

***CORR* Insights®: Randomized Trial of Hemiarthroplasty versus Internal Fixation for Femoral Neck Fractures: No Differences at 6 Years**

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Where Are We Now?

Treating displaced femoral neck fractures is an orthopaedic cruise between Scylla and Charybdis, navigating the tenuous passage between a fracture's poor chances to heal and the (often elderly) patient's ability to tolerate extensive surgery. Choosing internal fixation because the surgical procedure is minimally invasive will lead to failure in 40% to 50% of the treated hips. In the current study by Støen and colleagues, only 12 of 31 patients with internal fixation retained their native hip 6 years after surgery. The alternative, avoiding problems related to fracture healing by selecting immediate replacement of the injured hip with an arthroplasty, has the offsetting risk of increased perioperative strain on an already-frail individual. As shown in the

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most recent meta-analysis [6], based on a number of randomized trials [2, 5, 9, 11], hip replacement appears preferable in the elderly population based on a lower likelihood of hip-related complications, better cost-effectiveness, better functional recovery, improved health-related quality-of-life, and less pain—at least in the short-term. However, a recent national register study of 12,313 patients [13] found a higher early mortality after hemiarthroplasty compared to internal fixation, a difference that has not been detected in smaller clinical trials. Weighing this potential risk against the benefits of a hip replacement is in many ways an ethical issue. Currently, the orthopaedic community agrees that a “typical patient” (often a frail woman 80 years of age or older), will benefit from an arthroplasty. Any advantages in using hemiarthroplasty compared to internal fixation will diminish or disappear after a couple of years, according to the current study. On the other hand, only 48% of the women and 31% of the men live 5 years after hip fracture [14]. For a majority of patients, the short-term results are most important.

Where Do We Need To Go?

In addition to increased surgical trauma, the objection to hip replacement has been an assumed risk of long-term complications, such as periprosthetic fracture and aseptic loosening, according to Støen and colleagues. This fear has also dictated the lower age limit for arthroplasty as fracture treatment; individuals expected to have many years of activity remaining often are advised to have internal fixation in order to avoid the risks of future revision arthroplasty surgery. If long-term risk is less of an issue, as the current study suggests, perhaps we can consider total hip replacement as a reasonable primary treatment for

those patients aged between 50 and 65 years. After all, we do not hesitate to treat their peers with osteoarthritis using the same method.

Another issue is whether perioperative care could be further improved to prevent complications and deaths. If so, even centenarians or critically ill patients could be considered candidates for arthroplasty surgery. Traditionally, internal fixation or nonoperative treatments are the suggested approaches for this patient population.

Finally, determining which type of hip replacement—total or hemiarthroplasty, cemented or uncemented—remains controversial. Disparities remain between countries, and these disparities affect clinical results both in research and in everyday practice [7].

How Do We Get There?

Well-designed randomized clinical studies with a long-term followup, such as the study by Støen et al. are the gold standard. Followup of 7 to 17 years in four additional randomized clinical trials shows reliable results for THA compared to internal fixation [1, 3, 11, 12]. Revealing more subtle differences will demand larger patient cohorts, and may be better addressed by studies using national registers [4, 8, 10]. The same applies for treatment choices for femoral neck fractures in nonelderly individuals, an uncommon injury in comparison to geriatric hip fractures. Finally, focusing on patient reported outcome—as the current study does—will add clinically relevant knowledge, and better help orthopaedic surgeons treat hip fracture patients in a safe and cost-efficient way.

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