

## Image Diagnosis: Perilunate and Lunate Dislocations

Jennifer A Newberry, MD, JD; Gus M Garmel, MD, FACEP, FAAEM



Figure 1.



Figure 2.



Figure 3.

### Perilunate Dislocation

Anterior-posterior (AP) view (Figure 1) demonstrates the distal and proximal carpal rows overlapping, as well as a complete radial styloid fracture. Lateral view (Figures 2 and 3) demonstrates dorsal dislocation of the capitate, whereas the lunate remains articulated with the radius. More often seen in young men in their teens to twenties, rather than children or the elderly, it is a high-energy mechanism that causes wrist hyperextension resulting in perilunate dislocation.<sup>1</sup> As seen here, it is more common to see an associated fracture of a carpal bone, such as the scaphoid, or an associated radial or ulnar styloid fracture, rather than a dislocation alone. An estimated 16% to 25% of perilunate dislocations are missed on initial exam, resulting in increased morbidity eventually requiring open reduction with fixation and sometimes salvage repair.<sup>1</sup>

Jennifer A Newberry, MD, JD, is a Second-Year Emergency Medicine Resident in the Stanford/Kaiser EM Residency Program. E-mail: newberry@stanford.edu. Gus M Garmel, MD, FACEP, FAAEM, is a Senior Emergency Medicine Physician at the Kaiser Santa Clara Medical Center, Co-Program Director of the Stanford/Kaiser Emergency Medicine Residency Program, and Clinical Professor (Affiliate) of Surgery (Emergency Medicine) at Stanford University. He is also a Senior Editor for *The Permanente Journal*. E-mail: gus.garmel@kp.org.



Figure 4.



Figure 5.

### Lunate Dislocation

Lateral view (Figures 4 and 5) demonstrates volar displacement of the lunate. Known as the “spilled teacup sign,” the lunate on end resembles a tipped cup. In addition, the capitate is seen dorsal to the lunate. AP view (Figure 6) shows disruption of the greater and lesser arcs with the lunate having a triangular silhouette, known as the “piece of pie” sign.<sup>2</sup> Often caused by falling on an outstretched hand, patients will have tenderness to palpation over the dorsum of the wrist and may have sensory deficits in the median nerve distribution. All carpal dislocations require immediate reduction and stabilization, often by an orthopedic surgeon.<sup>2</sup> If reduced successfully in the Emergency Department with procedural sedation, consultation with a hand, orthopedic, or plastic surgeon still is advised. Complications include median nerve entrapment and chronic carpal instability.<sup>3</sup> ❖

### References

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Figure 6.