

Evidence Discussion (MS-27)

A diagnosis can be made for most patients with a foot complaint based on a detailed history, physical examination and plain x-rays. [1-6, 14] Advanced imaging is typically not necessary for the initial evaluation. [1, 2, 4, 5, 10, 11, 14] Multiple articles have shown advanced imaging can often demonstrate abnormalities that have no relevance to the patient's symptoms. [2, 7, 8] Advanced imaging incidental findings can possibly lead to overtreatment with referral to specialists and possibly unnecessary surgery. [2, 6] 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 foot conditions are also recommended by the American College of Radiology Appropriate Use Criteria [10, 11]. It is also noteworthy that when MRI is necessary, radiographs are considered an essential, initial complementary study for the reading of musculoskeletal MRIs. [12]

Treatment for many foot conditions does not rely on advanced imaging results and most patients will improve within a few weeks or months with conservative care. [1, 2, 9] Plantar fasciitis may take up to 12 months of non-operative treatment, however, MRI imaging is rarely needed for treatment planning. [4] It should be noted though, for some foot conditions (e.g. Lisfranc injuries, suspected tendon tear, diabetic foot infections), 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. [13]

For many foot conditions, 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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