

# Evaluation of a structured physiotherapy treatment model for patients with lumbar disc herniation

Akademisk avhandling

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av

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- I Limbäck Svensson G., Lundberg M., Östgaard HC., and Kjellby Wendt G. (2011). High degree of kinesiophobia after lumbar disc herniation surgery. *Acta Orthopaedica*. 82, 732 – 736.
- II Limbäck Svensson G., Kjellby Wendt G., and Thomeé R. A structured physiotherapy treatment model can give rapid relief to patients who qualify for lumbar disc surgery. *Submitted*.
- III Limbäck Svensson G., Kjellby Wendt G., Thomeé R., and Danielson E. (2013). Patients' experience of health three years after structured physiotherapy or surgery for lumbar disc herniation. *Journal of Rehabilitation Medicine*. 45, 293 – 299.
- IV Limbäck Svensson G., Kjellby Wendt G., and Thomeé R. The occurrence of centralisation of pain after McKenzie therapy for patients with MRI-verified lumbar disc herniation and long-standing pain. *Submitted*.

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# Evaluation of a structured physiotherapy treatment model for patients with lumbar disc herniation

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Symptoms from lumbar disc herniation are common in the general population. Many discs heal spontaneously and the patient's symptoms cease. When people have severe pain and sciatica, the recommendation is to start with physiotherapy treatment and pain medication for at least six to eight weeks before surgery is considered. There is, however, limited evidence relating to the effects of physiotherapy treatment for patients diagnosed with lumbar disc herniation. One common management method for patients with low back pain and sciatica is Mechanical Diagnosis and Therapy (MDT) or the McKenzie method, which aims to eliminate or minimise pain. However, MDT is seldom recommended for patients with disc herniation with a ruptured outer annulus, as the method is not expected to be effective on these patients.

*The overall aim of this thesis* was to evaluate a structured physiotherapy treatment model for patients who qualified for lumbar disc surgery by having severe, long-standing pain and an MRI-verified lumbar disc herniation.

*Study I* evaluated fear-of-movement/kinesiophobia in patients who were treated surgically for lumbar disc herniation. *Study II* evaluated a structured physiotherapy treatment model in patients who qualified for lumbar disc surgery. *Study III* described the experience of health among patients three years after treatment with either structured physiotherapy or surgery. *Study IV* evaluated the occurrence of centralisation of pain in relation to the patients' disability, self-efficacy and kinesiophobia, after two weeks of McKenzie therapy.

*Study I* showed that, 10-34 months after surgery for disc herniation, half the patients were classified as having kinesiophobia. These patients were more disabled, had more pain, more catastrophising thoughts, more symptoms of depression, lower self-efficacy and poorer health-related quality of life than patients who were not classified as having kinesiophobia.

*Study II* showed that the patients had already improved significantly three months after the structured physiotherapy treatment model in all assessments: disability, leg and back pain, kinesiophobia, health-related quality of life, depression and self-efficacy. The improvement could still be seen at the two-year follow-up.

*Study III* showed that the patients, in the group treated with structured physiotherapy, expressed the most descriptions in feeling of well-being and they were physically active despite symptoms. In the group treated with surgery patients expressed more feeling of ill-being and were anxious and expressed that they avoided physical activity.

*Study IV* showed that 21 of the 41 patients were classified as centralisers after two weeks of structured physiotherapy treatment. These patients had significantly less disability, less leg and back pain, higher self-efficacy and less kinesiophobia three months after treatment was started, compared with non-centralisers. Both the centralisers and the non-centralisers improved statistically over time with regard to several parameters.

*The overall conclusion* from this thesis is that a structured physiotherapy treatment model for patients with pain and disability due to a lumbar disc herniation should be recommended before surgery is considered.

**Keywords:** Intervertebral disc displacement, rehabilitation, physical therapy modalities, qualitative research, surgery.