We read with interest the Commentary on our article by Dr. Dana Mears. His critique brings up a number of noteworthy issues.

To date, the question concerning optimal treatment of elderly patients with acetabular fractures has remained unresolved. Whether these challenging cases are best treated nonoperatively, with acute total hip arthroplasty, or with open reduction and internal fixation (ORIF), or both, is a subject of ongoing debate.

Clearly, patient selection for operative treatment is dependent on a range of parameters. At our institution, management of elderly acetabular fracture patients is based on previously published criteria, which include specific fracture characteristics as identified on preoperative radiographs, Judet radiographic views, and computed tomography (CT) imaging (1). According to these guidelines, select elderly patients with more severe osteoporotic fracture patterns receive acute total hip arthroplasty. As noted, this treatment option may pose a viable alternative to reconstruction in the appropriate patient.

It should be recognized, however, that total hip arthroplasty in the presence of a late deformed and/or acute unstable acetabulum is a technically demanding procedure (2). Cup loosening is a frequent complication, the avoidance of which may require additional measures with ORIF, such as bone grafting or cage placement (3, 4). Consequently, acute total hip arthroplasty may appear to be an attractive alternative for reconstruction, but it is associated with its own considerable challenges.

When a surgeon considers operative treatment options in elderly patients, achieving an anatomic acetabular reduction may not be an absolute requirement for satisfactory clinical outcome (5). Indeed,
older individuals often have comminuted osteoporotic fractures and may have extensive areas of dome impaction, precluding accurate articular reconstruction. Restoration of the overall acetabular anatomy and centering of the femoral head under the acetabular dome may be sufficient in many of these low-demand patients.

Postoperative CT imaging in such cases may certainly convey a sobering picture in terms of reduction quality, which brings us to the main message of our paper: While residual intra-articular steps should clearly be avoided, gaps (or areas of impaction) of up to 5 mm appear to be better tolerated than previously thought. Thus, what may look like a poor reduction on postoperative CT may not necessarily translate into an unsatisfactory outcome.

With respect to the practice of routine postoperative CT imaging, we certainly subscribe to the concerns noted in the Commentary, and we alluded to them in our discussion section. But there is also a case to be made in favor of advanced imaging following acetabular fracture fixation. Currently, important treatment decisions are made based on preoperative CT imaging, while subsequent postoperative results in terms of reduction quality are often assessed using an inferior modality. In accordance with the “French pioneers” whom Dr. Mears mentioned, we feel that detailed radiographic assessment of postoperative results is critical in order to further achieve advances within this subspecialty. With its superior imaging quality (as compared to plain pelvic radiography), postoperative CT imaging has improved our understanding of the relative importance of residual gaps as compared to step displacement.

Ultimately, management of elderly acetabular fracture patients should be determined on a case-by-case basis with careful consideration of both patient and radiographic characteristics. The findings in the current study may potentially impact this preoperative decision-making process by altering the concept of what an acceptable or adequate reduction is, and whether it is thought to be achievable.

References

Conflict of Interest: None Declared