

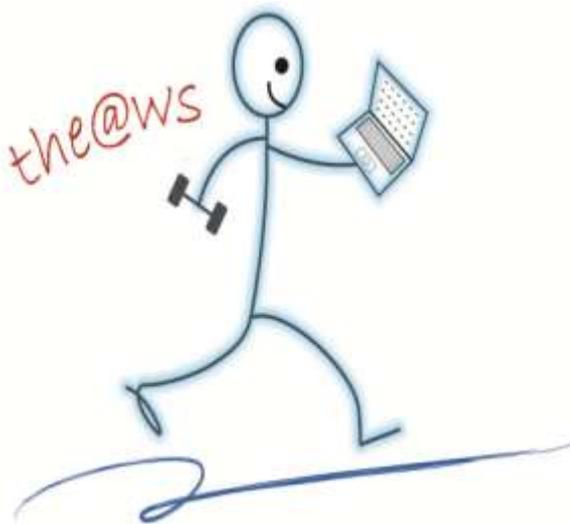
# “How to train the trainers” guide

Guide for Higher Education Institutions’ teaching staff

Written by

Manos Stefanakis, Physical Therapist, University of Nicosia, Cyprus, [stefanakis.m@unic.ac.cy](mailto:stefanakis.m@unic.ac.cy)

Anastasia Beneka, Professor, School of Physical Education and Sports Sciences, Democritus University of Thrace, Greece, [ampeneka@phyed.duth.gr](mailto:ampeneka@phyed.duth.gr)



First Edition 2016

## **1. Introduction**

Welcome to the learning experience of Therapeutic Exercise in the Workplace. We have put together this guide to help you and the Higher Education Institutions make the most of the project's learning material; it includes essential information about the different modules including key contacts, modules content, assessment information and sources of support. Please take time to read through it carefully and feel free to ask the development team for any clarifications. Other sources of information are the THEWS platform site.

## **2. Intensive study Program**

Intensive study program contains 8 different modules. It is designed so that it can be delivered in one working week. The material contains lectures, practical demonstrations and practice, discussion, quizzes, and homework. The contents of each module are briefly described below. More detailed description of each module including the relevant bibliography is contained in the syllabi of each module.

### **3a. Indicative schedule of teaching THEWS – example adapted in 13 academic weeks**

THEWS is suggested to be incorporated in the academic curriculum in the 2<sup>nd</sup> academic year (in case of a 3 years bachelor degree) or in the 3<sup>rd</sup> academic year (in case of a 4 years bachelor degree). Modules such as Anatomy, Functional Anatomy, Kinesiology, Exercise and rehabilitation are prerequisite for THEWS. Suggested methodology of teaching THEWS in 13 academic weeks is presented at the end of the guide.

### **3b. Aims, Learning outcomes, content and assessment method of each module**

#### **Module 1 - Health Intervention Programs at Workspace (Occupational Health Interventions)**

The aim of this module is to present the most frequent Occupational Health Intervention Programs with special emphasis on stress management training i.e exercise-, relaxation- and combined cognitive-behavioral programs. It also provides an analysis of the effectiveness on reducing- and/or changing pain perception related to musculoskeletal pain with special reference to neck pain.

#### **Learning outcomes**

- To understand the difference and effectiveness of Occupational Health Intervention Programs.
- To see the HEI's role in health interventions: skills needed and different expectations to be met.

- To understand the consequences and costs of low adherence / high drop out from health intervention programmes.
- To identify success factors.

### **Brief description of Module content**

- An overview of current Occupational Health Intervention Programs. Descriptions and definitions.
- Frequency and effectiveness
- Health interventions with physical exercise: theoretical foundations – how to explain the effects.
- Determinants related to adherence/drop out.

### **Assessment method**

Intermediate control tests with written assessment of cognitive appraisal

### **Module 2 - Functional anatomy and biomechanics of the Cervical spine**

The aim of this module is to provide the student with comprehensive knowledge of the relevant anatomy and biomechanics of the cervical spine. Another aim of the module is to show that biomechanics and anatomy of the cervical spine have been adapted to serve the functional roles of the region. When they fail due to trauma, degeneration or simply through the normal aging process painful syndromes result.

### **Learning outcomes**

- Describe the gross anatomy of the spine in whole and the cervical spine in particular.
- Recognize the osseous, neural and muscular element of the cervical spine
- Understand the normal biomechanics of the cervical spine
- Describe the role of the cervical spine and how anatomy and biomechanics have been adapted to serve these roles
- Understand the relationship between poor breathing pattern and some neck pain disorders

### **Brief description of Module content**

- Anatomy and functional role of the spinal column
- Anatomy and functional role of the cervical spine
- Osseous anatomy of the cervical spine
- Muscular anatomy of the cervical spine
- Interrelation with other regions of the spine

- Neural anatomy of the cervical spine
- Breathing and cervical spine disorders

### **Assessment method**

Anatomy and Biomechanics of the Cx spine quiz

### **Module 3 - Neck pain: differential diagnoses, symptoms and treatment.**

The aim of this module is to provide the student with an understanding of the symptoms and differential diagnoses of patients with neck pain. In addition to this, students will learn the relevant concepts on treatment for neck pain and they will be introduced to the relevant clinical research in the field. The ultimate goal of the module is to make student able to identify the limitations that a neck pain patient has when an exercise program is provided.

### **Learning outcomes**

- Understand the basic anatomy of the cervical spine
- Recognize the most commonly used treatment methods for neck pain
- Understand what is the role of physical therapy in the context of neck pain
- Describe the most important features of the most common diagnoses in the cervical spine

### **Brief description of Module content**

- Basic Anatomy of the cervical spine
- Conservative treatment or surgery
- The role of physical therapy with or without surgery
- Presentation of other treatment methods
- Surgical treatment of degenerative diseases and injuries of the cervical spine
- Differential diagnoses of neck pain

### **Assessment method**

Neck pain diagnosis, symptoms and treatment quiz.

### **Module 4 - Concepts of exercise therapy for neck pain**

The aim of this module is to provide the student with an understanding of the functional dysfunctions in the cervical spine and cervical muscles of patients with neck pain. In addition to this students will learn the relevant concepts of exercise therapy for neck pain and they will be introduced to the relevant clinical research in the field. The ultimate goal of the module is to make student able to

identify the relevant type of exercise they need to prescribe to office workers with neck discomfort and to be able to justify this prescription based on the most up to date scientific evidence.

### **Learning outcomes**

- Understand the epidemiology of neck pain.
- Recognize the most commonly used diagnostic labels for neck pain
- Understand what is mechanical neck pain
- Describe the most important features of the most common dysfunctions of the cervical spine
- Identify the most common muscular changes due to neck pain
- Comprehend the clinical evidence supporting the use of exercise for neck pain and discomfort

### **Brief description of Module content**

- Epidemiology and magnitude of the neck pain problem
- Most common diagnostic labels of neck pain
- Mechanical neck pain
- Clinical presentation of the cervical dysfunction
- Muscular changes in neck patients
- Clinical evidence for the use of exercise for neck pain

### **Assessment method**

Short multiple choice quiz

### **Module 5 - Coping strategies for Musculoskeletal Pain at Work place.**

The aim of this module is to analyze the most frequent used coping strategies to prevent-, reduce- or change perception of musculoskeletal pain. The topic of this module is Stress-Management training; both theoretically and practically (i.e breathing, relaxation and mental imagery techniques). Finally, the students will learn how to use relaxation and mental training techniques to prevent and/or reduce pain and health problems.

### **Learning outcomes**

- Recognize stress symptoms and understand the positive and negative psychophysiology of stress and coping
- Understand the connection between brain and body – how positive thinking interact pain, behavioral- and cognitive change
- Know how to train breathing and relaxation exercises to people with musculoskeletal pain

- Understand the concept of Cognitive behavioural training techniques; mental training
- Know how to use imagery and inner dialog to people with musculoskeletal pain
- Assess and observe active and passive/emotional coping patterns in people with musculoskeletal pain
- Know and understand how to train active problem solving in people with musculoskeletal pain
- Conduct combined therapeutic exercise and cognitive coping strategies to reduce pain in people with musculoskeletal pain.

### **Brief description of Module content**

- What is stress and coping? A presentation of current stress theories (CATS Ursin & Eriksen 2004).
- What is coping?
- The psychobiological foundation, allostasis and allostatic load related to stress and disease.
- What is Stress Management?
- What is health promotion? The concept of Sense of coherence (SOC)(Antonofsky 1985).
- Adapted breathing and relaxation exercises in people with musculoskeletal pain
- Adapted mental training: imagery, inner dialog in people with musculoskeletal pain

### **Assessment method**

Intermediate control tests with written assessment of cognitive appraisal

### **Module 6 - Development of THEWS protocol**

The aim of this module is to develop the therapeutic exercise protocol (THEWS) step by step, in order to be applicable to office employees with chronic neck pain. First, the aetiology of the chronic neck pain and its symptoms (pain, tight neck muscles, stiff joints) in office workers will be discussed. Then, the torso muscle function in healthy individuals and individuals with neck pain will be analyzed. Finally, the THEWS protocol will be designed, which consists of specific exercises based on the previous knowledge.

### **Learning outcomes**

- Know that the neck pain is a common occupational disease in the European Union.
- Understand the neck pain and its relation to office employees.
- Understand the etiology of the chronic neck pain in office employees.
- Know the symptoms of the chronic neck pain.

- Understand the different types of neck pain and its relation to spine column and torso muscle function.
- Know how the neck pain was managed the previous decades.
- Understand the torso muscle and the dynamic spine stabilization function

### **Brief description of Module content**

- Neck pain as a common occupational disease in the European Union.
- Definition of neck pain and its relation to office employees.
- The etiology of neck pain in office employees.
- The symptoms of the chronic neck pain.
- Types of neck pain and its relation to spine column and torso muscle function.
- How the neck pain was managed the previous decades.
- Torso muscle and dynamic spine stabilization function

### **Assessment method**

Written assessment via a multiple choice quiz

### **Module 7 - Application of THEWS protocol to office employees**

The aim of this module is to apply the therapeutic exercise protocol (THEWS) to office employees with chronic neck pain. First, the choice and subsequently the application of the exercises to individuals with neck pain will be analyzed. Then, the progression of the program based on patient's symptoms will be designed. Finally, a combination of various exercises will be arranged.

### **Learning outcomes**

- Know the local spine stability muscles and to understand their function and their activation.
- Know the global spine mobility muscles and to understand their function and their activation.
- Select the proper exercise to activate the Local Muscle System.
- Arrange the exercises order for neck pain employee's therapeutic program.
- Understand the progression of therapeutic exercise programs.
- Apply the exercises to individuals with neck pain.
- Know how to manage the neck pain to office employees in work space

### **Brief description of Module content**

- The Local Stability Muscles: Function and activation.

- Global Mobility Muscles: Function and activation.
- Local Muscle System Dysfunction.
- Selection of the proper exercise with Local Muscle System Dysfunction.
- Arrange the exercises' order for neck pain employee's therapeutic program.
- Application of the exercises to individuals with neck pain.
- Progression of therapeutic exercise programs.

### **Assessment method**

Written assessment via a multiple choice quiz

### **Module 8 - Incorporating the THEWS protocol into the Health Program of Companies.**

The aim of this module is to present the Norwegian HES/HMS model. (i.e which laws and rules are regulating the corporate health intervention "market"). The topic in this module includes marketing, strategic analysis, presentations /information and implementation of THEWS. The students will learn how to sell, implement, conduct/manage and evaluate the THEWS program.

### **Learning outcomes**

- Incorporate THEWS protocol into the health program of companies.

### **Brief description of Module content**

- The Norwegian HES (HMS) model.
- What is the legal Act (Work Environment Act) and Internal Control Regulation
- Responsibilities, rights and obligations for managers, employees and their representatives.
- Marketing THEWS for the management – finding the right contact in to the company.
- Information and implementation.
- Goals and objectives: for the company (cost and productivity) and the individual (less pain, quality of life). Long term – short term
- Project management.
- Evaluation

### **Assessment method**

Written assessment via a multiple choice quiz

### **4. Distance learning**

The distance learning component of the program is approximately 4 months. Each month the relevant literature is sent to the students along with one written assignment. Students must read the relevant articles and complete the assignment which should reflect the knowledge acquired through the

literature. The fourth assignment is a scenario based assignment. Students should work collectively to design and present a complete interventional program based on the principles of the THEWS program. They should be able to use pictures, multimedia files, powerpoint presentations and anything else that is deemed necessary to facilitate adherence of the patient to the intervention program. In addition the program should contain exercises for the desk, self-management techniques, stress management and relaxation techniques and everything else included in the THEWS learning package. Scenario is based on a realistic presentation of an office employee with neck complains. All the reading material and the assignments should be uploaded in the platform by the lecturer. Students should be able to log into the platform and access the material. Once the complete the assignments they should upload them in the platform for the lecturer to assess and provide feedback.

## 5. Graduate Attributes

In addition to developing professional expertise and knowledge, we also expect the learners to acquire a range of generic attributes which will help them in many ways in their future careers and lives. The links between the Graduate Attributes and the module content are shown below:

Graduate Attributes	Links to module content
<p><b>Professionalism, employability and enterprise</b></p> <p>THEWS promotes professional integrity and provides opportunities to develop the skills of communication, independent and team working, problem solving and creativity.</p>	<p>Modules 2, 3, 4 effective communication of the problem, relevant research</p> <p>Modules 1, 5, 7,8 professional integrity, skilful delivery, problem solving</p> <p>Assignment 4 of the distance learning component, team working</p> <p>Assignments 1-3 of the distance learning, professional independence</p>
<p><b>Learning and research skills</b></p> <p>Program fosters intellectual curiosity and provides opportunities to develop effective learning and research abilities.</p>	<p>Distance learning part of the program.</p>

## 6. Academic Integrity and Plagiarism

All the work the learner that will produce is expected to be his own, original work not copied from anyone or anywhere else. If the learners want to draw from the work of others on the work of others they must acknowledge the source correctly. Failure to do so is considered academic misconduct.

## Suggested methodology of teaching THEWS in 13 academic weeks

Academic week	In the classroom	Homework and assignments
1 <sup>st</sup>	Orientation- explanation of aims and learning outcomes of THEWS curriculum. Health Intervention Programs at the worksite (Module 1)	Homework: Case study work- group discussion
2 <sup>nd</sup>	Main elements of Functional anatomy and Biomechanics of cervical spine (Module 2)	Study the power point presentation and relevant literature
3 <sup>rd</sup>	Neck pain, differential diagnosis, symptoms and treatment – clinical approach (Module 3)	Study the power point presentation and relevant literature
4 <sup>th</sup>	Literature review of Current concepts of exercise for prevention and rehabilitation of neck pain (Module 4)	1 <sup>st</sup> assignment of the online teaching period Study the power point presentation and relevant literature
5 <sup>th</sup>	Stress and Coping – Mind and Body (Module 5)	Practice in groups (breathing) Study the power point presentation and relevant literature
6 <sup>th</sup>	Coping strategies Practical breathing and stress management techniques)	Practice in groups (bodyscanning)
7 <sup>th</sup>	Development of THEWS protocol (Module 6)	2 <sup>nd</sup> assignment of the online teaching period
8 <sup>th</sup>	3 <sup>rd</sup> assignment of the online teaching period/Trainers' presentation	Study the power point presentation and relevant literature
10 <sup>th</sup>	Application of THEWS protocol to office employees (Module 7)	Preparation for presentation of THEWS protocol's exercises in the classroom by the students
11 <sup>th</sup>	Presentation of THEWS protocol's exercises by the students in the classroom.	Study the power point presentation and relevant literature
12 <sup>th</sup>	Final practical of exercise protocol, breathing and relaxation combined	4 <sup>th</sup> assignment of the online teaching period
13 <sup>th</sup>	Incorporating THEWS into the Health Program of companies (Module 8)	Preparation for the exams!