# Is hospital volume associated with length of stay, re-admissions and reoperations for total hip replacement? A population-based register analysis of 78 hospitals and 54,505 replacements

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## *Introduction*

Hospital volume has been suggested to be a significant determinant of the outcome of joint replacement surgery. We updated previously published data on the effect of hospital volume on length of stay, re-admissions, and reoperations for total hip replacement (THR) at the population level in Finland.

## *Materials and Methods*

A total of 54,505 THRs for primary osteoarthritis performed between 1998 and 2010 were identified from the Hospital Discharge Register and the Finnish Arthroplasty Register. Hospitals were classified into four groups according to the number of primary and revision total hip and knee arthroplasties performed on an annual basis over the whole study period: 1–199 (group 1), 200–499 (group 2), 500–899 (group 3), and > 900 (group 4). We analyzed the association between hospital procedure volume and length of stay (LOS), length of uninterrupted institutional care (LUIC), re-admissions and reoperations.

## *Results*

The larger the volume group, the shorter were LOS and LUIC ($p<0.01$). According to the adjusted data, risk for re-admission in 42 days was greater in group 1 than in group 4 (OR = 1.14; 95% CI: 1.05-1.23). There was no difference in the risk for reoperation.

## *Conclusion*

LOS and LUIC ought to be shortened in lower volume hospitals.