

**Thirty-day, ninety-day and one year mortality after shoulder replacement: 5,853 primary operations reported to the Danish Shoulder Arthroplasty Registry.**

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## **Abstract**

**Background:** The primary aim was to quantify the thirty-day, ninety-day and one-year mortality after primary shoulder arthroplasty and compare it to the general population. The secondary aim was to assess the association between mortality, surgical diagnoses and causes of death.

**Methods:** 5,853 primary operations from 2006 to 2012 were included and information about the patients was obtained from the Danish Shoulder Arthroplasty Register and the Danish Cause of Death Register. Incidences in the general population were calculated with data from Statistics Denmark and compared to the patients using chi-square tests.

**Results:** The mean age was 69.3 ( $\pm$  11.6) years and 69.2 % were women. Thirty-nine (0.7 %) patients died within thirty days, eighty-eight (1.5 %) within ninety days and 222 (3.8 %) within one year. Fracture patients had a higher mortality than patients with elective diagnoses. The overall incidence of death within thirty days was 666 per 100,000. Fracture patients had an over five times higher incidence of death than the general population within thirty days.

**Conclusions:** The mortality at thirty days (0.7 %), ninety-days (1.5 %) and one-year (3.8 %) was significantly higher than that of the general population. There was, as expected, a trend that mortality rates balanced in the patients and the general population one year after shoulder arthroplasty. Patients with osteoarthritis and rotator cuff arthropathy are relatively safe in terms of mortality when undergoing shoulder arthroplasty. Pulmonary, cardiac and abdominal causes of death were the most common in the short-term group.