

Surgery to repair a hip fracture reduces lifetime health care costs by more than \$65,000 per patient

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Each year, more than 300,000 Americans, primarily adults over age 65, sustain a hip fracture, a debilitating injury that can diminish life quality and expectancy, and result in lost work days and substantial, long-term financial costs to patients, families, insurers and government agencies. And while surgery, the primary treatment for hip fractures, successfully reduces mortality risk and improves physical function, little is known about the procedure's value and return on investment.

A new study, appearing in the journal *Clinical Orthopaedics and Related Research*, found that average lifetime societal benefits in the U.S. reduced the direct medical costs of hip fracture surgery by \$65,000 to \$68,000 per patient (in 2009 dollars), and that total, lifetime societal savings exceeded \$16 billion for older patients. These savings resulted from a reduction in the length and intensity of care after the injury, as well as a reduction in the amount of longer-term medical care and assistance needed by patients who undergo surgery for a hip fracture, when compared with those who are treated without surgery.

"Not only is surgery extremely successful in returning hip fracture patients to active, independent living, but the procedure also provides a significant societal benefit and value," said orthopaedic surgeon John Tongue, MD, co-author of the study, "Surgery for Hip Fractures Yields Societal Benefits that Exceed the Direct Medical Costs."

"These are important findings as the nation ages, and as policy makers and payers increasingly focus on the rising costs of health care," said Dr. Tongue.

Hip fracture surgery gave Jimmy Ming Hsu his "normal life back." Hsu fractured his hip when he

fell in the shower during a trip out of the country. He immediately flew back to New York City where his hip was surgically reset. "The results were wonderful," said Hsu. The surgery "helped me regain mobility and get my life back."

This study showed that surgery to repair a hip fracture produced an average increase of 2.5 quality-adjusted life years (QALYs)—based on a patient's life expectancy and level of physical function—for patients with intracapsular fractures, and 1.9 years for patients with extracapsular fractures. "Our study quantifies the economic value of surgical treatment of hip fractures in terms of reduced lifetime medical costs to society," said Dr. Tongue.

The risk for hip fractures, a break in the upper quarter of the femur (thigh) bone, increases substantially with age with approximately 90 percent of hip fractures occurring in people older than age 65. As the number of older Americans continues to grow, the incidence of hip fracture is expected to increase substantially. The article stated that the annual incidence of hip fractures is expected to exceed 500,000 by 2040.

In this study, researchers estimated the impact of surgical and nonsurgical treatment in patients, age 65 and older, based on a comprehensive set of outcomes, including long-term medical costs, home modification costs and costs associated with long-term nursing home care. Based on a literature review, analysis of Medicare claims data and the input of a panel of clinical experts, the researchers created a Markov model—a standard predictive tool that accounts for various possible outcomes—to measure the cost and potential savings of repairing hip fractures via surgery.

The specific findings included:

- The average per-patient savings was \$65,279 for surgery to correct a displaced intracapsular hip fracture (occurring at the neck or head of the femur), and \$67,964 for a displaced extracapsular hip fracture (occurring farther down the bone), when compared to nonsurgical treatment.
- While surgical costs for a displaced intracapsular fracture were estimated to be \$19,710 greater than nonoperative treatment, and \$22,317 more for an extracapsular fracture, costs for both procedures were offset by savings from lower long-term [medical costs](#): \$84,990 for intracapsular fractures and \$90,281 for extracapsular fractures.
- The lifetime cost of a hip fracture is estimated at \$81,300, of which approximately 44 percent of the costs were associated with nursing facility expenses.
- The lifetime total per-patient societal savings from surgical treatment of hip fractures was estimated at \$160,000.
- For the population over age 65 as a whole, the annual total societal savings is estimated at \$16 billion.

More information: The full study, which received financial support from the American Academy of Orthopaedic Surgeons (AAOS), is available at ANation InMotion.org/value/hip-fracture

Provided by American Academy of Orthopaedic Surgeons

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