onBoardMED

TEACHER'S MANUAL

Course:

Occupational Safety Onboard

Part II - Ergonomics

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TEACHER'S MANUAL

The purpose of the teacher's manual is to assist teachers in organizing and introducing training courses. It is not the intention of teacher's manual to provide teachers with a rigid teaching package which they are expected to "follow blindly", because national educational systems, groups size and the cultural backgrounds of trainees in maritime subjects vary considerably from country to country. The teacher can choose suitable parts for target group and can even make changes that are needed to achieve the learning outcomes.

The teacher's manual has been designed to give ideas how to use material developed in the OnBoard Med – project. Teacher's manuals content is: objectives, content, target group and student's amount, implementation and learning methods, assessment, learning process (summary) and tips for the teacher.

Occupational Safety On Board – Ergonomics, 6 hours

OBJECTIVES

To teach students the basics of ergonomics onboard for the safe work to avoid injuries and development of work-related musculoskeletal and psycho-emotional diseases. Training in ergonomics can give the basic knowledge on performing work activities in safe way, minimizing the health risks of heavy workload, heavy lifting, maintaining awkward postures, etc. Completing the course gives possibility for trainees to notice and understand the ergonomic risks in the working environment, as well as to find the ways to improve the arrangement of the workplace and solve the problem. Following the main rules of ergonomics in everyday life can improve the well-being of employees and even reduce already developed work-related health problems.

CONTENT

The course is a part of educational program on occupational safety and risk assessment onboard. The course provides training in recognizing ergonomic risks and hazards onboard, evaluation of the working posture, ways of improvement and individual adjustments at workplace, main principles of finding the solution of the ergonomic problem.

The participants should learn what the main ergonomic risks are on board; how to identify the ergonomic problem; how to improve the workplace design, work procedures and organize work in more efficient and safe way. Topics of the course are: main rules of ergonomics, basic principles of safe movements, safe heavy lifting, evaluation of ergonomic risks.

TARGET GROUP AND STUDENT AMOUNT:

All the specializations of mariners, supportive staff, service personnel on board, ship nurses, and marine students. For workshops the limit is 12 students.

IMPLEMENTATION

- E-learning:
    - Reading of the learning materials
    - Lecture material (pp)
    - Workshops (groups can differ by target group)

ASSESSMENT

- lecture material – done
- pre-task – reading, document created individually and sent before deadline
- workshop/practical skill training – done

LEARNING METHODS

eLearning is learning utilizing electronic technologies to access educational material outside a traditional classroom. eLearning can be f. ex. online videos, lectures, discussions, teacher consultation, e-testing.

Exercise is an activity carried out for a specific purpose in online or face to face and can be individual or group exercise. F. ex. pre tasks, classroom exercise, model answer questions.

Lecture: an educational and theoretical talk to the students which should be interactive. When the instructor incorporates engagement triggers and breaks the lecture at least once per class to have students participate in an activity that lets them work. The engagement triggers capture and maintain student attention and allow students to apply what they have learned or give them a context for upcoming lecture material. Lecture can be online, video lecture or face to face.

Skill lab provides students with an opportunity to learn and develop the skills essential to nursing / maritime practice within a supportive and safe environment.

Simulation is a form of experiential learning. Where teacher sets problems, events or scenario that can be used for training students, how to behave in authentic situation within a supportive and safe environment. It includes introduction, simulation and debriefing.

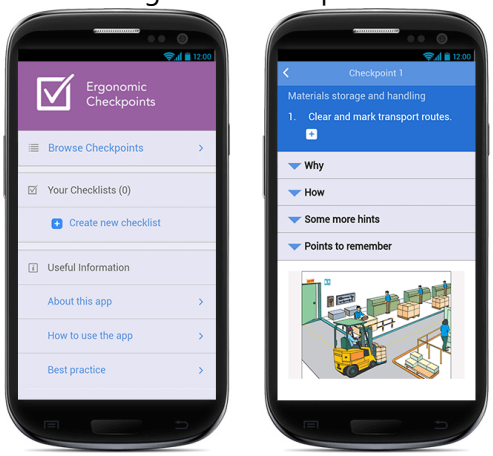
Workshop is a period of practical work on a particular subject in which a small group of people share their knowledge or experience. Workshop can also be like learning café where you develop new ideas or approaches to specific subject.

SUMMARY

CONTENT	TIME	LEARNING METHODS and MATERIAL	ASSESSMENT
Ergonomics onboard	2 h	Lecture material (pp)	done
Pre-task: - basics of ergonomics - manual heavy lifting - ergonomic solutions for different workplaces - evaluation of the ergonomics at own workplace	2 h	Reading, preparation of the document	document sent before deadline
Workshop	2 h	Group work online (4-5 persons per group)	done

TIPS FOR TEACHER

- Initially students should be familiarized with the main rules of ergonomics (see provided lecture material).
- Then students should read provided material on guidelines for manual heavy lifting.
- The next step would be filling in the ergonomic assessment checklist for their own workplace to understand the procedure, how to notice main ergonomic problems at workplace.
- Then the solutions for the problems should be found. This can be done using the provided material (Ergonomic checkpoints. Practical and easy-to-implement solutions for improving safety, health and working conditions. ILO, 2nd edition, 2010 or additional materials can be explored). Mobile phone application https://www.ilo.org/safework/info/publications/WCMS_438082/lang--en/index.htm can be used as well. If questions appear during this task, teacher can provide support through the chat or solve the problem during the workshop later.



- Training situations for workshop can include (according to the target group):
  - practical manual heavy lifting techniques (certain examples of heavy objects can be used for training the skills, e.g. big sack, large box for lifting alone and for two persons, etc.), some ergonomic aids to reduce the load can be demonstrated as well,
  - patient transfer in different situations,

- adjustment of the workplace arrangement (work with computer, sitting posture, standing posture, holding hand tools).

- In parallel, as students read the provided material, they can make remarks in their personal diary to ask questions later during the discussion.

List of provided materials

Lecture material "Ergonomics onboard" divided in 5 parts (5 pdf files or the same slides in one MS PowerPoint document)

Ergonomic assessment checklist (Pre-task, pdf file)

Ergonomic Guidelines for Manual Material Handling, Cal/OSHA Consultation Service, 2007

Ergonomic checkpoints. Practical and easy-to-implement solutions for improving safety, health and working conditions. ILO, 2nd edition, 2010

Additional literature

Elements of ergonomics programs
https://www.cdc.gov/niosh/topics/ergonomics/ergoprimer/default.html

Ergonomic interventions in shipyards https://www.cdc.gov/niosh/topics/ergonomics/ergship/easyfix.html

Ergonomic Interventions in the Building, Repair, and Dismantling of Ships
https://www.cdc.gov/niosh/topics/ergonomics/ergship/

Ergonomic Checkpoints app https://www.ilo.org/safework/info/publications/WCMS_438082/lang--en/index.htm

Video:

- Workplace ergonomics https://www.youtube.com/watch?v=QeDUCXfzl6U
- Ergonomics onboard https://www.youtube.com/watch?v=S4-7QwE2mSg

RECOMMENDED REQUIREMENTS FOR TEACHERS

The teacher should be familiar with basics of ergonomics, main principles of correct manual heavy lifting and should have understanding in development of musculoskeletal diseases due to poor ergonomics (education in medicine or work safety is preferred).

Topic leader:

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