



## Posterior approach compared to direct lateral approach resulted in better patient-reported outcome after hemiarthroplasty for femoral neck fracture

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## Correspondence

# Posterior approach compared to direct lateral approach resulted in better patient-reported outcome after hemiarthroplasty for femoral neck fracture

*Sir,*—The efforts of the Norwegian Hip Fracture Register (NHFR) to track hip fractures and gain patient-reported outcome data from a national cohort is praiseworthy. The current study (Kristensen et al. 2016) adds new and interesting knowledge on patient-reported outcome related to surgical approach in hemiarthroplasty cases.

Nevertheless, two aspects may be discussed: That the reoperation risk is said to be similar with both approaches and that the conclusions on patient reported outcome is drawn from half of the patients answering.

Dislocation is more frequent after posterior approach in fracture cases compared to after direct lateral approach (Enocson et al. 2008, Abram and Murray 2015), which the authors avoid to elaborate on. These clinical studies have read hospital records to note the true incidence of dislocations. It is not clear how the study by Kristensen et al. defines “reoperation”. They use the terms reoperation, revision, and implant survival interchangeable. According to the Annual Report of the NHFR (<http://nrlweb.ihelse.net/Rapporter/Rapport2016.pdf>), 356 reoperations due to dislocation were reported after approximately 31,000 primary fracture arthroplasties, i.e. a dislocation rate of 1.1%. Of these 129 were closed reductions. The completeness of reoperation reporting must be questioned. Hence, Kristensen et al. underestimate the dislocation risk. In addition they found “more reoperations after the posterior approach than after the direct lateral approach”, but conclude that posterior approach is a “safe procedure”.

Dislocation is painful and stressful for an elderly individual. Furthermore, only half of the hemiarthroplasty patients remains stable after the first dislocation (Enocson et al. 2008, Abram and Murray 2015) and recurrent dislocations lead to a permanent loss of health-related quality of life (Enocson et al. 2009). It is, together with infection, the most common complication in fracture-arthroplasty cases and should be prevented.

Better function and less pain favor the posterior approach. However, this is true only for the 50% of the patients in the study that managed to answer the PROM questionnaires. An analysis of non-responders in the current study is lacking, but referring to an earlier study these are said to be older, with more cognitive impairment and comorbidity. Hence, the result of the Kristensen et al. study is assumingly applicable to the healthier segment of fracture patients but cannot guide us regarding the functionally not so demanding, “old old” and

frail individuals. For them, the increased risk of dislocation may outweigh any subtle patient-reported benefits.

To summarize, the article does not tell the whole story about outcome related to surgical approach in hip fracture patients, and should therefore be interpreted with much caution.

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*Sir,*—We thank dr Rogmark for her response to our article (Kristensen et al. 2016). Dr Rogmark questions two important aspects of our conclusions which we aim to address below.

Firstly, regarding risk for reoperation, we were not able to find any statistically significant difference in risk for reoperation between the direct lateral and the posterior approach in our data. All reoperations, also closed reduction of dislocated hemiarthroplasties and soft tissue debridement for infections, should be reported to the Norwegian Hip Fracture Register (NHFR). We are aware that reoperations are probably underreported to the NHFR, but we have no indications that differences in the reporting of reoperations between the two treatment groups exist. Accordingly, the relative difference should be the same. It is of course important to have the possible underreporting of reoperations in mind when interpreting our results. We do agree that the “reoperation” term could have been defined more exact in our article and that the terms “prosthesis survival” and “hemiarthroplasty survival” are somewhat misleading and should have been replaced by “percent not reoperated”.

The increased risk of dislocation after the posterior approach found in other studies was discussed in our study by referring to the study by Rogmark et al. (2014) reporting a doubled risk of dislocations after posterior approach compared to direct lateral approach. Other studies have also reported more dislocations after posterior approach (Enocson et al. 2008, Abram and Murray 2015). These results are alarming, as dislocation

of a hemiarthroplasty clearly is a feared and devastating complication. Our conclusion that the posterior approach seems to be a safe procedure was based on our data. However, our data must of course also be balanced with other available studies to determine the true risk for reoperation and dislocation after different surgical approaches.

Secondly, regarding patient reported outcome, taking the patients' age and comorbidity into account our completion rate of 50% is as expected. We agree with dr Rogmark that our results may represent the answers from a relative healthy and cognitive fit group of patients. These patients probably also have higher functional demands and, accordingly, they will profit most on a posterior approach. Patients that are able to respond to the questionnaires at postoperative follow-up examinations may also be able to follow restrictions after surgery. This may reduce their risk of prosthesis dislocation. For these patients a posterior approach could be an option.

To conclude, the decision on which surgical approach that should be used is not straight forward. Our data represent the average nationwide results regarding both reoperations and functional outcome. For the individual patient both risk for complications and the expected functional outcome must be taken into consideration. Our results may contribute in this demanding decision-making process.

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