

## VAQ 2011.2.5 (XR)

A 23 year old man has been brought to your emergency department after a fall onto his outstretched right hand from a height of three metres.



a. Describe and interpret his X-rays (100%)

This radiograph shows a severe limb injury. There is an anterior lunate dislocation as well as associated posteromedial perilunate carpal dislocation. Gas in the soft tissues implies that these injuries are open, with a likely volar/ulnar wound. The distal radioulnar joint is subluxed, and there is a fracture of ulnar styloid. There is considerable risk to multiple structures, mainly the medial and ulnar nerves, the radial and ulnar arteries, and the flexor tendons.

This is an orthopaedic emergency and requires urgent antimicrobials, irrigation, reduction, immobilisation. The 3m fall is concerning for other traumatic injuries which are outside the scope of this question.

### XR AP and lateral wrist

Injuries seen

**lunate dislocation – anterior**, with approx 180 degree rotation seen on lateral view

**perilunate dislocation – remaining carpals are displaced dorsally/radially in relation to the articular surface of the radius**

**Ulnar styloid fracture – comminuted**

Distal radioulnar joint is subluxed with the distal ulna displaced dorsally  
concerning for associated radial fracture – image up to elbow

Soft tissues

**appearance of volar/ulnar wound** at least 4cm approximately transverse

**gas in soft tissues volar and dorsal to wrist**

dressing or skin flap adjacent to wound

in keeping with **open fracture/dislocation**

Additional

small opacities seen over distal forearm may be artefactual  
possibly obliterated ulnar styloid or contamination

### **Severe orthopaedic injury**

ideally urgent reduction in theatre, consider temporising reduction in the ED

**limb threatening, high chance of short and long term complications**

infection

immobility

loss of function

employment and functional implications

### **Risk to**

**neurovascular / tendinous structures** particularly

**median nerve**

**ulnar nerve**

less likely radial nerve

**radial artery**

**ulnar artery**

distal perfusion

**flexor tendons** – FCR/FCU, FDS and FDP to all digits, PL if present

flexor retinaculum