

## Pain: Translating Neuroscience into Clinical Practice

**Names and qualifications of tutors** (delivered by one of the following tutors or both if more than 25 delegates attend):

Dr Niamh Moloney PhD, MManipTh, BPhysio (Hons), MISCP

Dr Martin Rabey PhD, FACP, MManipTh, BSc(Hons)Physio, MCSP

**Course length:** 1 full day

**Course Outline:** This workshop will deepen clinicians' understanding of pain neuroscience in order to clarify more complex patient presentations and facilitate refinement of clinical assessments, and application of more appropriate and effective interventions.

**Style of teaching:** Combination of didactic lectures, case based learning and short practical & interactive sessions aimed at improving clinical integration of content.

**NB This course can be delivered by either one of the above tutors to the same standard unless there are over 25 delegates in which case both Tutors will attend.**

### **Aims:**

1. Improve participant's knowledge of pain neurophysiology relevant for physiotherapists including: nociception and inflammation, pain modulation and neuro-endocrine-immune system responses
2. Using interactive tasks and clinical scenarios, explore how these physiological processes relate to patient presentations and influence clinical decision making (assessment and treatment)

### **Learning Objectives:**

At the end of this workshop participants will:

1. Understand the neurophysiological processes, and clinical features of nociception, central sensitization and inhibition
2. Be able to perform physical assessments for pain sensitization and descending pain modulation
3. Understand the evidence for investigating psychological contributions to pain and how these factors impact on pain sensitization and descending pain modulation

4. Be able to identify psychological contributions to pain within clinical case studies, and be aware of strategies to address these factors
5. Understand interactions between neural, endocrine and immune system with respect to pain, and the evidence for multidimensional profiles in patient populations
6. Be able to interpret models of pain (specifically Inputs/Outputs and Allostasis models) that consider multiple dimensions and explain clinical findings to a patient within the context of these models .

### **Biographies:**

**Dr Niamh Moloney** is a Musculoskeletal Physiotherapist who combines over 20 years of clinical and academic experience. She completed her Master of Manipulative Therapy (Curtin University) in 2003. Her PhD (2012) investigated pain and sensory profiles in people with neck and arm pain, with her subsequent research focusing on assessment of pain profiles and its impact on prognosis and treatment response. In her research and clinical practice she has applied these approaches to a number of musculoskeletal conditions as well as pain following breast cancer treatment.

She has over 60 peer-reviewed publications and has presented her research widely at national and international conferences, including as an invited speaker. She has taught in the area of pain and musculoskeletal physiotherapy since 2005 holding positions at the University of Sydney (Lecturer, 2012-2014) and Macquarie University, Sydney (Senior Lecturer (2015-2016), currently Honorary Fellow) and contributing to the Neuromusculoskeletal Masters, University College Dublin (2005-2011 & 2017). She is co-author of the textbook *Pain Science-Yoga-Life*.

**Dr Martin Rabey** is a Specialist Musculoskeletal Physiotherapist and Fellow of the Australian College of Physiotherapists. He completed his Master of Manipulative Therapy (Curtin University) in 2000 and was awarded Fellowship of the Australian College of Physiotherapists in 2009. His PhD (2016), completed at Curtin University in Perth, explored the complex interactions between multiple dimensions (pain sensitivity, psychological, health and lifestyle, movement, behaviour, demographics, socioeconomics) associated with persistent low back pain. Following this, he was part of a team researching novel interventions for persistent low back pain at Neuroscience Research Australia.

He has over 25 peer-reviewed publications and has presented his research widely at national and international conferences. He has been as a clinical mentor for musculoskeletal Masters degrees in both the UK and Australia and as a mock examiner for the Australian College of Physiotherapists Fellowship training scheme. While in Perth Martin taught on the Bachelor of Science (Physiotherapy), Master of Clinical Physiotherapy (Manipulative Therapy and Sports Physiotherapy majors) and Doctor of Clinical Physiotherapy degree programmes at Curtin University. He has been teaching short courses to clinicians on numerous topics, including pain physiology, since 2001. He has recently returned to clinical practice in Guernsey in the Channel Islands where he grew up. His ongoing research revolves around the examination and management of chronic pain disorders.

**NB This course can be delivered by either one of the above tutors to the same standard unless there are over 25 delegates in which case both Tutors will attend.**

**Course Programme:**

Time	Session	Description
8.45	Registration	
9:00 - 11:00	Pain processes in the peripheral nervous system and spinal cord: from nociception to central sensitization	Lecture. Clinical case for interactive discussion & clinical reasoning. Short practical session on assessment of pain sensitisation (allodynia, mechanical and cold hyperalgesia, temporal summation).
Break		
11:15 - 1:15	Pain and the brain: from the neuromatrix to descending pain modulation. <ul style="list-style-type: none"> <li>• Examination of cognitive-emotional factors on pain modulation</li> <li>• The place for psychologically informed physiotherapy</li> </ul>	Lecture. Clinical case for interactive discussion & clinical reasoning. Short practical session assessing descending pain modulation or exercise induced analgesia.
Lunch		
2:15- 4:15	Pulling it together: current models of pain and how multiple systems integrate	Lecture. Three clinical cases for interactive discussion & clinical reasoning. Practice of explaining pain contributions based on Inputs/Outputs and Allostasis models.
4:15- 5:00	Question and Answer	

**Information for venues:**

The cost for the participant will be:

£120 for MACP members

£150 for non-members

This is the cost for 2021 and will be reviewed annually.

There is one free space available to whoever organises the course locally. In addition, one further free space will be offered if more than 30 delegates book onto the course.

If a venue fee is incurred the minimum number of people required to run the course may increase. The minimum number of delegates required to qualify for an additional free place will also increase.

The course requires a minimum of 20 bookings to enable the MACP to cover expenses and will be cancelled 6 weeks prior to the commencement of the course if this number has not been reached.

If the course requires air travel (outside England) for the lecturers the prices quoted / number of bookings required will need to be adjusted to reflect the additional costs.

**What the MACP Provides:**

- Tutors for delivering the courses
- Pays the accommodation for the tutor(s).
- Pays tutors(s) travel.
- Administers the course, taking all bookings and sending all applicants pre- course information.
- £3 per person / day to cover refreshments (tea/coffee/biscuits etc).
- Advertising in: MACP website and social media sites, MACP newsletters.
- One copy of a flyer that you may use to circulate and advertise the course.
- A list of names of those who have booked prior to the course for registration.
- CPD certificates (online).

**You will need to provide:**

- A large room that will seat 45 people for the main body of the lecture.
- AV equipment (data projector). Plus access to plugs as workbooks are electronic.
- Static bike; Step; Ice; Toothpicks or medipins; Cotton wool; Basin for ice water bath;
- (Some weights – optional)
- Provide us with local information re directions how to get to venue, parking, local accommodation list
- Someone to work on local promotion (including SoMe) to help to ensure that at 6 weeks before the course, the minimum numbers of places are booked onto the course.
- Someone on the on the day to deal with local venue organization (AV, putting up signs, providing refreshments, information about where to get lunch, registering delegates, locking up, this may also include picking up or dropping off tutors from their hotel; taking pictures on the day for SoMe)
- Refreshments as appropriate (to be reimbursed by MACP on production of original receipts – up to £3 per day per person)

	<b>Learning Outcome (LO)</b>	<b>Delivery Method (S)</b> Study Day- Course	<b>MSK CCF<sup>^</sup></b>	<b>IFOMPT Dimension of OMT<sup>#</sup></b>
1.	Understand the neurophysiological processes, and clinical features of nociception, central sensitization and inhibition	Interactive Lectures Clinical reasoning of case Practical sessions Course readings	B3, B4, B5	D2.1, D2.2 D3.1 D4.2 D5.1
2.	Competently perform physical assessments for nervous system sensitization, descending pain modulation and exercise induced hypoalgesia	Practical sessions Live/Video demonstrations Course readings	B3, B4, B5 C6, C7, C12, C13	D2.3 D3.1, D5.1, D5.2, D5.3 D8.1
3.	Critically interpret results of physical assessments for nervous system sensitization, descending pain modulation and exercise induced hypoalgesia	Practical session discussion Clinical reasoning of cases including reflective task Course readings	B3, B4, B5 C6, C7, C12, C13	D2.3 D3.1, D3.2 D4.2 D5.1, D5.2 D8.1
4.	Critically appraise the evidence for the presence of nervous system sensitization and altered descending pain modulation and exercise induced hyperalgesia in musculoskeletal pain populations, its role in predicting outcomes and influencing treatments responses	Interactive Lectures Course readings	B3, B4, B5 C6, C7, C12, C13	D1.1 D2.5 D3.2, D3.3, D3.4 D5.1
5.	Critically appraise the evidence for investigating psychological contributions to pain and how these factors impact on nervous system sensitization and descending pain modulation	Interactive Lectures Course readings	B3, B4, B5 C6, C7, C12, C13	D1.1 D3.2 D4.2, D4.3 D5.1

6.	Identify psychological contributions to pain within clinical case studies, and be aware of strategies to address these factors	Clinical reasoning of case Interactive Lectures Course readings	B3, B4, B5 C6, C7, C12, C13	D3.2 D4.4 D5.1, D5.2 D8.1
7.	Understand interactions between neural, endocrine and immune system with respect to pain, and the evidence for multidimensional profiles in patient populations	Interactive Lectures Course readings	B3, B4, B5 C6, C7, C12, C13	D1.1 D2.1, D2.5 D3.1 D4.2, D4.4
8.	Critically evaluate patient presentations, interpret clinical findings and plan appropriate management strategies based on multidimensional pain profiles	Clinical reasoning of cases	A1, A2 B3, B4, B5 C6, C7, C11, C12, C13	D2.3, D2.4, D2.5 D3.1, D3.2 D4.2 D5.4 D6.1, D6.2, D6.3, D6.4 D7.1 D8.4 D10.3, D10.4
9.	Competently interpret models of pain (specifically Inputs/Outputs and Allostasis models) that consider multiple dimensions	Interactive Lectures Clinical reasoning of cases Course readings Reflective Tasks	A1, A.2 B3, B4, B5 C6, C7, C12, C13	D2.1 D3.1 D4.2, D4.4 D7.1,
10.	Explain clinical findings based on a multidimensional patient assessment to a patient within the context of the models outlined in LO 9.	Clinical reasoning of case Interactive task and reflection/discussion Live and video demonstrations	A.1, A.2 B3, B4, B5 C6, C7, C11, C12, C13	D7.1, D7.3, D7.4

^: Mapped to First Contact Practitioners and Advanced Practitioners in Primary Care: (Musculoskeletal). A Roadmap to Practice. Accessed December, 2020

#: Mapped to IFOMPT Educational Standards in Orthopaedic Manipulative Therapy, 2016