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PhD in Social Health Sciences  
2021-2022

INVITATION to the Public defence of

**Eva HUYSMANS**

To obtain the academic degree of

**DOCTOR OF SOCIAL HEALTH SCIENCES**

**Perioperative pain neuroscience education:  
The missing link to decrease the socioeconomic  
burden of surgery for lumbar radiculopathy?**

The defence will take place on

**Wednesday, 13 October 2021 at 5 p.m.**

In Auditorium Piet Brouwer

Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

**ADMITTANCE:** due to Covid restrictions, please contact the PhD candidate if you want to attend the public defence in person.

and will be organised **online**  
via Zoom meeting, accessible through the following link:

[https://gf.vub.ac.be/redirects/PhD\\_defense\\_Eva\\_Huysmans.php](https://gf.vub.ac.be/redirects/PhD_defense_Eva_Huysmans.php)

## Summary of the dissertation

People with lumbar radiculopathy often require surgery to decompress the affected lumbar nerve. Despite of high anatomical success rates, 3-36% of people undergoing surgery for lumbar radiculopathy end up with persistent post-operative pain, which is related to high socioeconomic burden. Maladaptive pain cognitions are known modifiable risk factors for unfavorable surgical outcome and are suggested to be related with healthcare use. Therefore, interest in the perioperative application of interventions known to address maladaptive pain cognitions, such as pain neuroscience education, grew. The first aim of this PhD dissertation was to provide more insight on socioeconomic aspects of surgery for lumbar radiculopathy. Chapter 1 comprised a systematic review on return to work following surgery for lumbar radiculopathy. For Chapter 2, hospital claims data and minimal hospital data were combined to investigate (determinants of) hospital costs in people hospitalized for surgery for lumbar radiculopathy. The second part of this thesis focused on associations between cognitive and emotional factors and healthcare use in people experiencing pain in general (systematic review), and people with lumbar radiculopathy (explorative cross-sectional study). Subsequently, a treatment approach for perioperative pain neuroscience education in people undergoing surgery for lumbar radiculopathy was developed. Building further on the previous chapters, the last part reports on the clinical (randomized controlled trial) and cost-effectiveness (cost-utility analysis) of perioperative pain neuroscience education versus perioperative biomedical education in people undergoing surgery for lumbar radiculopathy.

## Curriculum Vitae

Eva Huysmans (born on January 12, 1990) graduated in 2015 as a Master of Science in Rehabilitation Sciences and Physiotherapy – option Internal Disorders at the Vrije Universiteit Brussel. In November 2015 she started working as a PhD researcher at the Vrije Universiteit Brussel where she is part of the Pain in Motion International Research Group and the Interuniversity Center for Health Economics Research (I-CHER). In 2018, Eva obtained a PhD fellowship grant from the Research Foundation Flanders (FWO). Since the start of her PhD, Eva (co-)authored 33 publications in peer-reviewed journals, co-authored a book on pain neuroscience education and presented her work at several national and international conferences. She also supervised 6 Master's theses to completion and is currently part of the PhD advisory commission of two researchers. Next to her scientific work, Eva gives guest lectures in the Bachelor of Science Rehabilitation Sciences and Physiotherapy, has been, or still is, a representative in several commissions and steering committees at the Vrije Universiteit Brussel and is the secretary and social media manager of the Pain in Motion International Research Group. On top of that, Eva works as a voluntary physiotherapist in the University Hospital Brussels where she treats patients with chronic pain. She also regularly gives lectures and courses for clinicians.