Volar locking plate fixation of distal radius is crucial. Long screws can lead to extensor tendon ruptures where as short screws can lead to failure of fixation, especially if there is dorsal comminution of the fracture. The aim of our study was to determine the distal radius anatomy in relation to sagittal lengths and distance between dorsal bone edge and extensor tendons based on MRI scan.

Method: One hundred consecutive MRI scans of wrist were reviewed by two of the authors on two occasions. All MRI scans were performed for different wrist pathologies except distal radius fractures or tumours. An axial image, two cuts proximal to the last visible articular surface, was selected. Sagittal length at five different widths, maximum volar width, radial overhang over distal radio-ulnar joint and the distance between dorsal bone edge and extensor tendons were measured.

Results: Total of 100 MRI scans were included of which 54 were female and 46 were male. Mean volar width was 30 mm and longest sagittal length was 24 mm (at Lister’s tubercle). Length radial to Lister’s tubercle was the shortest (17 mm) and ulnar sides were 21 and 20 mm. Male measurements were mean 2 mm longer than females. Mean radial overhang over DRUJ was 3 mm. Distance from bone to tendons were: AbPL/EPB 1.5 mm, ECRL/ECRB 1.4 mm, EPL 0.6 mm and EDC/EI 2.4 mm.

Conclusion: The study provides a reference guide to average screw lengths at different widths of distal radius in males and females. EPL tendon is closest to bone although all the extensor tendons except 4th compartment tendons are within 2 mm of bone edge and carries a risk of injury from drill and screw placement. DRUJ is also at risk of injury if screws are placed within 3 mm of ulnar edge of distal radius.


Mortality data from a trauma and orthopaedic unit over a 19-month period
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We audited the mortality data at a busy Trauma and Orthopaedic unit over a 19-month period. The aim was to determine if patients’ being effectively managed during their stay in hospital.

We collected case notes of 102 patients who had died during the 19-month period in the unit. We subsequently reviewed their death certificate or post-mortem diagnosis.

Mean age at death was 83, with a female: male ratio of 3:1. Mean delay to surgery was 3 days. 97% of deaths were emergency admissions, with 88% from the Casualty department. Nearly 3/4 of patients were admitted with a fractured neck-of-femur, or a complication from fractured neck-of-femur surgery. Almost a third of patients did not receive operative treatment. This was due to investigations pending, decision upon conservative management, and peri-operative complication or cardio-respiratory arrest. Most deaths occurred in patients ASA grade 3 or 4, but in almost a half of cases this had not been documented.

Mean number of documented co-morbidities on admission was 2–3. Most patients suffered at least two complications during their admission prior to death; mainly heart failure, ischaemic heart disease or bronchopneumonia. 71% of patients had been given a ‘Do not resuscitate’ status prior to death, with the majority of these being issued on the day of, or 1 day prior to death. 15% of patients had been deemed medically fit for discharge prior to death. 56% of patients were referred to the coroner subsequently.

Accurate peri-operative management and optimisation are vital on a trauma unit. Early orthogeriatrician input and prompt assessment by other specialties and a multidisciplinary approach is necessary to help prevent complications in these patients. Resuscitation status should be reviewed earlier rather than later. Medically fit patients should continue to be monitored. Appropriate certification and coroner referral is needed to accurately diagnose cause of death in these patients.


MRI based distal radius anatomy for volar locking plate fixation
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Introduction: Getting the distal locking screw lengths right in volar locking plate fixation of distal radius is crucial. Long screws are close to tendons except 4th compartment tendons are within 2 mm of bone edge and carries a risk of injury from drill and screw placement. DRUJ is also at risk of injury if screws are placed within 3 mm of ulnar edge of distal radius.