

# Study finds decrease in length of hospital stay after hip replacement, but increase in readmissions

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An analysis of data from Medicare beneficiaries who underwent hip replacement or subsequent follow-up corrective surgery between 1991 and 2008 indicates that the length of hospital stay after surgery declined during this time period, as did the proportion of patients discharged home, while there was an increase in the rate of hospital readmissions and discharge to a skilled care facility, according to a study in the April 20 issue of *JAMA*.

"Total hip arthroplasty [replacement] is a safe and effective therapy for patients with advanced degenerative joint disease. In recent years, there has been a dramatic increase in performance of this procedure both in the United States and abroad. There is a general assumption that increasing experience with total hip arthroplasty has resulted in improvements in patient outcomes, as has been observed in other procedures, but rigorous empirical data documenting such improvement are limited. This lack of data are striking given that an estimated 280,000 total hip arthroplasty procedures are performed annually at a cost of more than \$12 billion," according to background information in the article.

Peter Cram, M.D., M.B.A., of the University of Iowa Carver College of Medicine, Iowa City, and colleagues evaluated the long-term trends in the outcomes of Medicare beneficiaries undergoing primary and revision (follow-up corrective surgery) total hip arthroplasty and to explore

whether reductions in hospital length of stay (LOS) might be associated with increased discharge of patients to postacute care settings, increased readmission rates, or a combination of both outcomes. The study included data from between 1991 and 2008 on 1,453,493 Medicare Part A beneficiaries who underwent primary total hip arthroplasty and 348,596 who underwent revision total hip arthroplasty.

For primary total hip arthroplasty comparing 1991-1992 and 2007-2008, average age increased from 74.1 years to 75.1 years, and obesity prevalence increased from 2.2 percent to 7.6 percent, respectively. For revision total hip arthroplasty during these time periods, average age increased from 75.8 years to 77.3 years and obesity prevalence increased from 1.4 percent to 4.7 percent, respectively. For primary total hip arthroplasty, average hospital LOS decreased from 9.1 days to 3.7 days. After adjustment for patient characteristics, risk-adjusted 30-day mortality over the study period decreased from 0.7 percent to 0.3 percent and 90-day mortality decreased from 1.3 percent to 0.7 percent.

The researchers also found that the proportion of primary total hip arthroplasty patients discharged to home decreased from 68 percent in 1991-1992 to 48.2 percent in 2007-2008, while the proportion of patients discharged to skilled or intermediate care increased from 17.8 percent to 34.3 percent. The 30-day all-cause readmission rate decreased from 5.9 percent in 1991-1992 to 4.6 percent in 2001-2002, before increasing to 8.5 percent in 2007-2008. Results were similar for 90-day readmission rates.

"For revision total hip arthroplasty, similar trends were observed in hospital LOS, in-hospital mortality, discharge disposition, and hospital readmission rates," the authors write.

"In an analysis of 1991-2008 Medicare administrative data, 3 trends were identified. First, we found that despite increasing patient

complexity, both unadjusted and adjusted mortality for primary total hip arthroplasty showed substantial improvement over time. Conversely, our second finding was that for revision total hip arthroplasty, unadjusted mortality appeared to increase modestly but this increase was largely explained by increasing patient complexity. Third and most importantly, marked declines in hospital LOS for both primary and revision total hip arthroplasty seemed to correspond with an increase in the proportion of patients who were discharged to postacute care and an increase in patient readmissions."

**More information:** JAMA. 2011;305[15]1560-1567.

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