

**Place:** Discipline of Physiotherapy, Trinity Centre for Health Sciences, James St, Dublin 8  
**Time:** Friday 3<sup>rd</sup> of November 03:00pm-08:00 pm and Saturday 4<sup>th</sup> of November 08:00am-05:00pm  
**Course fee:** Euro 290,- including coffee breaks, a Theory Manual, The MIRROR Book, Three posters (70x50cm), Three Animations about pain, Storyboards and more.  
**Book a space:** [www.holteninstitute.co.uk](http://www.holteninstitute.co.uk) , contact person at TCD, Cillin Condon, cell: 087 9481044, e-mail: CONDONC@tcd.ie

A red thread about pain:

Theory manual

The poster physiology of pain

## Two-day course

# THE PSYCHOLOGY & PHYSIOLOGY OF PAIN

## and physical activity for the modulation of pain

Holten Institute wishes you welcome to a two-day course in how you better communicate about pain.

### The course will give you knowledge that:

- The brain interprets physical and psychological pain in basically the same brain areas.
- Thoughts and feelings can either increase or decrease a pain experience.
- Pain is a homeostatic emotion.
- Pain is for many negative stress.
- Physical activity is positive stress.
- Long-term pain affects your hormonal system negatively through an imbalance of the endocrine system. This can result in central sensitization.
- Not inflammation as an explanation of pain but loading allodynia.
- We do not have pain receptors we have nociceptors.
- You have to open your chemist shop in your brain to get control of your pain and other symptoms.
- Regular physical activity prevents sensitization of the central nervous system

### The chemist shop in your brain:



In your brain you have a chemist shop you must open to get control over your pain – pain is a homeostatic feeling.

# COURSE MATERIAL

1. **Theory manual**
2. **Three posters**
3. **Storyboards**

## THEORY MANUAL

The theory manual contains all my presentations during the two-day course. Knowledge from different sciences like psychology, physiology, neurophysiology, psychoneuroimmunology (PNI) and exercise therapy is covered in the course.

The theory manual is a source of knowledge so that you get safe and basic understanding of the different aspects of pain and how exercise therapy works to modulate a pain experience. The theory manual covers also both the theoretical basis and how to apply stroking, tactile massage, observing your breathing and body scanning to modulate pain. Pain is a homeostatic emotion.

## THREE POSTERS

The patient looks at the poster. You ask the patient: Look at the drawings at the poster. What thoughts and feelings do you experience? Do you recognize yourself in the drawings. You are not supposed to explain, only observe. If the patient recognize her/himself and starts to talk about what she/he sees in the poster you can ask open ended questions. The result is that both you and the patient get a deeper understanding of how thoughts, feelings and behaviour can either increase or decrease pain. Pain is a homeostatic emotion.

## STORYBOARDS

A storyboard is a story about pain. The story is told through drawn pictures, in most cases six drawn pictures on a A3 size paper sheet. You can frame the story board and put it on the wall bringing your patients to the storyboard where the patients looks at the drawn pictures. The story will help your patient getting a deeper understanding why pain is a homestatic emotion and how psychological factors can increase or decrease a pain experience. Pain is a result of chemical reactions in different brain areas. Pain is an output of the brain related to survival mechanims.

## THE MIRROR BOOK

Let us say that you are a patient. You look at the drawn picture on the left page to see if you recognize yourself in the drawing. Then, read the text on the opposite page explaining the drawing. Write down the answers to the questions at the end of the text. The drawings, the text and your answers is

a start to increase your understanding of how your thoughts, your attitudes and your behavior is affected by your pain experience and other symptoms. The MIRROR book is not a part of the course material but can be purchased from Holten Institute.

## ANIMATIONS

With the drawn pictures we have made three different animations.

1. **physiology of pain - time 6minutes and 28 seconds**
2. **psychology of pain - time 7 minutes and 11 seconds)**
3. **Exercise for the modulation of pain – time 11 minutes and 47 seconds.**

The animations is a way for you and your patient to get a quick and simple overview of what pain is. You can have a preview of the animations at Tom Arild Torstensen at YouTube: [https://www.youtube.com/watch?v=\\_j18sumJ\\_zY&t=64s](https://www.youtube.com/watch?v=_j18sumJ_zY&t=64s)

The animations are today available in English, Spanish, Norwegian and Swedish.

# PROGRAM

## DAY 1 – 03:00 m to 08:00 pm Friday 3<sup>rd</sup> of November 2023

03:00 - 03:15 Goals of the course.

03:15 - 04:30 What is the consequence for your clinical reasoning (assessment and treatment) that we do not have pain receptors but nociceptors? What is sensitization? What is allodynia? What is hyperalgesia? The body's receptor systems. Pain psychology and physiology. Storyboards. Clinical examples.

04:30 - 05:00 Coffee/thee/fruit/break

05:00 - 06:00 How a person's thoughts and feelings can increase or decrease pain. How your communication can influence the patients thoughts and feelings affecting pain. Listening as a treatment modality. Clinical examples.

06:00 - 06:05 Leg stretch

06:05 - 07:00 The effects of stress on breathing. How breathing, anxiety, depression and pain is interconnected. Observing your breathing for the modulation of pain. Body scanning. Mirroring thoughts and feelings. The bodys pain modulating systems. Clinical examples.

07:00 - 08:00 How to start listening. Practical use of the three posters.

1. **Physiology of pain,**
2. **Psychology of pain,**
3. **Exercise for the modulation of pain poster.**

Pain psychology and physiology. Clinical examples.

Stroking and tactile massage for the modulation of pain. Pain psychology and physiology. The body's pain modulating systems. Clinical examples.

#### DAY 2 – 08:00 am to 5:00 pm Saturday 4th of November 2023

08:00 - 09:30 Exercise for the modulation of pain. What is the effect of exercise on psychological and physiological variables related to pain. The "Chemist Shop" in the brain. The body's pain modulating systems. Clinical examples.

09:30 - 10:00 Coffee/thee/fruit/break

10:00 - 11:05 Catastrophizing – rumination, magnification and helplessness and pain. How anxiety can be turned into pain.

11:00 - 11:05 Leg stretch

11:05 - 12:00 The chapter in the MIRROR BOOK – Exercise for the modulation of pain. How to use the poster – Exercise for the Modulation of Pain. Clinical examples.

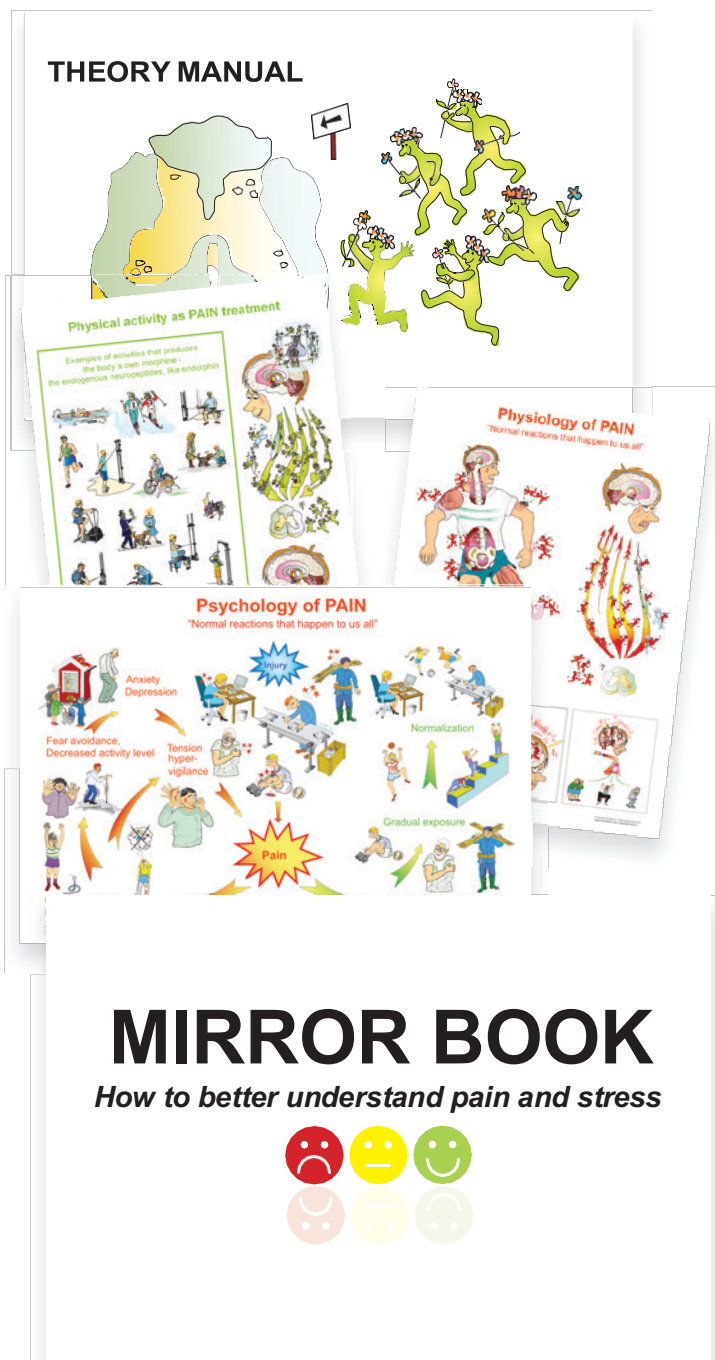
12.00 - 1.00 Lunch

01:00 - 2:30 Exercise with or without pain. Painful exercises and hyperalgesia versus pain-free exercises and hypoalgesia. If the patient has to exercise with pain how much pain is acceptable. Expectation mechanisms, placebo versus nocebo.

02.30 - 3.00 Coffee/thee/fruit/break

03:00 - 4:00 Overactivation (Endurance behavior) versus under activation (Fear of movement). Clinical examples.

04:00 - 5:00 Did the course satisfy your expectations? How can you integrate Cognitive Rehabilitation Therapy (CRT) in your clinical work. Discussion.



UPPER picture: In the theory manual you will find all my presentations.  
MIDDLE picture: The posters THE PHYSIOLOGY OF PAIN, THE PSYCHOLOGY OF PAIN and EXERCISE FOR THE MODULATION OF PAIN (Scale 50cmx70cm).  
LOWER PICTURES: The MIRROR BOOK and A STORY BOARD

# AFTER THE COURSE

After the course you have a new tool in your therapeutic tool case helping your patients to a more effective pain treatment. It is very exciting and promising knowing that increased knowledge about pain is in itself pain treatment. With the POSTERS, the STORYBOARDS, THE ANIMATIONS and the MIRROR BOOK you can guide your patients to an improved understanding, with a deeper insight, in how thoughts, feelings and stress can either increase or decrease a pain experience. Pain is a homeostatic feeling.

The mirroring will give you an increased understanding that physical activity generally and medical exercise therapy specifically is excellent treatment for pain modulation. Increased knowledge about pain is a way to decrease it.

## To the point

With your new knowledge you can communicate much easier with your patients about different aspects of pain and stress. You will be able to communicate about the psychology and physiology of pain and how important physical activity is for pain modulation.

With your new knowledge you will become better assisting patients with complex pain problems. You will be able to apply cognitive techniques in your treatment such as exposure, mirroring and gradual graded exercise therapy like medical exercise therapy (MET).

With your new understanding of different explanatory models and treatments you can help your patients to better regulate their symptoms decreasing them.

With your new tools like the POSTERS, the STORYBOARDS, the ANIMATIONS and the MIRROR book you and your patient will better understand the patient's pain. Together you will be able to make a relevant plan choosing the most relevant treatments.

Finally increased knowledge about pain is a good way to decrease it. Pain is a homeostatic emotion.

## About Tom Arild Torstensen

Tom Arild is a Norwegian and has lived in Stockholm since 2009. He works clinically at Skultuna Fysioterapi ([www.skultunafysioterapi.se](http://www.skultunafysioterapi.se)). He is doing research at Karolinska Institutet ([www.ki.se](http://www.ki.se)) and is the coauthor of many papers from seven different clinical studies/ randomized controlled trials on the effectiveness of medical exercise therapy (MET). He is the owner and clinical director of Holten Institute organizing and running courses in MET and Cognitive Rehabilitation Therapy (CRT). After taking over Holten Institute in Oslo after Oddvar Holten when he retired in 1989, he has further developed MET from a biomedical to a biopsychosocial sensitization model of pain.



During the late 2000 he started to develop CRT which is based on communication about pain using drawn pictures, posters, storyboards, animations and the MIRROR book. The whole idea is NOT to explain pain but to use the drawn pictures and other material for patients to recognize her/himself. The recognizing usually makes the patients start to talk about his/her pain. CRT use cognitive models with a humoristic twist to better understand complicated pain physiology and pain psychology and how physical activity works as pain modulation.

A fundamental element in CRT is to understand that pain is a homeostatic emotion and how different psychological factors can either increase or decrease the pain experience. CRT can easily be integrated in your daily work.

Tom Arild got his degree in physiotherapy at Ulster University in Belfast in Northern Ireland in 1983 (4-year B.Sc degree with Honours). He has a Cand.Scient in physiotherapy (advanced M.Sc degree) from the University of Bergen in Norway. He has been teaching MET and CRT in Europe and North America for more than 30 years and in Korea since 2012. He has over the years published results from seven different randomized trials on the effectiveness of high repetition high dose medical exercise therapy. He has written books, book chapters, and theoretical articles for national and international peer reviewed journals. He is presenting regularly at national and international conferences.