

Evidence Discussion (MS 6.1)

Foreign Body

- X-ray is a good initial screening examination in suspected foreign bodies of the musculoskeletal system⁵. X-rays provide an excellent overview of the anatomic area of interest.²
- X-rays have 98% sensitivity in the evaluation of radiopaque foreign bodies.¹ Metallic foreign bodies are radiopaque and are readily detectable by x-ray.^{3, 5}
- If a foreign body is not visualized on x-rays, Ultrasound can be performed for further evaluation². Ultrasound has high sensitivity and specificity in detecting radiolucent objects like wood, and plastic.^{4, 5} Ultrasound is also widely available, accessible and does not involve ionized radiation. Ultrasound can also help to evaluate complications of foreign body such as infections and vascular or tendon injuries.^{2, 5}
- CT is useful when X-rays are negative but a radiopaque foreign body is still suspected. MRI is better than CT in the assessment of infection associated with a foreign body.^{2, 5}

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2. Beaman FD, von Herrmann PF, Kransdorf MJ, et al. Expert Panel on Musculoskeletal Imaging. ACR Appropriateness Criteria[®] Suspected Osteomyelitis, Septic Arthritis, or Soft Tissue Infection (Excluding Spine and Diabetic Foot). *Am Coll Radiol (ACR)*; Date of Origin: 2016. Revised: 2022. <https://acsearch.acr.org/docs/203094201/Narrative/>.
3. Chan C, Salam GA. Splinter removal. *Am Fam Physician*. 2003;67(12):2557-2562.
4. Peterson JJ, Bancroft LW, Kransdorf MJ. Wooden foreign bodies: imaging appearance. (*AJR Am J Roentgenol*. 2002;178(3):557-562. doi:10.2214/ajr.178.3.1780557.
5. Jarraya M, Hayashi D, de Villiers RV, et al. Multimodality imaging of foreign bodies of the musculoskeletal system. (*AJR Am J Roentgenol*. 2014;203(1):W92-102. doi:10.2214/AJR.13.11743