

Challenges in Sports Medicine & Orthopedics

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Figure 1



Figure 2



Figure 3

A 60-year-old woman presents with a 2-week history of a flexion deformity of the fifth digit of her left hand, which, she states, developed after she “jammed” her finger in a door. She describes intermittent pain in the distal joint of the fifth digit. Examination reveals decreased active extension and normal passive extension at the distal interphalangeal (DIP) joint. Radiographs of the left hand are completed (Figures 1-3).

What is your interpretation of the radiographic images?

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ANSWER



Figure 1



Figure 2



Figure 3

The three radiographic images (Figures 1-3) reveal an avulsion fracture at the dorsal aspect of the base of the distal phalanx of the left fifth finger (white arrows), with mild palmar subluxation of the joint (Figure 1, white arrowhead). This injury, also known as mallet finger, is relatively common in athletes. It involves a sudden force applied to the end of a finger, causing flexion at the DIP joint while the finger is in extension. This forced flexion overcomes the strength of bone or the extensor tendon at the base of the distal phalanx, resulting in the deformity.

Patients with mallet finger present with flexion deformity and inability to actively extend at the DIP joint of the affected finger. Full passive extension, however, is usually achievable during examination. Radiographs aid in diagnosing the condition; the lateral view will reveal

avulsion as well as subluxation, if any, of the DIP joint.

Most cases of mallet finger can be treated with continual use of a DIP joint extension splint for 5 weeks.¹ Surgery is typically required in cases of displaced bone fragments with greater than 30% joint involvement—with or without palmar subluxation—to restore joint congruity.² The patient in this case deferred surgical intervention and was treated in a DIP joint extension splint for 6 weeks.

REFERENCES

1. Mercier L. Sports medicine. In: *Practical Orthopedics*. 6th ed. Philadelphia, PA: Mosby Elsevier; 2008:327.
2. Watson JT, Weikert DR, van Zeeland N. Hand and wrist injuries. In: Madden CC, Putukian M, Young CC, McCarty EC, eds. *Netter's Sports Medicine*. Philadelphia, PA: Saunders Elsevier; 2010:369.