

2017 EUROSPINE TFR Pilot Study Grant (€ 29,765) Recipient: Ilona Punt

Lumbar spinal fusion: predicting functional recovery

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Why do you think the research you have been funded for is important?

Lumbar spinal fusion (LSF) for people with degenerative disorders of the lumbar spine has a success rate of slightly more than 50%. Although there is a continuing growth in the amount of patients undergoing LSF, little is done preoperatively to improve outcomes. To increase the low success rate of LSF, as a first step, we need to better identify those patients who will and those who will not benefit from undergoing LSF. By adding Physical Performance Measures (PPMs) to a traditional prediction rule, based on questionnaires and patient characteristics, we expect that we can better identify patients with a high and low



Image 1: from left to right: Dr. Paul Willems, Dr. Ilona Punt, Esther Janssen MSc, Prof. Dr. Nico van Meeteren

chance of success. Moreover, if physical performance is a predictive factor in this population, it might not only be the key to proper patient advice, selection and decision making, but also provide opportunity to optimise success chances of patients, for instance by preoperative training.

What do you think it will change for patients / the clinical outcome of the study?

The impact of including PPMs in preoperative risk prediction on clinical practice and patient functioning in this population will be twofold: On the one hand, improving clinical risk prediction accuracy increases knowledge of an individual's prognosis, which can empower the patient to engage in well informed shared decision making with the clinician and act upon this information. Ultimately, we hypothesise that this leads to better patient selection. On the other hand, understanding the predictive value of a patient's physical performance, as a risk factor for post-operative functional recovery, can substantially improve care. For example, high-risk patients showing lower levels of physical performance could be

offered interventions in order to lower their risks for worse surgical outcomes. As a consequence, the patient may be able to better withstand the serious impact of major surgery.

For your research group, does this mean that you will go further and will apply for further funding?

The here proposed project is bound to be part of the national programme named “*Better in, Better out*” (BIBO™), a programme focusing on discovery, development, and deployment of innovative perioperative care by allied health professionals. After implementation of the clinical prediction rule patients can be classified as being at high- or low-risk of worse outcomes. In order to decrease the risk of such outcomes the high-risk patients might profit of risk-altering preoperative interventions, a strategy that needs further investigating in this population. These kinds of interventions have already been shown to be beneficial in other surgical patient populations (joint arthroplasties, cardiac surgery) from our national BIBO™ network. Moreover, plans for implementing such an intervention are being developed. To implement these interventions, we will apply for further funding.

Do you think that the process of the application was smooth with EUROSPINE?

The application process for the EUROSPINE pilot grant was straightforward and all necessary information for writing a suitable and effective grant application was readily available on the website. The application guideline was clear and gave a structured format in which the grant application should be written. Moreover, the communication with EUROSPINE went smoothly, as for example the timeframe in which the application would be assessed, and the final outcome of the funding recommendation, was well communicated.