING TO APPLICABLE INSTRUCTIONS AND PROCEDURES

### 3.1 General provisions

**Crew members should** be informed of the location to which they must go on hearing the emergency signal and of their duties when they arrive at that station. The location should be well marked.

**The Boatmaster should** ensure that a muster list is compiled and kept up to date and that copies are displayed in conspicuous places throughout the vessel.



# **3. SAFETY INTERVENTIONS IN EMERGENCIES SITUATIONS ACCORDING TO APPLICABLE INSTRUCTIONS AND PROCEDURES**

## **3.2 Types of emergencies**

Fire-fighting- Series of short sounds

Abandon ship – Continuous sounds

Man overboard -



## **3. SAFETY INTERVENTIONS IN EMERGENCIES SITUATIONS ACCORDING TO APPLICABLE INSTRUCTIONS AND PROCEDURES**

### **3.3 Applicable procedures in case of an accident**

#### **The main steps:**

- Recognizing the patients symptoms;
- First aid is treatment.

All crew members should be prepared to administer first aid.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### 4.1 Emergency first aid procedures

**Emergency first aid procedures consist of the following:**

- assessment of the situation and rescuing the victim from danger:  
***Do not endanger yourself!***
- securing breathing;
- alarming;
- securing circulation;
- first aid treatment



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Emergency first aid procedures

#### Priorities

On finding a casualty:

- look to your own safety do not become the next casualty;
- if necessary, remove the casualty from danger or remove danger from casualty
- send for help;
- then start giving appropriate treatment to the worst casualty in the following order of priority: severe bleeding; stopped breathing/heart; unconsciousness.





## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### General principles of first aid aboard vessel

**First aid must be administered immediately to:**

- restore breathing and heart-beat;
- control bleeding;
- remove poisons;
- prevent further injury to the patient (for instance, his removal from a room containing carbon monoxide or smoke).



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### General principles of first aid aboard vessel

**Never underestimate and do not treat as minor injuries as:**

- unconsciousness;
- suspected internal bleeding;
- stab or puncture wounds;
- wounds near joints;
- possible fractures;
- eye injuries.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### General principles of first aid aboard vessel

**Never consider anyone to be dead, until you and others agree that:**

- no pulse can be felt, and no sounds are heard when the examiners ear put to the chest;
- breathing has stopped;
- the eyes are glazed and sunken;
- there is progressive cooling of the body.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Measures to be taken in case of emergency

#### Unconscious casualties

**The sequences of steps for the initial assessment and treatment of the unresponsive victim are:**

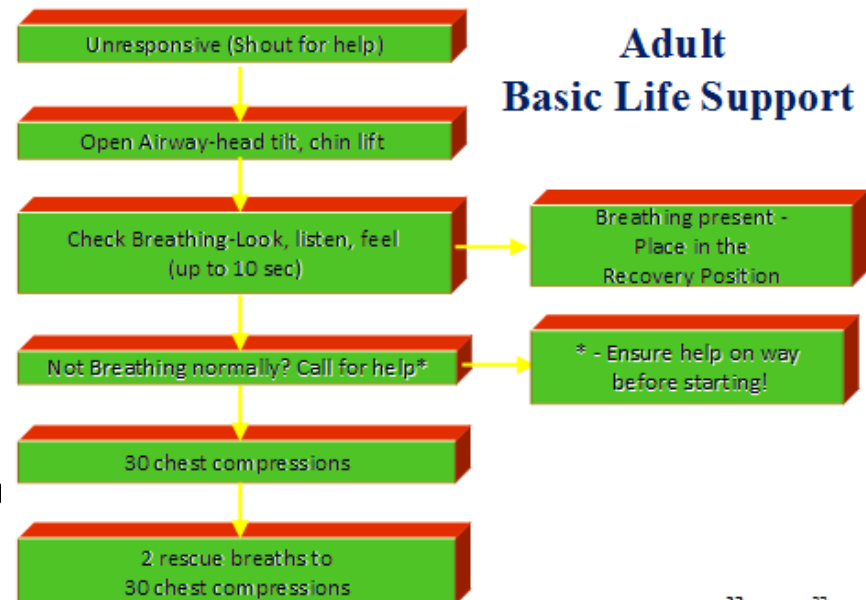
- Unresponsive and not breathing normally;
- Call Emergency Services- EMS;
- Give 30 chest compressions;
- Continue CPR 30:2;
- As soon as AED (Automated External Defibrillator) arrives-switch i instructions.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Measures to be taken in case of emergency Supplemental information for the key steps

- Opening the airway and checking for breathing
- Alerting emergency services
- Starting chest compression
- Hand position
- Compression depth
- Compression rate
- Firm surface
- Chest wall recoil
- Duty cycle
- Feedback on compression technique
- Rescue breaths
- Mouth-to-nose ventilation
- Compression-ventilation ratio

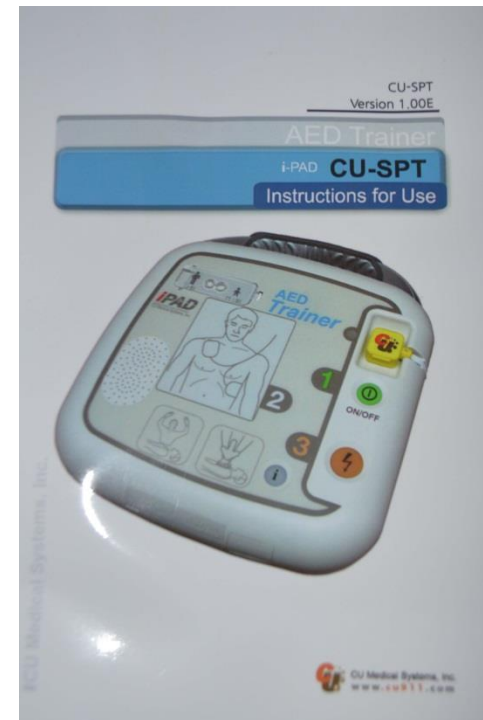


## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

Measures to be taken in case of emergency

Use of an automated external defibrillator- AED

AEDs are safe and effective when used by laypeople with minimal or no training. AEDs make it possible to defibrillate many minutes before professional help arrives. CPR providers should continue CPR with minimal interruption of chest compression while attaching an AED and during its use.



## **4. MEDICAL FIRST AID ON BOARD OF THE VESSEL**

### **Measures to be taken in case of emergency**

#### **Foreign body airway obstruction (choking)**

Foreign body airway obstruction (FBAO) is an uncommon but potentially treatable cause of accidental death. As most choking events are associated with eating, they are commonly witnessed. As victims initially are conscious and responsive, there are often opportunities for early interventions which can be life-saving.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Control bleeding

The signs and symptoms of excessive loss of blood are:

- weakness or fainting;
- dizziness;
- pale, moist and clammy skin;
- nausea;
- thirst;
- fast weak and irregular pulse;
- shortness of breath;
- dilated pupils;
- ringing in the ears;
- restlessness; and
- apprehension.





## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Control bleeding

#### Control

Bleeding may be controlled by direct pressure, elevation, and pressure at pressure points. A tourniquet should be applied only when every other method fails to control the excessive bleeding.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Shock

**Shock following an injury is the result of a decrease in the vital functions of the various organs of the body.** These functions are depressed because of inadequate circulation of blood or an oxygen deficiency.

#### **Shock follows:**

- the loss of large quantities of blood;
- allergic reactions;
- poisoning from drugs, gases, and other chemicals;
- alcohol intoxication; and
- rupture of a stomach ulcer.



## **4. MEDICAL FIRST AID ON BOARD OF THE VESSEL**

### **Burns and scalds, electrical burns and electrocution**

#### **Clothing on fire**

If someone's clothing is on fire, by far the best way to put the fire out is to use a dry-powder extinguisher at once. If a dry-powder extinguisher is not available, then lay the person down and smother the flames by wrapping him in any available material, or throw bucketfuls of water over him, or use a hose, if available. Make sure that all smouldering clothing is extinguished.

#### **Heat burns and scalds**

All heat burns should be cooled as quickly as possible with running cold water, applied for at least 10 minutes, or by immersion in basins of cold water. If it not possible to cool a burn on the spot, the casualty should be taken to a place where cooling can be carried out. Try to remove clothing gently but do not adhere to the skin. Then cover the burned areas with a dry, no larger than the burns, and bandage in place.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Burns and scalds, electrical burns and electrocution

#### Electrical burns and electrocution

Electrical lines may be removed from the casualty with a wooden pole, a chair, an insulated cord, or other non-metal object.

Then check casualty immediately for breathing and heartbeat.

If casualty is not breathing give artificial respiration.

If heart is stopped, apply heart compression.

Send for help.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Chemical splashes

Remove contaminated clothing. Drench casualty with water to wash the chemical from the eyes and skin. Give priority to washing the eyes which are particularly vulnerable to chemical splashes. If only eye is affected, incline the head to the side of the affected eye to prevent the chemical from running across into the other eye.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Fractures

A fracture is a broken bone. The bone may be broken into two or more pieces or it may have linear crack. Fractures are described as closed if the skin remains unbroken. If there is a wound at or near the break, it is said to be an open fracture.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Fractures

The following are indications that a bone is very probably broken:

- deformation of the area, swelling, defeat;
- pain, shortness of fractured extremities;
- the wound at the level of which heads can be seen;
- signs of shock.



## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Fractures

#### Actions to be taken immediately:

- deformation of the area, swelling, defeat;
- the victim remains immobile;
- do not try to realign the fracture area;
- immobilized with splints fractured area;
- in the case of open fracture, cover the wound with sterile compresses





## 4. MEDICAL FIRST AID ON BOARD OF THE VESSEL

### Transporting a casualty

The removal of a sick or injured person either from the site of an accident or ashore is matter of importance, since his life may depend on the arrangements made, particularly if he has spinal injuries, a heart condition , or a severe fracture, with any of which he is likely to be suffering from shock. So use the utmost gentleness, reassure your patient, try to have a clear picture in your mind of the nature of the disability you are dealing with, and exercise common sense.



## **5.GENERALIZED HYPOTHERMIA DUE TO COLD WATER IMMERSION**

### **Generalized hypothermia**

Generalized hypothermia is the leading cause of death among shipwreck survivors. In a cold environment, the body will automatically increase its heat production efforts in order to compensate for heat loss. However, if the rate of heat loss exceeds the rate of heat production, body temperature falls and hypothermia will result.



## 5. GENERALIZED HYPOTHERMIA DUE TO COLD WATER IMMERSION

### First Aid for hypothermia

For survivors who, although shivering dramatically, are rational and capable of recounting their experiences:

- have their wet clothes replaced with dry clothes or blankets;
- check quickly for injuries;
- forbid the use of alcohol.



## 5. GENERALIZED HYPOTHERMIA DUE TO COLD WATER IMMERSION

### Frostnip and frosbite

Frostnip, the mildest form of cold injury, is caused by exposure to temperatures above freezing (0-16 °C) in conditions of relatively high humidity.

Signs and symptoms:

- tingling;
- itching;
- burning sensation, possibly aggravated by warmth;
- no blistering or skin discoloration.



## 5.GENERALIZED HYPOTHERMIA DUE TO COLD WATER IMMERSION

### Frostnip and frosbite

**Frostbite**, involving the death of skin, is a more severe injury than frostnip.

Signs and symptoms:

In cases of superficial frostbite:

- only skin involved;
- skin pale and swollen;
- blisters filled with clear fluid.



## 5. GENERALIZED HYPOTHERMIA DUE TO COLD WATER IMMERSION

### Frostnip and frosbite

Frostnip, the mildest form of cold injury, is caused by exposure to temperatures above freezing (0-16 °C) in conditions of relatively high humidity.

Signs and symptoms:

- tingling;
- itching;
- burning sensation, possibly aggravated by warmth;
- no blistering or skin discoloration.





Danube Transnational Programme  
**Danube SKILLS**

**Thank you for your attention!**



■ Danube Transnational Programme area

**Cristina CUȘ**

Project partner: CER

Country:RO

Email:cristinacus@ceronav.ro

[www.interreg-danube.eu/danube-skills](http://www.interreg-danube.eu/danube-skills)

Project co-funded by European Union funds (ERDF, IPA)