

Answer

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The patient's x-rays show 2 abnormalities. On the AP (anterior–posterior) view there is widening of the scapholunate space, which measures approximately 3 mm. On the lateral view, just dorsal to the lunate, a triquetral fracture is evident. The diagnosis of scapholunate dissociation with fractured triquetral was subsequently confirmed with an MRI (magnetic resonance imaging), and the patient underwent operative repair.

Scapholunate dissociation is the most common and most significant ligamentous injury of the wrist. Most of these injuries result from a fall on an outstretched hand. The resulting spectrum of injury ranges from a low-grade strain of the ligament complex to a complete tear with scaphoid dislocation.

There are several clues that suggest an injury to the scapholunate complex. The most reliable sign is swelling and tenderness over the bones themselves, which lie just distal to Lister's tubercle. Patients generally experience pain with vigorous grasp and may have decreasing repetitive grip strength. One provocative stress test that may be performed is the Watson test. The examiner compresses the upper pole of the scaphoid on the volar aspect of the wrist while the wrist is moved from ulnar to radial deviation. A positive test produces a palpable click and significant pain as the scaphoid shifts dorsally.

X-rays should be performed with the forearm in neutral position and the scapholunate space should be mea-

sured at the level of the midportion of the flat lateral facet of the scaphoid. It is generally accepted that a measurement of greater than 2 mm may signify ligamentous injury. In uncertain cases, a comparison view of the unaffected wrist or "clenched fist" views of both wrists may be helpful. Clenching produces a compressive force across the mid carpal joint which is transmitted to the scapholunate junction. If there is scapholunate instability, separation of the scaphoid and lunate is increased.

Other radiographic findings include the "cortical ring sign," which occurs if the scaphoid flexes and its upper pole is viewed "end-on" on the AP film. On the lateral view, an increase in

the scapholunate angle to more than 60 degrees is suspicious (greater than 80 degrees is diagnostic) and an increase in the capitolunate angle to greater than 15 degrees is suspicious (greater than 20 degrees is diagnostic). MRI, arthroscopy or arthrography may be required to confirm uncertain cases. Treatment is at the discretion of the hand surgeon and may include supportive casting, closed reduction or open reduction and internal fixation with ligament repair.

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Fig. 1. Anterior–posterior view, with widening of the scapholunate space.



Fig. 2. Lateral view, showing a dorsal triquetral fracture.