

## Osteoarthritis-related pain: Balancing Biomechanics with Pain Neuroscience

Lennard Voogt<sup>1,2,3</sup>, Enrique Lluch<sup>1,4</sup>, Lotte Meert<sup>1,5</sup>, Isabel Baert<sup>1,5</sup>

<sup>1</sup> Pain in Motion International Research Group

<sup>2</sup> Department of Physiotherapy, University Applied Sciences, Rotterdam, the Netherlands

<sup>3</sup> Department of Physiotherapy, Human Physiology and Anatomy, Faculty of Physical Education & Physiotherapy, Vrije Universiteit Brussel, Belgium

<sup>4</sup> Department of Physical Therapy, University of Valencia, Valencia, Spain

<sup>5</sup> Department of Rehabilitation Sciences and Physiotherapy, Faculty of Medicine and Health Sciences, University of Antwerp, Antwerp, Belgium

### Learning objectives

Upon completion of this course, attendees will:

- Have knowledge and insight into the current biomechanical and pain-related neuroscientific dimensions of osteoarthritis (mainly knee and hip osteoarthritis).
- be able to recognize osteoarthritis patients whose local problems (in muscles and joints) no longer dominate the clinical symptoms of the patient, because the central nervous system is hypersensitive.
- Learn to treat patients with osteoarthritis (balancing hands-on and hands-off interventions), according to their clinical classification.

The price of the total program including lunch and drinks:

### Content of the program

Recent findings show that osteoarthritis (OA) is not always just a joint problem, as a dysfunction of the central nervous system may also be present. Traditional understanding of OA-related pain has recently indeed been challenged in light of evidence supporting a key role for central sensitization in a subgroup of this population<sup>1</sup>. This fact may erroneously lead physical therapists to conclude that hands-on interventions have no place in OA management, and that hands-off interventions must be applied exclusively<sup>2</sup>.

In this course we will teach how to integrate current biomechanical and pain neuroscience insights in OA in daily clinical practice.

We will unravel the interactions between muscles, joints and the central nervous system in OA and show the evidence for their role in OA prognosis<sup>3,4,5</sup>.

We will also teach how both components (peripheral and central) can be assessed in clinical practice and how they can be approached during a comprehensive integrative treatment program, including education, exercise therapy and manual therapy<sup>2,6,7,8,9,11</sup>.

Recognition of subsets of OA patients with different clinical manifestations and pain mechanisms will be addressed in order to tailor applied interventions and thus improve outcome<sup>10</sup>. Depending on the subgroup classification of the patient a different balance between hands-on and hands-off treatment will be offered and the format of the exercise regimen will vary<sup>2,8</sup>.

The aim of this course is to present a sound scientific rationale and practical guidelines for the application of a comprehensive physical therapy approach in patients with OA-related pain. Physical therapists may find some practical problems when combining biomechanical approaches with more brain targeted approaches in a clinical setting, especially in a specific population like OA, where

patients are often a bit older and tend to stick with pure biomechanical illness perceptions in line with the earlier understanding of OA. We will provide a rationale and tips and tricks to target the brain without ignoring the joints in patients with OA.

### Program

10 min	Introduction (IB)
45 min	Osteoarthritis-related pain from a biomedical point of view (IB)
45 min	Role of central sensitization in osteoarthritis-related pain (LV)
45 min	Interaction between peripheral and central factors in the clinical manifestation and prognosis of osteoarthritis (IB)
45 min	Comprehensive assessment and classification of patients with osteoarthritis (EL)
45 min	Skills training clinical reasoning (EL & LV)
180 min	Patient Centered Health Care: balancing hands-on with hands-off approaches A. Pain education tailored for subgroups of patients with OA (LM) B. Patient-tailored exercise therapy (LV) C. Integrating manual therapy, exercises and education (EL)
45 min	Skills training combining exercises with education (IB & LM)

### Intended audience

Clinicians (physical, manual, exercise therapists) working in primary setting or in rehabilitation/geriatric centers or hospitals, treating patients with OA pain.

### Key references

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6. Nijs J, Malfliet A, Ickmans K, Baert I, Meeus M. Treatment of central sensitization in patients with 'unexplained' chronic pain: an update. *Expert Opin Pharmacother*. 2014 Aug;15(12):1671-83.
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11. Lluch E, Nijs J, Courtney CA, Rebbeck T, Wylde V, Baert I, Wideman TH, Howells N, Skou ST. Clinical descriptors for the recognition of central sensitization pain in patients with knee osteoarthritis. *Disabil Rehabil*. 2017 Aug 2:1-10.