



# TEACHER'S MANUAL

Course:  
Patient Examination and  
Medical Equipment Onboard

# TEACHER MANUAL

The purpose of the teacher's manual is to assist teachers in organizing and introducing course. It is not the intention of teacher's manual to present teachers with a rigid "teaching package" which they are expected to "follow blindly". The teacher manual has been designed to give ideas to use material done in OnBoard Med –project.

## The Patient Examination and Medical Equipment Onboard 5 ECTS

### OBJECTIVES : Student

- know, how the patient examination is happening as a professional procedure and implementate that
- know, how to to assess the patient's needs of treatment and implementate that
- know, how to implement empowering evidence based patient guidance and implementate that
- know, how to act based the requirements of patient safety onboard and implementate that
- know, how to work in a multidisciplinary and multicultural working environment onboard and implementate that

### CONTENT

- Introduction; Timetable, teaching methods, learning environment
- Nursing ethics briefly, for example Informed concent, privacy, asepsis
- History taking, anamnesis
- Patient examination techniques: inspection, auscultation, palpation, percussion
- Patient examination in medical emergencies (for all mariners)
  - ABCDE
- Patient examination step by step (For ship nurses)
  - General assessment
  - Respiratory system
  - Cardiovascular system
  - Abdominal system
  - Neurological system
- Medical equipment onboard (For all mariners)
  - Medical equipment as an concepts, international rules
  - Passenger and cargo vessel

### IMPLEMENTATION

Lecture, tasks, workshops, simulation

### ASSESSMENT

- Which parts are assessed (participate/non participate; done/not done)

### SUMMARY

There is possibility for different kind of lectures. Some of this could arrange online in real time (Online lecture) or face to face with target groups. Different kind of learning material, etc. pretasks via learning environment

or Kahoot questions, discussion between international students in discussion platform etc. You will use mobile phone or computer. Workshops, where You will practice hands on-skills.

This is a exercise in so authentic environment than possible, where is short information(5-10 min), simulation (15-20min) and debriefing (30 min). In every simulation You have 2-3 learning objectives, technical and non-technical.

CONTENT	TIME	LEARNING METHODS and MATERIAL	ASSESSMENT
Orientation for education/Advertising	2 h	Contact lecture shortly from education	participate/not participate
Task 1 before Day 1. Task 2 before Day 1.		Task 1. : Patient safety onboard (individual) Task 2. Discussion online with all participants Theme: patient safety onboard- shared opinions	Done/not done Done/not done
2 weeks time till Day 1.			
Day 1. Orientation for different teaching methods	1 h	Contact lecture, own computer and mobile phone with participants!	
Patient examination in medical emergencies (ABCDE)	1 h	Active lecture	Active discussion done/not done
Patient examination in medical emergencies (ABCDE)  NOTE! For ship nurses, medical officers and mariners	6 h	Workshops - Auscultation - Palpatation - etc.	Active discussion done/not done
Task 3 before Day 2. Medical equipment onboard		Task 3. (individual) Describe, how You understand medical equipment. Task 4. (individual) List medical equipment, that You have in Your working environment in cases medical emergency.	done/not done done/not done
Task 5. before Day 2. Medical equipment passport		Task 5. Discussion online with all participant, what kind of equipment in different vessels are. Task 6. Plan together with participants check list "medical equipment onboard" to own vessel	done/not done
2 weeks time till Day 2.			
Day 2. Info Patient examination step by step  NOTE! For ship nurses	1h 7h	Active lecture Workshop: Task for workshop: Cardiovascular assessment etc.	Active discussion Done/not done Active discussion done/not done
Task 7 before Day 3.		Task 7. Individual. Orientation for simulation	done/not done
Task 8 before Day 3.		Task 8. Discussion online: Virtual patient scenarios. Example:	done/not done

2 weeks time till day 3.		Prematerial before simulation 1 and 2	
Day 3. Info	1 h		
Workshops Simulation scenarios -low fidelity -high fidelity NOTE! For ship nurses and security men AND for medical officers	3h 5h	Orientation for simulation Simulation 1. Simulation 2.	
Day 4. Info	1h		
Workshops Simulation scenarios -low fidelity -high fidelity NOTE! For ship nurses and security men AND for medical officers	3h 5h	Orientation for simulation Simulation 3. Simulation 4.	
Day 5. Info	1h		
Workshops Simulation scenarios -low fidelity -high fidelity  NOTE! For ship nurses and security men AND for medical officers	3h 5h	Orientation for simulation Simulation 5. Simulation 6.	
Day 6. Info	1h		
Workshops Simulation scenarios -low fidelity -high fidelity  NOTE! For ship nurses and security men AND for medical officers	3h 5h	Orientation for simulation Simulation 7. Simulation 8.	
Day 7-10.			
Closing this learning process, assessment, feedback	4h	Active discussion event with all participant	

## TIPS FOR TEACHER

In this part You will found some examples in pretasks, workshops, simulations. All parts are suitable knowledge to debriefing too after simulation. As a teacher You could choose suitable materials based on Your course and target groups.

NOTE! You can use these pretask in learning environment for example as an individual task, so that participants could return their answers to return box, which is a folder between one participant and teacher. Or There is discussion platform possibility between all participants, where they can share knowledge, material, opinions etc. There is possibility too take video etc. As a teacher You can be innovative and choose different implementation based on Your course participants.

**Pretask 1.** Look the Patient Safety – Material link (WHO: Guide in Patient safety: Pages 92-104 and article: Leotsakos, A. etc. 2014. Educating future leaders in patient safety. After reading, describe what is patient safety onboard.

**Pretask 2.** Discussion online with all participants. Theme: patient safety onboard- shared opinions

**Pretask 3.** Describe, how You understand medical equipment.

**Pretask 4.** List medical equipment, that You have in Your working environment in cases medical emergency

**Pretask 5.** Discussion online with all participant, what kind of equipment in different vessels are.

**Pretask 6.** Plan together with participants check list “medical equipment onboard” to own vessel

**Pretask 7.** Before simulations onboard

- Think Yourself first in which way You will solve this challenge onboard. The question is how You will treat the patient and transfer him out from Upper bed in a little cabin. What are the the spisific steps to treat this patient?
  - a. The patient is not awake, but breathing in upper bed. Patient look to roof directly
  - b. The patient is not awake, not breathing in upper bed
- Then go to disucssion platform in Optima, where You can find platform where You can discuss with other medical officers or shipnurses.



## Simulation bank

### Patient situation/simulation Bank

You can find the list of different scenarios in medical emergencies. You can choose any case you want, if it is suitable and relevant for your course. In every case you will find patient, name, age, environment, main objectives in cases, main symptoms and diseases, findings after patient examination, main nursing procedures and TRIAGE classification (**red yellow green**). In some topics you will find 2 cases, level 1 and level 2. Level 1 is not so complicated than case level 2.

Here are a few examples

<p>Pasi Laakso 111188-1122</p> <p>outside on the deck</p> <p>The nearest port 2 hours by boat</p>	<p>Assess patient according to ABCDE.</p>	<p>Multitrauma patient</p>	<p>A and B: Injury on thorax with trouble to rising and falling during inspiration and expiration,</p> <p>C: Blood pressure 85-120/50-90, pulse 120, ST</p> <p>D: Unconscious.</p> <p>E: leg are in a different position. , upper arm is blue</p>	<p>O2. Cervical collar. Intravenous needle. Stabilize hole body. Evacuation.</p>	
<p>Cecilia Eklund 050228-198A</p> <p>in Stairs</p> <p>The nearest port 4 hours by boat</p>	<p>Communication to patient. Assess patient's body. Assess ABCDE.</p>	<p>Hip fracture, left side.</p>	<p>Patient has a shorter, efferent left leg. And pain in both hip and knee.</p>	<p>O2. Intravenous needle. Painkiller. Stabilize leg in a collar. Evacuation.</p>	
<p>Raija Kaarina Ranta 110743-1243</p> <p>in hall near the elevator</p> <p>The nearest port 4 hours by boat</p>		<p>don't know where she is right now, no oriented</p> <p>NOTE! No brain attack, dementia</p>	<p>A and B: Breaths 16 /min, symmetry</p> <p>C: Bloodpressure 145/75, Pulse 85</p> <p>D: No problems, symmetry</p> <p>E: No other injuries</p>	<p>Health assessment</p>	

## Simulation scenario

You will find the specific description of every scenario in simulation bank with different kind of learning objectives, patient's roles, summary of the scenario from the beginning to the end, equipment list and tips for debriefing too.

### Scenario. Alcohol poisoning

<b>Scenario</b>  Patient with acute alcohol poisoning onboard	<b>Technical problem</b>  Alcohol poisoning  Fluid imbalance  Need for iv access	<b>No technical problem:</b>  Communication with patient – hard, patient responsive but incoherent
<b>Learning objective</b>  Know what to do in this kind of situation, alcohol poisoning	<b>Technical objective</b>  know how to do the patient examination based on ABCDE, know what vital sign monitoring in this situation means, How to check and treat fluid imbalance	<b>No technical objective</b>  Communication with patient and his friend  Communication and leadership with other crew members, if these are available
<b>Patient</b>  <b>Viktors Kalns</b>  <b>260596-111H</b>   <b>Patient's friend</b>  <b>Aleksander Ans</b>	Viktors is a young man from Latvia, who had drunk too much at the bar.  Situation presents with a disoriented Viktors, who has slurred speech, then profuse vomiting.	<b>Home medication</b>  -
<b>Summary of the scenario and the situation in the beginning</b>	<p>Ship security gets a call to info. There is a person, who is disoriented and with slurred speech. A friend of this patient is there too. This friend is drunk too much too, but not so much than a other. The patient can still walk, but feels dizziness, a lot. He can not answer any more, no eye contact; really drunk, but standing still. Viktors doesn't understand where he is, but is not aggressive.</p> <p>When the ship nurse and security man will come near the patient and start to make patient examination, patient start to vomiting heavily x 2.</p> <p>Patient transfer to ship nurse's office. By wheelchair or lifting with other crew member's. Not vomiting in this moment. He is nicely, not speaking at all.</p> <p>Patient's friend would like to go back to disco, when the ship nurse and security man come. There is so many other friends who are still waiting.</p>	

In ship nurse`s office; vital monitoring with equipment (Blood pressure, Pulse, SaO2, temperature, EKG, GCS, Breaths 14) and treatment with 28-40 % oxygen mask, iv. canyl).

The patient does` t answer there in medical room. He sleeps only, Breaths 8-14.

**Step 1.** Blood pressure 105/ 65, Pulse 105, Sao2 92, temperature 36,4, GCS 14 (No orientated, no movements when asking, but with pain Yes, Both pupils ok, no differences between left or right) (First measurement in ship nurse`s office) No iv-canyl or fluid or oxygen mask yet.

**Step 2.** Blood pressure 90/55, pulse 115, Temperature 36,4; GCS 12-13

**Step 3.** Blood pressure 110/60, Pulse 95, Sao2 94 (Iv-canyl and NaO,9 500->, Oxygen 28%) GCS 12-13, Like in step 2.

**Environment:** 1. Info desk onboard  
 2. Ship nurse`s office onboard in passenger vessel

**Equipment if needed:**

Emergency care bag (normal and Oxygen bag)

EKG monitoring system ; blood pressure, Pulse, SaO2

Stethoscope

iv-canyl and other fluid balance equipment; NaO,9% 500ml-1000ml

Patient transfer equipment: wheelchair, red transfer blanket or green lifting blanket

Hand disinfection

Medication possibilities:

Check the ship pharmacy list based on STCW and company`s list of other medication.

Medication for vomiting

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Medication for something else

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**Extra material for sharing to participants:**

Prematerial:

**Patient`s/Participant roles descriptions:**

**STEP 1.** **Viktors** walks with his friend, feels dizziness, cannot answer questions clearly. Strong alcohol smell on breath. He stands still. When the ship nurse and security man will come near the patient he starts to vomiting x 2. Normal, green fluid, no blood or food in this. Breaths 14. Normal lung sounds.

**Friend Alexander** helps his friend. He is drunk alcohol too, but not so much than Viktor. Aleksander would like to go to disco back as soon as possible, because there is other friends waiting for him still. The party is going on and he really would like to go there.

a. If The ship nurse doesn't interrupt his action, A. will go to disco.

b. If the ship nurse does interrupt and ask something from the friend, for example patient's name, medication, personal ID, preinformation etc. A. will stay there and ask questions. You know patient name, wallet with papers is in Viktors's pocket. No medication. Only alcohol, no drugs or other medication with alcohol. A. does not know Viktor's the allergies or diseases. Or relatives.

**STEP 2.** Patient should be transferred to medical cabin. He could sit on wheelchair or if the crew members will transfer him by lifting, he will be really nicely, no aggressive, like sleeping all the time. Breaths 10. Normal lung sounds.

a. If The ship nurse doesn't interrupt his action to go diaco, A. will go to disco.

b. If the ship nurse does interrupt and ask Aleksander to come to ship nurse's office too, A. will go there still.

**STEP 3.** Vital signs monitored now. He sleeps still. GCS 12-13. Not oriented, pupils both ok, movement only to pain, not answering or speaking. Participant should be able to recognize fluid loss and manage an iv access. Breaths 8-10. Normal lung sounds.

Aleksander will be there, but during the measurement asks still, that could he go back to disco.

**TMAS doctor** if needed

If ship nurse call to doctor, listen first the situation based on ISBAR.

Finally You could ask, if the patient has fallen down in stairs, is there some bruises or something? GCS situation more specific. Drugs? No evacuation if there is now nursing diagnosis, that some other problems is still in process, for example some kind of head injury etc.

**Preinformation for those Who are going to simulator:**

Patient examination ABCDE with equipment onboard (Bag 1 and 2). In corridor or near the info desk.

Patient monitoring in ship Nurse's office with available equipment.

Mobile phone if needed, contact to TMAS doctor

Nursing documentation paper, if needed

If You need more crew members to help, You can call.

iv. canyl:

- a. Pretend that you will put this, but say the procedures in voice, So that everybody will hear that. (real patient)
- b. Put it to "fake" hand

**Information to observators:**

If the shipnurse in charge would like to have more “hands” to this case, You will be the other crew.

**Tips for Briefing after simulation**

- **Follow the objectives in this scenario**
- know how to do the patient examination based on ABCDE, know what vital sign monitoring in this situation (alcohol poisoning) means, How to check and treat fluid imbalance
- Communication with patient and his friend
- Communication and leadership with other crew members, if these are available

**Nursing procedures**

- Procedures as a professional way, ABCDE, Patient treatment after vomiting, asepsis, patient transfer and monitoring, Iv.canyl and fluid therapy, patient position in a recovery position

**Co-operation, management and leadership**

- Co-operation in team : What kind of roles? Who is the leader in this case?
- Speech? Eye contact? Nonverbalic communication
- Reporting by ISBAR to other crew members, Communication with patient and his friend, Communication onboard and ship to shore.

<p>Teachers roles during simulation</p> <p>Teacher 1: Follow specific the situation and medical procedures</p> <p>Teacher 2: Follow specific communication between ship nurses and crew members, and communication between patient and his friend</p>	<p>Teachers 1&amp;2 – debriefing afterwards</p>	
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**Life savers**

Director in this simulation could say TIMEOUT, so everybody know that Simulation scenario is over.

Participants in simulator can say TIMEOUT too, if they don`t know how to act professionally in this situation.

**Ending criterias**

Patient examination ABCDE, Nausea and vomiting treatment, Patient transferring to ship nurse office, Vital signs monitoring, Intravenous access, Intravenous fluid infusion, Patient positioning in a recovery position, medical communication from ship to shore

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### Course leader

Nina Rantalaiho-Kulo, Senior lecturer, RN, MnSc, Turku University of Applied Sciences, Finland

[nina.rantalaiho-kulo@turkuamk.fi](mailto:nina.rantalaiho-kulo@turkuamk.fi)

### Co-workers

Anna Lundberg, Lecturer, Amb.nurse, MnSc, Phd student, Åland University of Applied sciences, Finland

Baiba Vilite, Assistant (RSU), MnSc, RN, PhD student, Riga Stradins University, Latvia

Raivo Portsmouth, Project manager, Maritime Specialist, Estonian Nautical School. Estonia

Sergejs Masinenkovs, Lecturer in Maritime science, Latvian Maritime Academy, Latvia

### Picturers

Picture 1. Cover page. Satu Haapalainen, Turku University of Applied Sciences 12.3.2019. Viking Line, Viking Grace

Picture 2-4. Tips for teacher. Pretask 7. Nina Rantalaiho-Kulo, Turku University of Applied Sciences 16.1.2019 Tallink Silja, Baltic Princess





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