their original work. So, on balance, the authors of this review are supportive of TFCC debridement, and there certainly is enough evidence on balance here to support ongoing use of TFCC debridement for ulnar-sided wrist pain in individuals found to have a tear. However, the naysayers among us would probably argue that this just represents the normal course of the disease, and that patients would be expected to get better in any case.

Does the ulnar styloid matter in a distal radius fracture? X-ref

■ The ulnar styloid was previously thought to be so important that one commonly used classification, the Frykman classification, even used the presence or otherwise of an ulnar styloid fracture as a key discriminator of treatments and outcomes. This view may induce the treating surgeon to attempt fixation of this often rather small piece of bone, which is not a technically easy venture. A team from **Yangzou (China)** performed a through systematic review and meta-analysis to find out whether there is genuine evidence about whether or not an ulnar styloid fracture makes a difference to outcomes. The authors identified ten studies that fulfilled their inclusion criteria and were suitable for meta-analysis. Between them, these studies report the outcomes of 1403 distal radius fractures. The review team have established that, in the indexed literature, there are no significant differences in wrist motion, grip strength, radial height, volar angle, ulnar variance, pain score, Patient-Rated Wrist Evaluation (PRWE) score, or 36-Item Short Form Health Survey (SF-36) score for distal radial fractures associated with an ulnar styloid fracture *versus* isolated distal radial fractures. Given the lack of differences in clinical outcomes, and when combined with the observation that in subgroup analysis of patients who went on to heal their ulna styloid fracture *versus* those who did not, there were no differences in outcome. This suggests that open reduction internal fixation (ORIF) of the ulna styloid to achieve union would be unlikely to improve outcomes. So, unless there is frank distal radial ulnar joint instability, which is rather rare, then our advice would be to leave the styloid alone.

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Shoulder & Elbow

X-ref ***For other Roundups in this issue that cross-reference with Shoulder & Elbow see: Wrist & Hand Roundup 3***

Elderly clavicle fracture fixation on the rise X-ref

■ Recent literature has highlighted a mismatch between the modest increase in the overall incidence of clavicle fractures and the marked rise in the rate of surgical management, probably driven by the mounting evidence that operative management reduces nonunion rate. Given that the evidence to support fixation of clavicle fractures is far from conclusive, and that evidence also suggests that fixation in patients at high risk of nonunion is likely to be the best strategy, the increasing rate in operative fixation raises an interesting question: which patients are we increasingly fixing? In this retrospective study from **Stanford, California (USA)**, the authors utilized data from large databases – collected as part of the billing process within the US – to define and compare the rates of surgery in patients older than 65 years of age with a midshaft clavicle fracture.[1] Between 2007 and 2012, there were a total of 32 929 patients recorded on the Medicare Standard Analytic File and Humana administrative claim datasets who sustained a clavicle shaft fracture. Within this population, there was an increasing rate of fixation in patients older than 65 years of age that presented with clavicle fractures; surgical fixation has nearly tripled in that time. On a sub-analysis by age and gender, there was also an increasing rate of both male and female elderly patients that were managed with surgery. This data demonstrates a clear increasing trend towards surgical fixation for elderly patients with a clavicle shaft fracture. Although there are well-known issues with using age as a cutoff for activity level and potentially the need for surgery, this study does highlight a notable increase in the use of surgery in managing these fractures, despite much of the level 1 evidence in this area being carried out in patients who are under 65 years of age. Furthermore, although these studies have determined that open reduction internal fixation (ORIF) is associated with an overall reduced rate of nonunion, the patient-reported benefit is debatable past three months. This increase in the rate of elderly patients undergoing surgical management of these injuries is somewhat surprising, given the lack of any clear evidence in the literature.

Humeral shaft fractures – which need fixing? X-ref

■ A recent prospective randomized trial reported superior outcomes and union rates following percutaneous plating to surgery, compared with nonoperative management, for isolated fractures of the humeral shaft. Considering this trial alongside recent clinical data that reported an 18.5% rate of postoperative iatrogenic radial nerve palsy following nonunion surgery, surely we should be fixing more of these fractures acutely to avoid late nonunion and the sequelae of nonunion surgery? There is plenty of evidence to support nonoperative management – although much of it is older – and there is certainly the possibility of spinning the data to support any particular point of view. Given the objective review of the evidence as it stands, it would seem to be

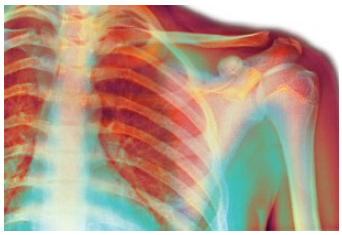
a reasonable stance to consider surgery in those fractures that are at a higher risk of nonunion. In this retrospective cohort study from **Victoria (Australia)**,[2] the authors compared the union and complication rates in 126 patients presenting with a humeral shaft fracture: 96 patients managed nonoperatively and 30 patients managed surgically. While smaller than the majority of randomized trials, the focus on risk factors for nonunion makes this investigation worthy of note. The baseline demographics between the groups were reported as reasonably well-matched. In common with previously reported studies, the authors established an increased rate of nonunion (33%) with conservative management of humeral shaft fractures when compared with the surgical group (4%), although the delayed union rate was higher following surgery (33% *vs* 13%). Interestingly, a strong risk factor for nonunion following nonoperative management was a psychiatric history including dementia, with the mean age of this cohort of patients ten years older than the remaining patients (72 years *vs* 62 years), which is clearly a potential confounder. Any other associations regarding fracture location were limited by the relatively small numbers in the study. Despite notable issues with this study – in particular, selection bias – it adds further evidence regarding the potential limitations when using nonoperative management for these fractures, and highlights the need for further large prospective studies in this area.

Is arthroscopic surgical release for golfer's elbow safe and effective?

The role of surgery for medial and lateral epicondylitis of the elbow is much-debated. With the use of arthroscopic treatment continuing to be reported, there does need to be some clarity in the literature one way or the other what the evidence to support treatments is, for what is a painful but poorly understood and difficult-to-treat condition. Some of the contrasting results in the literature are possibly related to the heterogeneous nature of the series reported, but surgery does seem to be of benefit when it is reserved for patients with refractory cases. Compared to open surgery, purported advantages of arthroscopic surgery are reduced pain, a shorter recovery time, and the ability to assess the elbow joint for concomitant pathology. In this small retrospective case series from **São Paulo (Brazil)**,[3] the authors report their experience in a tiny number of just seven patients, all of whom underwent arthroscopic debridement of the common flexor origin for refractory medial epicondylitis of the elbow. The mean age of the patients in this series was 50 years, and all patients had failed or had limited improvement with standard conservative measures for a minimum of six months (mean, two years; range, six months to 48 months) prior to undertaking surgery. At a mean final follow-up of 17 months, significant improvements were seen in both the mean Disabilities of the Arm, Shoulder and Hand (DASH; from 38.3 to 6.3) and mean Visual Analogue Scale (VAS; from 7.8 to 1.9) pain scores. Aside from a patient with a postoperative haematoma that resolved spontaneously, no complications in this were recorded. The authors conclude that arthroscopic surgical management of medial epicondylitis of the elbow is safe and effective, with significant improvements in pain and patient-reported outcome scores found. Despite the obvious limitations, given the size of the series, this study is one of the first to report the outcome using this technique for refractory golfer's elbow. Although of interest, there is without doubt a learning curve with such surgery and the potential for complications, including devastating neurological complications, is ever present. Perhaps a more sensible take on this modest paper is that this is a technique that can be used, although efficacy and complications are still relatively unknown.

An alternative approach for elbow arthrolysis

Elbow stiffness and contracture following trauma can result in notable disability to the patient. A wide range of techniques and approaches for performing an elbow arthrolysis have been described that have unique advantages and disadvantages, including arthroscopic methods. In this study from three centres in **Phoenix, Arizona; Omaha, Nebraska; and Dickson City, Pennsylvania (USA)**, the authors report the use of a novel olecranon osteotomy-facilitated elbow release (OFER) that is subsequently repaired using a multiplanar locking intramedullary nail.[4] The perceived benefit of this approach is the extensive access it allows to the joint and surrounding soft tissues, as well as using a novel technique to repair the olecranon osteotomy site. This retrospective analysis of their case series included a decent sample of 35 patients (29 men) with a mean age of 40 years, all of whom had developed post-traumatic elbow stiffness following the usual variety of fractures and/or dislocations around the elbow. The most common primary injuries were open reduction internal fixation (ORIF) of a supracondylar humeral fracture (n=12) and a terrible triad fracture dislocation (n=11). At a mean of over three years following surgery, the average elbow motion arc was significantly improved from 33° preoperatively to 110° postoperatively ($p > 0.001$). This in itself was associated with significant improvements in the mean Visual Analogue Scale (VAS) pain score and the Disabilities of the Arm, Shoulder and Hand (DASH). The only reported complication was a spontaneously resolving ulnar neuropraxia; all osteotomy sites healed at a mean of 6.6 weeks following surgery. There are obvious limitations to the study associated



with the retrospective design and, although this is a novel technique with very positive results, here at *360* we are unsure if this currently adds sufficiently to the existing techniques reported in the literature to warrant uptake, particularly given the need for metalwork to be placed in the olecranon. As the authors themselves acknowledge, further studies would be needed to validate the first report of this technique.

Do surgeons care about PROFHER?

The advent of large randomized controlled trials has caused some consternation in the general orthopaedic and trauma surgical population. Perhaps not unexpectedly, surgeons believe in the treatments they offer, and also tend to believe that their skill level is above average. This, of course, causes us all some difficulties in interpreting and assimilating trial data, as we tend to heed and quote trials that reinforce our point of view and disregard those that do not. One of the most startling findings was that the Distal Radius Acute Fracture Fixation Trial (DRAFFT) study changed clinical practice across the UK, with fewer and fewer surgeons opting for distal radius plates following and during the trial. We read with interest this report from **York (UK)**, which concerns decision-making following the publication of the Proximal Fracture of the Humerus Evaluation by Randomization (PROFHER) trial.[5] The research team undertook an unusual and ambitious qualitative study in an attempt to understand decision-making, and how the trial has informed this, rather than a simple count of numbers of procedures being performed. The study

team developed a questionnaire following a pilot with six surgeons using a 'think aloud' process.
The final 29-item survey was then distributed to 265 surgeons treating proximal humerus fractures. The authors used Framework Analysis principles and descriptive statistics to summarize their findings. The headline figures were that approximately half of surgeons (n=137) had changed practice to various extents because of PROFHER. Approximately a sixth of all respondents (n=43) had not changed practice, as their pre-trial practice was in line with the PROFHER findings. Those who did change practice were likely to be younger specialist shoulder surgeons, working in a smaller trauma unit that treats fewer PROFHER-eligible fractures surgically. This paper is interesting in that it explores surgeons' attitudes towards what is a very controversial trial within the shoulder surgical community. It is heartening to find that around 75% of surgeons now treat their fractures according to the findings of the largest randomized trial on the topic.

Cortical bone affects fracture type

In this elegant study from a research group in **Venlo (The Netherlands)**,[6] the research team aimed to characterize the effect that osteoporosis (using bone mineral density (BMD) and Cortical Index (CI)) has on the eventual fracture pattern in patients sustaining a proximal humeral fracture in low energy mechanism. The study team devised a clinical study utilizing retrospective chart review, involving 168 patients who sustained their injury over a four-year period and also had dual-energy X-ray absorptiometry (DXA) bone density measurements of the hip, femoral neck, and/or lumbar spine available. Slightly counter-intuitively, there were no differences seen in fracture pattern between simple and complex fractures of the proximal humerus in terms of the measured DXA bone mineral density of the hip, femoral neck, or lumber spine. In addition, the authors calculated the cortical index; this was also not found to be significantly different between groups. The only significant differences that the authors were able to observe were in the bone mineral densities between the complex and simple groups, with heavier patients sustaining more complex fractures. This paper is interesting in that it emphasizes the importance of mechanics on fracture patterns, even in patients sustaining fragility fractures. Where it might be presumed that those with a lower BMD would sustain more complex fractures, this turns out not to be the case. However, if more force is applied – by being heavier when you fall – then the fracture complexity does increase. There is certainly some food for thought here.

Short-stemmed press-fit shoulder arthroplasty

There has been so much focus on the reverse shoulder arthroplasty as a mode of treatment for all manner of shoulder pathologies in recent years that, as a result, the other evolutions in shoulder arthroplasty design are passing more or less unstudied. We were delighted to see this report from the shoulder team in **Austin, Texas (USA)** that focuses on another relatively recent evolution in shoulder arthroplasty: short press-fit anatomic stems.[7] These have the potential advantage of restoration of normal shoulder biomechanics, with the option of a longer stem in reserve in case revision surgery is required. This study team were able to assemble an impressive cohort of 118 patients with press-fit uncemented short-stem total shoulder arthroplasties. The authors report a range of outcome measures, including shoulder function scores, mobility measurements, and radiographic outcomes, to a three-year follow up point in patients with both grit-blasted and porous-coated stems. From a survival perspective, although this is a short follow-up series, there were no patients with loosening at the minimum two-year follow-up. However, there were two patients with grit-blasted stems in ectatic humeral shafts who went on to early loosening. Signs of bone resorption on the medial cortex were seen in approximately one in ten patients. This series does serve to show that there is some evidence – in the short term, at least – for the use of a short anatomic uncemented humeral component with excellent clinical outcomes, and of a robust long-term prognosis, particularly in the porous-coated stems.

Multidirectional instability under the spotlight

One of the most difficult conditions to treat in any subspecialty in orthopaedics is that of the multidirectional shoulder instability. Although it is a fairly common diagnosis, patients are commonly seen with recurrent refractory symptoms. The mainstay of shoulder surgical treatment has been to shy away from surgery – due to the poor success rates and high incidence of functional overlay seen in the patients – and to treat the patients conservatively, usually in a multidirectional instability clinic with specialist physiotherapy. The difficulty has been that although conservative management is commonly recommended as first-line treatment for multidirectional instability of the shoulder, there is a minimum of evidence to support the efficacy of this treatment. Surgeons in **Melbourne (Australia)** have recently written up their experience with 43 patients,[8] all diagnosed with multidirectional instability, who undertook a 12-week exercise programme. Outcomes were assessed using the Melbourne Instability Shoulder Scale (MISS), the Western Ontario Shoulder Instability Index (WOSI), and the Oxford Shoulder Instability Score (OSIS). The authors also report secondary outcome measures of shoulder strength and scapular position. Reassuringly, this cohort study supports the efficacy of specialist physiotherapy, with patients reporting significant improvements in all functional instability scales and improvement in strength and scapular position measures. This paper really does support current practice for these patients, and should reassure patients and surgeons that there is hope of a reasonable outcome for what is a very difficult condition to treat with perseverance and specialist rehabilitation. An important take-home message from this paper is the importance of sustained and specialist rehabilitation, with the patients in this paper undergoing a three-month rehabilitation programme that is both resource and time-intensive.

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