of operation may be deemed by surgical preference alone.

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Anterior versus superior plating of fresh midshaft clavicular fractures
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Between 2000 and 2004, 42 fresh midshaft clavicular fractures in adults with initial shortening of >20 mm were treated with primary internal fixation. In this retrospective study, the results of plating the fractured clavicle on its anterior surface were compared with placing the plate on the superior surface. The plates were placed anteriorly in 16 patients and 26 patients had them superiorly. The placement of the plate anteriorly or superiorly was based on the preference of the surgeon operating. There were 31 men and 11 women. The average age was 34.23 years (range 14—61). The follow up varied from 4 months to 3.5 years. The results were analysed by a physiotherapist as a neutral observer with a Biodex machine and were assessed for shoulder function. The patients were also assessed with regards to their return to occupation, satisfaction with the operation and scar cosmesis. The functional results between the two groups with respect to the above mentioned parameters were similar. Overall 97% were satisfied with the outcome. The plates were on the superior surface of the clavicle in both patients who had implant failure. They were replated anteriorly and the patients recovered well. Deep infection occurred in one patient in whom the plate was incidentally superior and was replated once the infection settled. Out of the seven patients in whom the plates were removed, five were superiorly placed plates and had to be removed due to prominent metal work and soft tissue irritation. In our study, the incidence of implant failure and implant removal was higher in patients in whom the plates were placed superiorly compared to the group in whom it was anterior.

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Complex trauma and reconstruction in upper limb using ilizarov fixators
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The indications for use of external fixator in upper limb is rare, as deformity and limb length discrepancy is well tolerated in upper limb as compared to lower limb. The application of external fixator is also difficult as neuro-vascular bundles take a spiral route in upper limb as compared to more or less straight route in lower limb, making safe corridors very narrow in upper limb.

Methods: We present our experience of upper limb ilizarov fixators at a tertiary trauma centre. Thirty-four patients, who had application of upper limb external fixators for various indications were reviewed retrospectively. The regions involved were Humerus—13, Elbow—11 and Forearm/wrist—10.

Results: Indications for application of frame were Complex fractures—12, Non-union—15, Unstable elbow—3, Lengthening—2, Elbow fusion—1 and Elbow contracture—1. Twenty-six of the 27 patients with Fracture/Non-union united in external fixator. Mean time in external fixator for all patients was 22 weeks. All patients had improvement of function and reduction in pain level.

Complications: Pin site infection (all settled with antibiotics with no deep infection), one failed salvage (required amputation), one transient radial nerve palsy, one malunion and two fractures at pin sites.

Conclusion: External fixator has a very important role in management of complex trauma and reconstruction. It can be used safely in experienced hands for specific indications with good success rate.

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Dislocation of distal radio ulnar joint associated with fracture both bones of forearm—A prospective study
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Dislocation of the distal radioulnar joint (DRUJ) in association with fractures of both bones of the forearm has received relatively little attention in the literature. The purpose of this study was to evaluate the integrity of DRUJ and evaluate the association between the level of fracture and instability of DRUJ following fracture both bones of forearm.

This was a prospective study of 65 patients, over 3 years followed up for 12 months. All patients were treated with open reduction and internal fixation of radius and ulna. The mean age of the patients was 34.8 years (15—68 years). There were 51 males and 14 females. There were 18 fractures involving distal
third of forearm, 42 fractures in the middle third and 5 fractures of the proximal third. Thirty-eight fractures (58.4%) had subluxation of the DRUJ and 27 had no DRUJ subluxation. All subluxations were dorsal. Post-operatively, 30 of the 38 fractures (78.9%) had persistent DRUJ subluxation. Of the 27 fractures, which had no pre-operative DRUJ subluxation, 10 fractures (37%) revealed dorsal subluxation in the post-operative radiographs. All fractures were immobilised in above elbow plaster casts for 6 weeks. All patients were followed up at 3, 6 and 12 months. Patients were assessed clinically, radiologically with standardised radiographs and functional assessment of grip and pinch strength using Jamar dynamometer. At 12 months, 12 patients had significant symptoms associated with DRUJ. Of these, four had functional restriction, which were related to complex DRUJ dislocations.

DRUJ dislocations are more common in fractures, which are in the direction of the interosseous membrane (p < 0.002). They are commonly associated in fractures involving the middle and distal third of the forearm. There is a tendency for under-reporting of DRUJ dislocations in fractures of both bones of forearm and hence, more attention should be paid to this entity.

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Volar locking plate fixation of unstable distal radius fractures: A new ally against an old enemy
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Introduction: While simple straightforward distal radius fractures are easy to treat, no one technique seems to work for the difficult ones. Volar locking plating (VLP) is a bio-mechanically sound fixation technique which holds a lot of promise in this respect.

We present here our series of distal radius fractures treated using volar locking plates.

Materials and methods: The records of all distal radius fractures treated with volar locking plates were reviewed. A minimum follow-up of 6 months was ensured. Patient, fracture and surgery details were noted. Measurements were carried out on pre and post-operative X-rays to assess the quality of the correction and its maintenance. All patients were reviewed and their wrist and hand function assessed using the Stewart scale.

Results: Twenty-six fractures in 26 patients were treated by volar locking plating between February and August 2004. The mean age at the time of surgery was 57 years and the mean follow-up was 9 months. Four fractures were AO type A and the rest were type C. Five different types of VLP were used, the commonest being the Forth plate. Radiological measurements showed that the fixation improved the alignment of the fracture in each case but did not always restore normal anatomy. Once plated all fractures went on to unite without any change in alignment.

The wrist and hand function (assessed using the Stewart scale) was good and excellent in 89% of patients and fair to poor in 11%. The two patients (8%) who had poor results included one patient who developed a post-operative compartment syndrome and another who had a distal forearm cross-union.

Conclusion: Volar distal radius locking plating is a useful technique for treating complex distal radius fractures especially AO type C. Rapid restoration of wrist function is possible as fixation is very stable.

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Ulnar carpo-metacarpal joint fractures and fracture dislocations
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Introduction: Fourth and fifth metacarpal base fractures are debilitating. Conservative and surgical regimes have been suggested with little support in the literature. We report a prospective series of fractures of fourth and fifth metacarpal bases, with up to 1-year review.

Methods: Over 12 months 54 fractures of fourth or fifth metacarpal base presented, with or without associated carpus fractures. AP, lateral, oblique and 60° supinated X-rays were performed. Metacarpal base dislocations or intra-articular steps underwent reduction and instrumented fixation with short arm cast protection. Undisplaced fractures were managed conservatively in a moulded short arm cast for 4 weeks. Review was proposed at 1 and 4 weeks, 3, 6 and 12 months. Wires and casts were removed at 4 weeks.

Results:

39 of 54 had notes and X-rays available;
82% were male;
mean age 31;
82% right hand dominance;
15% non-dominant hand injuries;
punching injury in 82%;
20 fifth base fractures, 2 with hamate injury;