

Outcomes following primary total hip arthroplasty

With the focus on the surgeon & surgeons' perceptions of feedback

Akademisk avhandling

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av

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Avhandlingen baseras på följande delarbeten

- I. Jolbäck P, Rolfson O, Cnudde P, Malchau H, Odin D, Lindahl H, Mohaddes M. High annual surgeon volume reduces the risk for adverse events following primary total hip arthroplasty. A registry-based study of 12,100 cases in Western Sweden. *Acta Orthop.* 2019;90(2):153–58.
- II. Jolbäck P, Rolfson O, Mohaddes M, Nemes S, Kärrholm J, Garellick G, Lindahl H. Does surgeon experience affect patient-reported outcomes 1 year after primary total hip arthroplasty? A register-based study of 6,713 cases in western Sweden. *Acta Orthop.* 2018;89(3):265–71.
- III. Jolbäck P, Mohaddes M, Lindahl H, Klaeson K. Surgeons' perceptions of being provided with their own results following primary total hip arthroplasties – a phenomenographic study. Submitted.
- IV. Jolbäck P, Naucleur E, Bülow E, Lindahl H, Mohaddes M. Few outliers among orthopaedic surgeons performing primary total hip arthroplasties in western Sweden. An observational study based on 9,482 cases and 208 surgeons in year 2011-2016. Submitted.

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Abstract

Total hip arthroplasty (THAs) is considered to be one of the most successful orthopaedic interventions of its generation and it has been proclaimed as “the operation of the century”. In this thesis, the focus will be on the surgeon and surgeons' perceptions of individual surgeon feedback from a national quality register. The research questions in the thesis were: Are adverse events and mortality dependent on the number of surgeries performed each year by the surgeon? (Paper I), Are patient-reported outcomes dependent on the surgeon's experience? (Paper II), Which perceptions exist in the orthopaedic society about the phenomenon of feedback of individual surgeon's results from a national quality register? (Paper III) and Which factors need to be taken into account to develop a feedback system in a Swedish setting? (Paper IV).

In paper I we included 12,100 primary THAs due to osteoarthritis performed at ten hospitals in western Sweden during year 2011-2016. The aim for this study was to investigate whether higher annual surgeon volume is associated with a lower risk of adverse events and mortality within 90 days following primary total hip arthroplasty. The results showed that if the annual surgeon volume increased by ten primary THA the risk for adverse events within 90 days decreased by ten per cent and the corresponding number after adjustment was eight per cent. The mortality rate within 90 days was low in the study and no association were found. The aim for paper II was to study any association between surgical experience and patient-reported outcomes one year after primary THAs. 6,713 primary THAs performed at the same ten hospitals in western Sweden as in Paper I was included in the analysis. The investigated period for the study was between year 2007 and 2012. We found no statically significant difference in patient-reported outcomes; EQ-5D Index, EQ Vas, Pain VAS or Satisfaction with the result of the surgery one year following the surgery between orthopaedic specialist surgeons. Patients operated on by trainees reported less satisfaction compared with the most experienced specialists. Paper III is a qualitative study with phenomenographic approach. The aim for this paper was to explore Swedish orthopaedic surgeons' and trainees' perceptions of being provided with individual surgeon feedback following THA from a national arthroplasty quality register. A total number of 19 interviews were conducted with surgeon from 15 hospitals in Sweden. Individual surgeon feedback from a national quality register was understood in four perceptions by orthopaedic surgeons and trainees; I) progression in the profession; II) exposing the surgeons to inaccurate criticism; III) might lead to impaired patient utility; IV) not contributing to enhanced feedback to the surgeons. The aim for the last and fourth paper in this thesis was to describe the variation in the occurrence of adverse events within 90 days and re-operations within two years between surgeons in western Sweden and of exploring the number of outliers in a Swedish setting following primary THAs. 9,482 primary THAs due to osteoarthritis performed during year 2011 to 2016 at the same ten hospitals as in Paper I and II were included in Paper IV. The observed proportion of outliers was low for both adverse events and re-operations. The corresponding number were even lower for adverse events but similar for re-operations when standardised for differences in case-mix. When the lower number of surgeries performed for being evaluated was restricted to more than ten THAs annually, all outliers disappeared after standardisation for both adverse events and re-operations for all investigated years.

Keywords: Total Hip Arthroplasty, Registers, Outcomes, Annual Surgeon Volume, Surgeons' Experience, Surgeons' perceptions, Feedback, Outliers

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