



0196-0644/\$-see front matter

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<https://doi.org/10.1016/j.annemergmed.2018.12.006>

Figure 1. Longitudinal ultrasonography over the extensor aspect distal interphalangeal joint (arrow) of the long finger, with joint effusion (asterisk) and soft tissue thickening (arrowhead), which were not noted on the unaffected right index finger.



Figure 2. Water bath ultrasonography over the extensor surface of the finger.

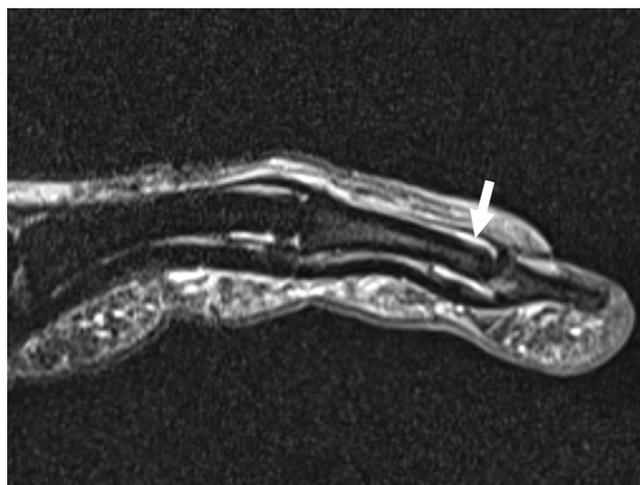


Figure 3. MRI of the long finger, showing distal interphalangeal joint effusion (arrow).

[Ann Emerg Med. 2019;73:e79-e80.]

A 45-year-old man presented with painful swelling of his right-hand long finger after experiencing a splinter puncture wound 5 days before. He had been treated at an outside emergency department the day before, where a negative radiograph result was obtained, and began receiving oral antibiotics.

Physical examination result was notable for a tender, swollen, erythematous long finger, with knuckle and hand sparing. Inflammation was most prominent over the distal interphalangeal joint, which had decreased range of motion and painful ranging. Vital signs were within normal limits, as were the WBC count and inflammatory marker levels. Repeated radiograph results were negative. Bedside ultrasonography was conducted to look for a retained wooden foreign body (Figures 1 and 2).

For the diagnosis and teaching points, see page e80.

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*(continued from p. e79)***DIAGNOSIS:**

Septic arthritis of the distal interphalangeal joint. Bedside ultrasonography revealed soft tissue thickening and distal interphalangeal joint effusion, concerning for septic arthritis, confirmed by magnetic resonance imaging (MRI) the following day (Figure 3). The patient underwent arthrotomy, with release of a substantial amount of debris-filled, purulent fluid that subsequently grew methicillin-susceptible *Staphylococcus aureus*. Small joint septic arthritis has the potential to cause serious tissue damage and functional impairment of the hand, with delay in diagnosis resulting in amputation.¹ It occurs less frequently than large joint septic arthritis and is less likely to cause laboratory-result abnormalities and abnormal vital signs.² Water bath ultrasonography allows immediate, high-quality evaluation of the smaller joints of the body, which can quickly identify signs of septic arthritis not appreciable on physical examination.^{3,4}

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