



## CORR Insights

# CORR Insights®: The Frank Stinchfield Award: Total Hip Arthroplasty for Femoral Neck Fracture Is Not a Typical DRG 470: A Propensity-matched Cohort Study

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## Where Are We Now?

Hip fractures are a major public health concern. In fact, the incidence of hip fracture is expected to double worldwide from 1.26 million in 1990 to 2.6 million by 2025 [13]. The evidence strongly suggests that THA is a good option for many patients with femoral neck fractures compared to hemiarthroplasty. Specifically, the National

Institute for Health and Care Excellence recommends THA be offered to patients who are not cognitively impaired, whose health is adequate to tolerate the larger procedure, and who could walk independently prior to the injury [9]. When used for the appropriate patients, THA offers many of the same advantages that it provides to patients in other settings such as those with arthritis. For properly selected patients, THA may result in fewer complications than hemiarthroplasty [3, 7]. However, even in these patients,

THA is a more complex intervention; THA in patients with arthritis, for example, results in fewer complications than does THA for femoral neck fracture [1]. The current healthcare reimbursement system does not account for this additional complexity.

The percentage of patients treated with THA for the treatment of femoral neck fractures varies greatly from country to country. This proportion is relatively low in the United States, where the analysis of Schairer and colleagues was performed. Even so, the injury is common, and so the economic impact in the United States is substantial. It may be even more important in other countries, where THA is used more commonly for patients with femoral neck fractures than in the United States. The following countries use THA for femoral neck fractures more often than does the United States: Australia (4.1%) [2]; England, Wales, Northern Ireland and the Isle of Man (4%) [10], New Zealand (3.6%) [14], Sweden (6.4% for men, and 10% for women) [15], and

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Italy (9%) [12]. For that reason, this topic is of great international importance.

## Where Do We Need To Go?

The issue of healthcare reimbursement is extremely complex and still unsolved, and there remain a number of important, but unanswered questions. To what degree are the differences seen around the world a function of varying incidence of fractures [8]? How might differences in the variables considered in any propensity-matching system influence the economic impact in a particular healthcare system [6]?

Several models have been implemented globally in different healthcare systems, but none is considered ideal. From a health-policy perspective, if a Medicare Severity Diagnosis-Related Group-anchored episode of care reimbursement is not appropriately risk-stratified based on a patient's status, there is a risk that hospitals caring for high numbers of patients with hip fractures may be disadvantaged compared with hospitals mainly providing elective THA for patients with osteoarthritis (OA).

Future studies comparing THA for OA with THA for femoral neck fractures might also examine the specific diagnoses that are potentially misclassified as "OA", but that can increase

the risk and complexity of the intervention, such as developmental dysplasia and posttraumatic arthritis. Ideally, implant choices and surgeon experience should be factored in. Lengths of stay vary widely around the world, as do delays in advance of surgery for femoral neck fractures, and these need to be considered carefully in future analyses, since these delays are associated with an increased risk of death after surgery in some studies [11].

## How Do We Get There?

Future epidemiologic studies should examine patient-reported outcomes and costs following THA, based on specific patient factors. By examining patient-reported outcomes, we can create a more-precise complexity estimator that can anticipate results at 1-year postsurgery.

We should also improve upon how we manage our patients. For example, elderly patients with fractures should be treated by a multidisciplinary team with the shortest-possible delay prior to surgery. Many countries outside the United States have demonstrated that this integrated approach is effective in reducing complications and, therefore, costs [4, 5, 11, 13].

After having implemented this model for 1 year, results should be

evaluated again. Subsequently, any request for increased funding would be based on a more-detailed analysis, and it would be linked to real improvements in clinical practice.

Finally, national healthcare reimbursement systems need to consider that different hospitals treat different patient populations, and some are much more complex than others. Increased complexity inevitably is associated with an increased risk of complications, even if thoughtful risk-reduction strategies are employed. Safety-net institutions should not be penalized in terms of remuneration because they treat higher proportions of more complex patients. Failure to adjust for factors affecting costs may create barriers to care for specific patient populations.

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