

# ROUNDUP<sup>360</sup>

## Trauma

### Post-traumatic elbow stiffness

■ Post-traumatic stiffness of the elbow can be very incapacitating. So suggest authors from **Brussels (Belgium)**, who looked at 30 adults who had undergone open arthrolysis of the elbow for the problem. Injury had occurred a mean of 15.5 months earlier. After surgery, 77% of the patients were satisfied with their outcome, the mean arc of flexion/extension being 95°. Full restoration of movement was rare with only 18% of patients regaining functional arcs of movement. The ultimate result, seen from both patient's and surgeon's perspectives, strongly depended on the degree of persisting pain. Arthrolysis did not address this issue at all.<sup>1</sup> **360** concludes that, although a reasonable range of movement can be achieved with this operation, the end result is not as good as one might hope.

### Radial neck fractures in children

■ Meanwhile in **Odense (Denmark)** an interesting publication has appeared on the topic of displaced fractures of the radial neck in children. Although a relatively infrequent injury, the authors reported retrospectively on 19 children who had received internal fixation of their fracture with the Métaizeau centromedullary (intramedullary) technique. There were good clinical and radiographic outcomes with this method. The authors conclude that the Métaizeau technique is an excellent option for displaced fractures of the paediatric radial neck.<sup>2</sup>

### Supracondylar fractures of the humerus

■ Staying with the paediatric upper limb, researchers from **Los Angeles (USA)** looked in detail at displaced, type II supracondylar fractures of the humerus that had been treated by closed reduction and percutaneous pinning. However, they were specifically interested in the outcome of fractures that had undergone surgery more than seven days after injury. Some supracondylar fractures do slip after initial reduction, so subsequent surgery may be needed.

The researchers reported on 143 patients, 101 who underwent surgery a mean of 2.1 days after injury and compared those with 42 patients who received their operation at a mean of 9.8 days after injury. There were no differences between the two groups, although two patients in the later group developed avascular necrosis of the humeral trochlea. It thus appears that an anatomical reduction of type II paediatric supracondylar fractures can be achieved more than seven days after the initial injury without increased risk to the patient.<sup>3</sup>

### Hemiarthroplasty or THR for the fractured femoral neck?

■ From **Sheffield (UK)** comes a large meta-analysis on the clinical

and cost efficacy of hemiarthroplasty and total hip replacement for intracapsular fractures of the femoral neck. Which is better? From a review of 11 databases, the authors found almost 1000 participants. The study established that although there was a significantly increased risk of dislocation in the total hip replacement group, there was a reduced risk of revision. There were no differences in mortality, however. In all the trials, individuals with a total hip replacement reported better function, better mobility and less pain than those

who received a hemiarthroplasty. It thus appears that total hip replacement is more cost effective than hemiarthroplasty for the displaced intracapsular fracture of the femoral neck.

Although there

are increased costs initially, the longer-term costs appear lower. Of course, and **360** agrees with this, the capacity and experience of surgeons to perform total hip replacement were not explored. This is an area that clearly needs investigating.<sup>4</sup>

### Proximal femoral nail antirotation

■ A multitude of different methods exist for the management of the unstable trochanteric fracture of the femoral neck. Surgeons from **New**

**Delhi (India)** have undertaken a prospective, randomised trial on 81 patients to compare the proximal femoral nail antirotation (PFNA) with the dynamic hip screw (DHS). The primary outcome measure was re-operation within the first post-operative year and mortality at the end of one year. It appears that the PFNA won. The mean operation time for the PFNA patients was less (25 minutes *versus* 38 minutes), a shorter fluoroscopy time was required and there was less blood loss. There were no implant failures in the PFNA group but six for the DHS. Furthermore, patients with a PFNA had a better functional outcome than those with a DHS. What can **360** say? The result is clear. No doubt the manufacturers of the PFNA will be rubbing their hands with glee.<sup>5</sup>

### Removing metalwork

■ Does that metalwork need to be removed? This is a question most orthopaedic surgeons are repeatedly asked by their patients. Researchers from **Hong Kong (China)** have tried to answer this through a retrospective study of 53 patients, each of whom had a fixation implant in place for more than three years. The quality of life for each patient was assessed using the Chinese (Hong Kong) validated SF-36 (Short Form-36). It appeared that the total SF-36 score for the patients was not statistically different to the Hong Kong norm. There were 33 patients (62.3%) who reported a limited range of movement, nine (17%) who complained of cosmetic problems



and ten (18.9%) who complained of weakness. The authors thus conclude that as most patients were clinically and radiographically normal, with quality of life scores that were also comparable to the norm, removal of implants is not advised as a routine practice. The 360 view? A basic survey, methodologically different, but interesting all the same.<sup>6</sup>

### The ununited tibia

■ An interesting review of the management of aseptic tibial nonunion has been published from **Denver (USA)**. The author explains that tibial nonunion remains a significant clinical challenge despite advances in surgical management. New techniques to resolve the problem include extracorporeal shock wave therapy and percutaneous injection of bone marrow aspirate. Extracorporeal shock wave therapy has been shown to be as effective as surgical management in patients with stable hypertrophic nonunion. Meanwhile, new fixation options include locked plates and intramedullary compression nails. Several biological techniques are also available, including bone marrow aspirates, stem cells, and bone morphogenetic protein. The best choice will clearly reduce the need for multiple procedures. However, non-surgical methods to date lack large prospective studies to establish or refute their efficacy. 360 considers this review to be excellent and a good summary of the current approach to a very difficult problem.<sup>7</sup>

### Pulsed electromagnetic field stimulation for the broken tibia

■ Workers from **Liverpool (Australia)** have looked at 259 patients with acute fractures of the tibial shaft to see if pulsed electromagnetic field stimulation might reduce the rate of surgical revision for delayed union or nonunion. The participants were randomised into one of two groups. All patients wore an externally identical device, although this was only active in one of the groups. Unfortunately, no between-group differences were found with regard to surgical intervention for any reason, radiographic union, or functional measures. It thus appears that adjuvant pulsed electromagnetic field stimulation does not prevent secondary surgical interventions for delayed union or nonunion. Nor does it improve radiographic union or functional outcomes in patients with acute fractures of the tibial shaft.<sup>8</sup>

### Internal fixation or nonoperative treatment for the broken proximal humerus?

■ In the Shoulder and Elbow section of this issue of 360 we already describe a comparison of internal fixation and hemiarthroplasty for three- and four-part fractures of the proximal humerus. Yet what if such fractures are left alone and Nature is allowed to take its course? Surgeons from **Stockholm (Sweden)** have looked at this, with a study of internal fixation *versus* nonoperative treatment for these fractures. They

included 60 patients with a mean age of 74 years, randomised to treatment with a locking plate or nonoperative management. By the final two-year follow-up it was clear that the locking plate showed an advantage in terms of functional outcome and health-related quality of life. However, this was at the cost of additional surgery in 30% of the patients with locking plates.<sup>9</sup> 360 concludes that treating these fractures conservatively may not serve the elderly patient best.

### Locking plates are not always easy

■ Of course, not everyone feels that locking plates are easy. Surgeons from **Herlev (Denmark)** have undertaken a meta-analysis of the benefits and harms of locking plate osteosynthesis for intra-articular fractures of the proximal humerus. From a large, iterative search of multiple databases, they found 282 type C fractures to investigate. They were unable to identify any randomised clinical trials for the procedure. However, the most common complications were avascular necrosis (up to 33%), screw perforation (up to 20%), loss of fixation (up to 16%), impingement (up to 11%) and infections (up to 19%). In addition, the re-operation rate ranged from 6% to 44%.<sup>10</sup> 360 thinks ouch! Clearly all that glitters is not gold.

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