

# New study to revolutionise indications for knee surgery

December 27 2013

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This shows Dr. Raine Sihvonen performing arthroscopic knee surgery at the Hatanpää Hospital, Tampere. Credit: Anri Sormunen

Finnish researchers have shown that one of the most common surgical procedures in the Western world is unnecessary. Keyhole surgeries of the knee are useless for patients whose knee complaints are due to joint abnormalities associated with aging. The results of the FIDELITY trial have been published in the esteemed *New England Journal of Medicine*.

The Finnish Degenerative Meniscal Lesion Study (FIDELITY)

compared surgical treatment of degenerative meniscal tears to placebo surgery. A year after the procedure the study participants, both those in the group who underwent surgery and the ones in the placebo group, had an equally low incidence of symptoms and were satisfied with the overall situation of their [knee](#).

"These results show that surgery is not an effective form of treatment in such cases. It's difficult to imagine that such a clear result would result in no changes to treatment practices," state adjunct professor Teppo Järvinen from the University of Helsinki and the Helsinki University Central Hospital, and Raine Sihvonon, a specialist in orthopaedics and traumatology from Hatanpää Hospital in Tampere.

Knee problems – ones associated both with trauma and with aging – are highly common and place a significant burden on the health care system. The most common diagnosis of the knee that requires treatment is a tear in the meniscus, for which the established form of treatment is the partial removal of the meniscus through keyhole surgery (i.e., arthroscopy; a minimally invasive [surgical procedure](#) in which an examination and sometimes treatment of damage of the interior of a joint is performed using an arthroscope, a type of endoscope that is inserted into the joint through a small incision [Wikipedia]).

"This operation has become the most common orthopaedic surgical procedure, or in fact any surgical procedure next to cataract surgery, in nearly all Western countries. Nearly 12,000 partial meniscectomies are done in Finland every year. In the United States, the number is close to a million," explains Sihvonon.

Most of the treated meniscal tears are degenerative. This means that the tear was not caused by a traumatic incident on a healthy knee, but normal ageing.

Previous randomised studies have shown that keyhole surgery on the knee does not alleviate the symptoms of patients who suffer from osteoarthritis– whether the surgery would be for a meniscal tear or another complaint – and as a result, keyhole surgeries on arthritis sufferers have become less common. At the same time, however, the number of partial meniscectomies has increased significantly, even though proof of the impact of the surgery on the symptoms has been lacking.

The goal of the FIDELITY trial was to determine whether [keyhole surgery](#) to partially remove the meniscus (arthroscopic meniscal resection) is an effective form of treatment when the tear is caused by degeneration.

The study included 146 participants, ranging between 35 and 65 years of age. The study participants were randomly assigned to undergo either an arthroscopic partial meniscectomy or placebo surgery where the procedure was simulated. In the simulated procedure, the patient's knee was manipulated and instruments associated with meniscectomy brought to the outside of the knee, giving the patient an impression of a normal procedure. No one involved in the study (including the patients, the persons involved in their care after surgery, and the researchers who analysed the results) knew whether the patient was in the meniscectomy or placebo group.

A year after the surgery, the patients were asked about the healing of the knee, symptoms they had experienced, as well as their satisfaction with the treatment and its results. The patients were also asked which group they believed they had been in and whether they would be willing to choose the treatment they had received, if they had to make the same decision as they did in the previous year.

In both groups, most patients were satisfied with the status of their knee

and believed their knee felt better than before the procedure. Of the patients who underwent the partial meniscectomy, 93% would choose the same treatment, while 96% of those in the placebo group would choose the same.

"Based on these results, we should question the current line of treatment according to which patients with knee pain attributed to a degenerative meniscus tear are treated with partial removal of the meniscus, as it seems clear that instead of [surgery](#), the treatment of such [patients](#) should hinge on exercise and rehabilitation," Järvinen states.

"By ceasing the procedures which have proven ineffective, we would avoid performing 10,000 useless surgeries every year in Finland alone", Sihvonon points out. "The corresponding figure for US is at least 500,000 surgeries", he continues.

The study was published in the *New England Journal of Medicine* on 25 December 2013.

Provided by University of Helsinki

Citation: New study to revolutionise indications for knee surgery (2013, December 27) retrieved 25 April 2024 from

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