

Study shows high rates of hip osteoarthritis among older adults with spinal deformity

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One-third of patients undergoing surgery for adult spinal deformity (ASD) also have severe osteoarthritis (OA) of the hip—which is associated with worse spinal alignment and physical functioning, reports a [study](#) in the *Journal of Bone & Joint Surgery*.

These differences persist even following operative treatment of ASD, according to the new research by Alan H. Daniels, MD and Bassel Diebo, MD of Brown University and colleagues from 20 North American spinal surgery centers.

"Concomitant hip and spine disease are common, yet they remain challenging for joint arthroplasty and spine surgeons," the researchers write.

Adult spinal deformity refers to various abnormalities of spinal curvature and alignment. As some of these deformities arise from wear and tear over time, they are likely to become more frequent in an aging population. For patients with ASD who do not improve with nonoperative treatment, spinal realignment surgery may be indicated.

Previous studies have reported high rates of hip OA accompanying ASD. However, little is known about how OA affects patient characteristics and the outcomes of surgery for ASD—in terms of both spinal alignment and patient-reported outcomes such as [physical functioning](#) and disability.

Drs. Daniels and Diebo and colleagues analyzed rates and outcomes of hip OA in 520 [older adults](#) who underwent surgery for ASD at one of 13 US and Canadian centers. About two-thirds of patients were women, and the average age was 59 years. Consistent with previous studies, 34% of patients were classified as having severe OA involving both hips.

The researchers compared the characteristics of ASD patients with and without severe hip OA, including key patient-reported outcome measures. Characteristics and outcomes were also compared at postoperative follow-up in 165 patients: 68 with severe bilateral hip OA, 32 with severe OA of one hip only, and 65 without severe OA in either hip.

Severe hip OA linked to increased ASD severity and disability

On preoperative analysis, patients with severe bilateral hip OA were older (average age, 68 years) than those with unilateral (66 years) and or non-severe hip OA (60 years). Patients with severe hip OA also scored higher on a standard assessment of frailty.

At one-year follow-up, all three groups had similar correction of lordosis. However, patients with severe hip OA had worse spinal alignment, based on a radiographic measure called the sagittal vertebral axis (SVA). The difference in SVA was significant both preoperatively and at follow-up.

Several patient-reported outcomes were also found to be worse in patients with severe bilateral hip OA, who had lower scores for physical functioning both preoperatively and at follow-up. Although overall disability scores were not significantly different between groups, severe hip OA was associated with persistent reductions in activities such as walking, traveling, and climbing stairs. Frailty contributed to the differences in functional outcomes.

The study is among the first "to investigate the alignment and functional outcomes of patients with concomitant hip OA at the time of surgery for severe ASD," the researchers write. The findings suggest that ASD

patients with severe OA of both hips are older and frailer and have worse physical functioning and disability scores, even after accounting for correction of their spinal deformity.

"[G]iven the complexity of concomitant hip and spine disease and the relatively frail condition of these patients, they warrant careful evaluation and optimization perioperatively," Dr. Daniels and co-authors conclude. They add, "Further research is required to elucidate how to optimize outcomes in this complex patient population."

More information: Bassel G. Diebo et al, Hip Osteoarthritis in Patients Undergoing Surgery for Severe Adult Spinal Deformity, *Journal of Bone and Joint Surgery* (2024). [DOI: 10.2106/JBJS.23.00818](https://doi.org/10.2106/JBJS.23.00818)

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