

Chronic pediatric pain:

A contemporary pain science approach to rehabilitation

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Introduction

Many health professionals will recognize that working with people with chronic pain is a challenge. This is no different for children and adolescents with chronic pain. Chronic pain in children and adolescents is a prevalent problem with epidemiological data indicating approximately 30% of children experience pain persisting for 3 months or longer [1,2]. The most common pain complaints in children include headache, abdominal pain, and musculoskeletal pain including back pain [1]. The presence of chronic pain has a significant negative impact on functioning, with impairments across academic, social, and recreational domains, as well as family functioning [3]. Given that adequate treatment is not always easily available for children with persistent pain and their parents, this often means a long journey from one health professional to another, different examinations and sometimes even frequent and long-term use of pain medication. Nevertheless, contemporary scientific research on chronic pain gives us better insight into how pain originates and is sustained. This knowledge is of great importance for care providers who come in contact with children suffering from chronic pain and their parents.

Hence, taking into account the importance of patient-centered healthcare – including shared-decision making, it is imperative for health professionals to be able to provide patients and their family with meaningful, high-quality information and education [4]. Therefore, offering a child with chronic pain and its parents / family members a correct, scientifically substantiated and contemporary explanation for persistent pain is a crucial, but often forgotten and/or skipped, first step of treatment to prepare and prime children with chronic pain for biopsychosocial treatment parts. To facilitate this, we developed a pain (neuro)science education program for children (6-12 years old) and their parents (PNE4Kids).

Given that children with chronic pain often have significant problems with functioning (e.g., more school absenteeism and lower participation in daily, after-school, and family activities) contributing to lower quality of life, less physical fitness, and eventually more pain [5], pain (neuro)science education is typically followed by rehabilitation approaches focused on functional improvements across domains. Rehabilitation for pediatric chronic pain is typically based on learning theory and on the biopsychosocial model of pain, which accounts for the complex interplay of the biological, psychological, social, and environmental factors that contribute to and maintain pain symptoms and related disability.

Learning objectives

At the end of the course, participants will:

- ✓ be able to understand the complex interplay of biological, psychological, social, and environmental factors that contribute to and maintain pain and related disability in children;
- ✓ be able to understand the importance of providing pain (neuro)science education to children and their parents to prepare and prime them for biopsychosocial treatments;
- ✓ be able to provide pain (neuro)science education to children with chronic pain and their parents.
- ✓ become acquainted with the broad aspects of best-evidence rehabilitation for pediatric chronic pain.

Content

08.30 Introduction

09.15 Chronic pain: a matter of maladaptive changes in the mind, body & brain

11.15 Pain (Neuro)science Education: the foundation for patient's understanding of principles that guide biopsychosocial interventions for persistent pain

12.00 Lunch

13.00 Pain (Neuro)science Education for children (PNE4Kids) in clinical practice: demonstration and skills training

15.15 Pain (Neuro)science Education for children (PNE4Kids) in clinical practice: demonstration and skills training

15.45 Best-evidence rehabilitation for pediatric chronic pain

17.30 End of day

Educational modes

The course content will be delivered through a mixture of methods to optimize multi-faceted knowledge transfer, designed to address local barriers to knowledge translation, in line with the current best-evidence approach in improving evidence-based practice / clinical practice guideline uptake among therapists [6], including:

- interactive lectures
- demonstrations
- didactic sessions
- practical skills training:
- illustrations
- discussion and feedback sessions addressing clinical reasoning skills

Teachers

Dra. Emma Rheel

Emma Rheel obtained a Master's degree in Rehabilitation Sciences and Physiotherapy in 2017 at Ghent University. After her physiotherapy studies, she also completed the Specific Teacher's Training Program in Health Sciences at Ghent University. Her interest in working with and doing research about children evolved from several internships in various domains within the physiotherapy training and being active as a leader in the scouts for several years. In addition her master's thesis about the influence of electronic devices on the development of fine motor skills in preschoolers increased her interest in this matter. Since October 2018 she works as a doctoral researcher within the Pain in Motion research group and is affiliated to the Department of

Physiotherapy, Human Physiology and Anatomy of the Vrije Universiteit Brussel and the Ghent Health Psychology Lab of Ghent University. Her research focuses on the role of distraction, pain neuroscience education and the role of parents in understanding alterations of children's pain and fear memories in children with chronic pain.

Prof. Dr. Kelly Ickmans

Kelly Ickmans is part time Postdoctoral Research Fellow of the Research Foundation Flanders (FWO) appointed at the Vrije Universiteit Brussel (Brussels, Belgium) and part time Assistant Professor (ZAP) at the Vrije Universiteit Brussel. She is also an attending physiotherapist at the University Hospital Brussels (Brussels, Belgium) where she treats adults and children with chronic pain. Dr. Ickmans holds a PhD in Rehabilitation Sciences and Physiotherapy and is co-chair of the international Pain in Motion research group (www.paininmotion.be) where she leads the line of research on pediatric pain (PiM_{kids}). The group is internationally recognized for its work on hyperexcitability of the central nervous system (central sensitization) and Pain Neuroscience Education (PNE) in various chronic pain disorders.

Dr. Ickmans has (co-)authored over 65 peer-reviewed publications in international journals, including several papers in high impact journals. She has furthermore published 4 chapters in (inter)national handbooks, served several times as an invited speaker at national and international meetings in 8 different countries, gave several single and 2 day post-academic and refresher courses in different countries over the world, supervised 2 PhD projects to completion, and is currently (co-)supervisor of 8 PhD projects. Dr. Ickmans is on the Editorial Board of Journal of Clinical Medicine (SCI₂₀₁₈=5.688; 15/160 Medicine general & internal D1) and served as Guest Editor of the special issue 'Rehabilitation for Persistent Pain Across the Lifespan'.

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