

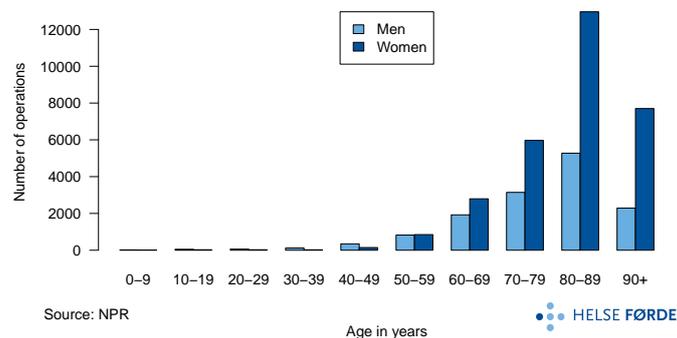
# Hip fractures

Hip fractures are one of Norway's three most common types of fracture, and Norway has the highest incidence of hip fractures in Europe. Elderly women make up the majority of patients, and patients are often frail and have several medical conditions. Hip fractures should be operated on within one or two days of injury, either by prosthetic replacement of the joint or fracture fixation. Comprehensive geriatric assessment of elderly hip fracture patients can result in lower mortality, shorter length of stay, lower costs and fewer patients being discharged to an institution. Norwegian guidelines for interdisciplinary treatment of hip fractures (2018) give recommendations on treatment and rehabilitation.

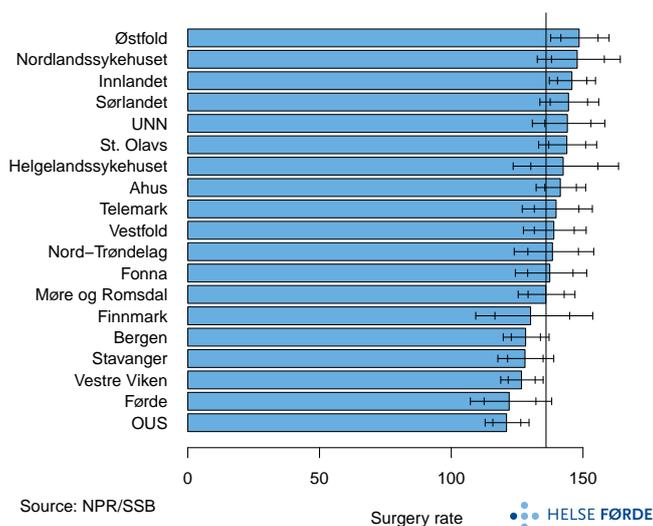
## Background

Surgical treatment of hip fractures is defined by a primary or secondary diagnosis of S72.0, S72.1 or S72.2 (ICD-10) in combination with one or more of the procedure codes of code block NFB, or NFJ20, NFJ21, NFJ22, NFJ30, NFJ31, NFJ32, NFJ40, NFJ41, NFJ42, NFJ50, NFJ51, NFJ52, NFJ60, NFJ61, NFJ62, NFJ70, NFJ71, NFJ72, NFJ80, NFJ81, NFJ82, NFJ90, NFJ91, NFJ92 (NCSP). Patients aged 18 years or older are included in the sample, except in the figure that shows gender and age distribution of patients who have been operated.

Each year there are about 9,000 hip fractures in Norway. Femoral neck fractures make up 61 %, and trochanteric fractures 39 % of all hip fractures.



Total number of operations for hip fractures during the period 2012–2016, for Norway as a whole. The patients have been broken down by gender and age group.



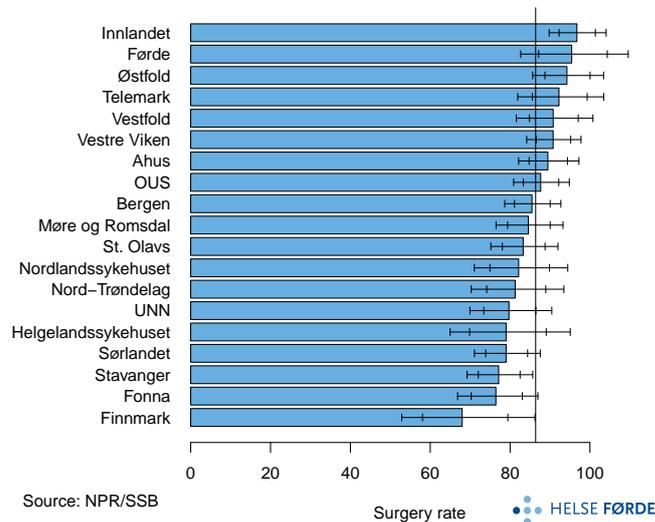
Surgery rate: number of operated femoral neck fractures per 100,000 population (18 years and older), broken down by hospital referral area. Bars show average value per year (2012–2016), with pertaining 95 % and 99.8 % confidence intervals. The vertical line indicates average for Norway as a whole. Rates have been adjusted for gender and age.

## Results

For hip fractures in general Østfold and Innlandet hospital referral areas have surgery rates just over, and Stavanger and OUS areas slightly below the national average.

For femoral neck fractures the most common choice of surgical treatment is partial prosthetic replacement (62 %). The percentage varies from 37 % in the Helgelandssykehuset area, to 77 % in the Østfold area.

For trochanteric fractures the surgery rate is higher than the national average in the Innlandet area, and lower in the Stavanger and Finnmark areas. The most common surgical techniques are fixation with an intramedullary nail or a sliding hip screw. The percentage of sliding hip screw operations is highest in the areas of Finnmark (93 %), Ahus and OUS (85 %), and intramedullary nail fixation highest in the Østfold and Førde areas (more than 90 %).



Surgery rate: number of operated trochanteric fractures per 100,000 population (18 years and older), broken down by hospital referral area. Bars show average value per year (2012–2016), with pertaining 95 % and 99.8 % confidence intervals. Vertical line indicates average for Norway as a whole. Rates have been adjusted for gender and age.

## Comments

The variation in surgery rates for hip fractures is low. The vast majority of patients with hip fractures receive surgical treatment, and there is consensus in the medical community about the indications for surgery. Variation in surgery rates primarily reflects the variation in the incidence of hip fractures, and we therefore characterise this variation as warranted.