

Image Diagnosis: Interesting Plain Film Radiographs from the Emergency Department

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Figure 1. Traumatic left wrist injury: AP and Oblique

On clinical evaluation, there is obvious deformity and swelling of this adult's left wrist. The important finding here is identifying two injuries: fracture at the distal third of the radius (obvious) and dislocation of the distal radioulnar joint (obvious in these images but often missed). A line through the distal portion of the ulna should intersect the pisiform bone. These two injuries comprise a Galeazzi's fracture (fracture-dislocation), which requires open reduction and internal fixation (ORIF). Injury to the Anterior Interosseous Nerve (AIN) may occur, but is commonly missed because this nerve has no sensory component. Injury to the AIN (branch of the median nerve) results in a loss of the pinch ability between the thumb and index finger.



Figure 2. Traumatic right wrist injury in a child: AP and Lateral

Note the slight wrinkle (bulge) in the distal portion of the radius, approximately 2 cm from the unfused (normal) epiphysis. Known as a torus or buckle fracture, this fracture is common in children and often missed because it can be extremely subtle (and often identified in only one view). Additional clues to the diagnosis include a small amount of soft tissue swelling and swelling within the fascial planes near the fracture. Despite overlap of the radius and ulna on lateral view, the smooth contour of the distal radius changes to an abrupt angle at the site of the fracture.

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