

Evidence Discussion (MS-23)

For many patients with musculoskeletal pelvic issue, a diagnosis can be made based on a detailed history, physical examination and plain radiographs. [1, 11, 12] Advanced imaging is typically not necessary for the initial evaluation. [1, 2, 5-7, 12] Multiple articles have shown advanced imaging can often demonstrate abnormalities that have no relevance to the patient's symptoms. [3, 4, 8, 9, 16] Register et. al. found labral tears in 69% of asymptomatic volunteers. It was also reported that the asymptomatic participants in their study older than 35 years were 13.7 time more likely to have a chondral defect and 16.7 times more likely to have a subchondral cyst compared with participants 35 or younger. [9] Advanced imaging incidental findings can possibly lead to overtreatment with referral to specialists and possibly unnecessary surgery. [8, 10] Ganguli et. al. reported incidental findings on screening and diagnostic tests are common and may trigger cascades of further testing and treatment. [15] Also reported was that such cascades of care come with substantial potential for harm (including patient anxiety and additional treatment risks) in addition to monetary costs and inconvenience. [15]

Plain x-rays are valuable as initial imaging as they can determine the necessity of advanced imaging, what specific advanced imaging study is warranted and if contrast is needed. As x-rays often have a larger field of view than MRI or CT, they have the potential to identify more proximal or distal pathology in an extremity. Initial plain x-rays for the evaluation of musculoskeletal pelvic and hip conditions are also recommended by the American College of Radiology Appropriate Use Criteria [5, 6, 7]. It is also noteworthy that when MRI is necessary, radiographs are considered an essential, initial complementary study for the reading of musculoskeletal MRIs. [13]

Treatment for some musculoskeletal pelvic conditions (e.g. tendonitis, osteitis pubis) do not rely on advanced imaging results and many patients will improve within a few weeks or months with conservative care. [11, 12] However, for some musculoskeletal pelvic conditions (e.g. complex fractures, suspected tendon tear), conservative care would not be necessary prior to advanced imaging.

In addition to overtreatment and possibly unnecessary surgery due to incidental findings, risks of advanced imaging include but are not limited to radiation exposure, implanted device complications, metallic foreign body complications and contrast complications. [14]

For many patients with a musculoskeletal pelvic condition, initial plain x-rays and an initial course of conservative care can provide a significant clinical benefit that would outweigh the clinical harm from perhaps briefly delaying advanced imaging if needed. A course of conservative care or plain x-ray findings many times may obviate the need for advanced imaging which possess their own set of significant risks.

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