Utility of the false profile radiograph in the pre-operative evaluation of hip osteoarthritis

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Purpose:
To determine if adding the false profile (FP) projection to the routine anterior-posterior (AP) and lateral views has an impact on the grading of hip osteoarthritis (OA).

Methods:
A retrospective review of preoperative radiographs, of patients with surgically confirmed diagnosis of pincer-femoroacetabular impingement (FAI), cam-FAI or hip labral tear was performed. Posterior joint space width (JSW) was measured using the FP view at the level of the mid femoral head. The OA grade (Tonnis 0-3) was scored at multiple subsites of the hip joint.

Results:
The study included 12 pincer-FAI, 18 cam-FAI and 27 hip labral tear patients. The mean pincer-FAI JSW (2.8mm) was significantly lower than cam-FAI JSW (3.4mm, p=0.007) and borderline, non-significantly lower than labral tear JSW (3.1mm, p=0.065). The addition of the FP view upstaged the Tonnis OA grade in 18 % (10/57) of all subjects. Of the three groups, this was most significant for pincer-FAI at 42 % (5/12).

Conclusion:
The false profile view identifies additional posterior hip joint degenerative changes that result in upstaging of OA grade, more commonly in pincer-FAI.