Wrist-Hand Trauma

**Patient History**

Patient presented in pain from falling on an outstretched hand. Standard 2D X-ray imaging was performed (3 view) followed by imaging on the CARESTREAM OnSight 3D Extremity System.

**Findings**

A Colles’ fracture is clearly seen on the 2D radiographs. Typical treatment would be cast immobilization or surgical fixation.

![Figure 1 Standard 3-view 2D X-ray with evidence of Colles’ fracture (Distal Radius Fracture)](image)

If an Extremity CT was used, the following images could have been obtained:
Figure 2 MPR slices from the patient in Figure 1 acquired with the OnSight extremity CT system showing a clear comminuted Colles’ fracture of the distal radius with an associated fracture of the trapezium.

Diagnosis for this patient could potentially identify both the Colles’ and trapezium fracture as it is easily seen in the extremity CT scan compared to 2D radiographs. Fractures of the trapezium are very important to detect and treat early given the importance of the trapezium in the carpometacarpal joint in actions such as grip and pinch. Typical treatment could be cast immobilization or surgical fixation for both fractures in one treatment.

1DN Ramoutar, C Katevu, AG Titchener, and A Patel. Trapezium fracture - a common technique to fix a rare injury: a case report Published online 2009 Sep 17. doi: 10.4076/1757-1626-2-8304 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2769426/
Wrist Trauma

Patient History
57-year-old woman presented with wrist trauma. Standard 2D X-ray imaging was performed as the routine imaging choice. Imaging with the CARESTREAM OnSight 3D Extremity System was ordered due to inconclusive findings on the 2D radiographs.

Findings
The traditional 2D projection X-rays (see Figure 1) did not show any evidence of a fracture but the patient was experiencing clear pain on the first row of the carpus (ulnar side).

Figures 2 and 3 show various MPR slices from a 3D scan of the patient taken on the OnSight extremity CT, clearly indicating a large fracture of the triquetrum.
This important finding means the patient will be in a cast for a longer period of time than would have been indicated from the negative 2D X-rays. In addition, this type of injury can be a trigger factor for lunate dislocation and should be checked for consolidation and to ensure the fragments do not displace more with time. This example highlights the value of the inherently high image quality and 3D nature of the data provided by the OnSight extremity CT system.