

CHALLENGES IN

SPORTS MEDICINE & ORTHOPEDICS

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FIGURE 1



FIGURE 2



A 31-year-old man presents with severe pain in the radial aspect of his left wrist after laying sod. He reports a remote injury to his wrist for which he never received medical treatment. A radiograph reveals a nonunion fracture of the middle third of the scaphoid (Figure 1). In addition, an MRI is ordered for further evaluation of the wrist (Figure 2).

How would you interpret this image?

Dr. Patterson is a fellow in sports medicine at the National Training Center Sports Medicine Institute. He is board certified in family medicine and spinal cord injury medicine. **Dr. Ray** is the medical director of the National Training Center Sports Medicine Institute and is a board-certified orthopedic surgeon specializing in sports medicine. The National Training Center Sports Medicine Institute in Clermont, Florida, specializes in the nonoperative and operative orthopedic treatment of patients of all ages, including elite performance athletes.

CONTINUED

FIGURE 1



This coronal T²-weighted image of the wrist reveals avascular necrosis of the proximal scaphoid. Scaphoid fractures are the most frequently occurring fractures of the carpal bone.¹ They occur mostly during falls on outstretched hands. Physical exam often reveals swelling of the wrist with decreased range of motion and pain on palpation over the anatomical snuffbox. Location of the fracture in the scaphoid is significant, with 70% of scaphoid fractures occurring in the middle third of the bone.² Vascular supply to the bone enters distally; therefore, a transverse fracture through the waist or middle third of the bone may disrupt blood supply to the proximal portion, increasing the risk for avascular necrosis of the proximal portion.

FIGURE 2



Conservative management for nondisplaced acute fractures includes thumb spica casting for 6 weeks. In acute displaced fractures, open reduction internal fixation with a compression screw is required. In chronic nonunion fractures of the scaphoid, partial fusion or screw fixation may be performed. In patients whose clinical presentation suggests fracture, yet radiographs are inconclusive, repeat radiographs should be obtained in 2 to 3 weeks.

REFERENCES

1. Simon RR, Koenigskecht SS. *Emergency Orthopedics: The Extremities*. 3rd ed. Norwalk, CT: Appleton & Lange; 1995:96.
2. Bednar MS, Light TR. Hand surgery: wrist injuries. In: Skinner H, ed. *Current Diagnosis & Treatment in Orthopedics*. 4th ed. New York, NY: McGraw Hill; 2006:576-580.