Letter to the Editor

Letter to the Editor: Does Degenerative Lumbar Spine Disease Influence Femoroacetabular Flexion in Patients Undergoing Total Hip Arthroplasty?

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To the Editor,

We have read the study by Esposito and colleagues with great interest. We would like to applaud the authors for

meticulously linking lumbar disc degeneration (LDD) with THA. After analyzing EOS spine-to-ankle lateral radiographs of 325 patients undergoing THA, they found a slight difference in hip flexion between patients with LDD and those without LDD. Their findings indicate that arthroplasty surgeons should take LDD into account when performing THA.

Accumulating evidence indicates that global alignment [2], sagittal vertical axis

[13], and global sagittal axis [5] have been accepted as important parameters for body balance. Sagittal balance is linked with sagittal spinopelvic parameters, including pelvic incidence, pelvic tilt, and sacral slope [15]. In a sense, the pelvis can be considered another three-dimensional caudal element of the spine [6], and its position—pelvic incidence—both influences and is inextricably linked with that of the spine [8]. These concepts are critical both for hip arthroplasty surgeons and for surgeons who treat adult spinal deformity [15].

In their study, Esposito and colleagues evaluated spinopelvic alignment using sacral slope, lumbar lordosis, and proximal femur angles, instead of pelvic incidence. In fact, pelvic incidence is an individualized morphological parameter not affected by posture and LDD. If Esposito and colleagues considered global spinopelvic alignment in their study, the results might be more convincing.

Regarding the impact of spinal alignment on THA, Buckland and colleagues

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[3] reported that patients with spinopelvic malalignment were at risk for acetabular component anteversion during THA. They evaluated pelvic incidence, pelvic tilt, and sacral slope, lumbar lordosis, T1 pelvic angle, sagittal vertical axis, and thoracic kyphosis. Their results suggest that spinopelvic alignment is important both for spine surgeons and for hip arthroplasty surgeons.

In the past, MRI has been regarded as the gold standard for evaluating LDD [10]. A number of grading schemes have been developed since, including the five-grade Pfirrmann scheme [10], and four-grade Schneiderman system [12]. Esposito and colleagues graded LDD using a nine-point classification system. Since LDD is characterized by loss of water and proteoglycans in the disc, those kinds of changes may be best seen on T2-weighted MRI images [4, 9, 14]. Other parameters reflective of LDD may also best be evaluated using MRI, such as loss of disc height [7] and changes to the appearance of the endplates, which can be seen with newer techniques like DCE-MRI [1, 11]. In light of that, we wonder whether grading of LDD might be more accurate and reasonable using MRI rather than radiographs.

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