

How do we examine the thumb?

■ One might imagine we already know how to examine a thumb base. In reality, however, it can be really rather difficult due to the close apposition of various structures, all of which have their own nuances and can cause various pathologies. There are a wide range of papers exploring the variable specificities and sensitivities of physical signs. A group from **St Louis, Missouri (USA)** have reported their experience of 129 patients, all presenting with radial-sided wrist pain.¹ The cohort contained 48 patients with carpo-metacarpal (CMC) arthritis, with the other patients having a variety of other pathologies. The authors set out to establish the diagnostic value of thumb metacarpal adduction and extension tests when compared with other provocation tests. They established that either adducting or extending passively the thumb metacarpal parallel to the index metacarpal had a sensitivity and specificity of around 0.94 for CMC arthritis - much higher than the traditional 'grind test' and 'point tenderness' tests. Given the simplicity of performance and ease of incorporating into a routine clinical assessment, it seems that we should consider implementing these simple tests in our examination routine.

Open or endoscopic cubital tunnel release?

■ So many procedures that used to be performed using a large incision can now be achieved endoscopically. Whether we can perform cubital tunnel release endoscopically, and whether we *should* perform cubital tunnel release endoscopically, however, are two completely different questions. Small incisions are not always safer; does the potential for a quicker recovery therefore justify the inevitable learning curve?

Researchers in **Montreal, Québec (Canada)** set out to answer this question, with their evidence synthesis in the form of a systematic review and meta-analysis.² The authors identified 118 papers for potential inclusion in their study, however, just 20 were of sufficient quality to warrant inclusion. These papers report the outcomes of 425 open and 556 endoscopic decompressions. A simple overview of the results would suggest a comparable number of good/excellent results in the open and endoscopic groups (79.8% vs 81.8%), and the complication and re-operation rates were also comparable. The authors were able to undertake a meta-analysis of the three comparative studies, and this suggested a lower overall complication rate with the endoscopic approach. They conclude that endoscopic release was found to be equally effective and safe but with a lower rate of elbow and scar pain. So, if the higher surgical cost and learning curve are judged to balance with a quicker recovery, then those of us not yet using this technique might want to learn.

Are we getting better at hand surgery research? X-ref

■ So much of surgical training care has, for centuries, been based on opinion and apprenticeship. The move to evidence-based medicine has been, and still is in some quarters, a painful one. Trainees and consultants alike base most treatment decisions in hand surgery on their training and experience, sometimes supplemented by a couple of case reports or perhaps a small series. By and large, surgery has not been amenable to the rigour of the randomised controlled trial (RCT) which is much more suited to comparing a binary outcome (life or death) with a binary treatment (tablet or no treatment). There is, of course, a role for the RCT for certain treatments, and at 360 we are delighted each month

to report on a number of RCTs across all orthopaedic disciplines. In a world of expanding literature, open access and myriad new journals (seemingly a new one each month), a study from a group in **Dublin (Ireland)** caught our eye at the editorial desks. The authors set out to examine the evidence that underpins hand surgery.³ The research team evaluated the level of evidence for articles in six of the leading sources for hand surgical research: *Plastic and Reconstruction Surgery*; *Journal of Plastic, Reconstructive and Aesthetic Surgery*; *Journal of Hand Surgery - European Volume*; *Journal of Hand Surgery - American Volume*; *The Bone & Joint Journal*; and *The Journal of Bone & Joint Surgery*. The authors reviewed 20 years of publications, and perhaps not surprisingly only around 10% of published research over the time period was 'high-quality' evidence. However, what is perhaps heartening is that there were not only improvements in the proportion of higher levels of evidence but there was also a progressive improvement in the Jadad scale (for quality of RCT evidence) across the 20 years. The proportion of high-quality evidence has increased between 1993 and 2013, as well as the quality of that evidence, which is reassuring for both clinicians and patients.

Be careful with volar plating! X-ref

■ The debate as to whether we should be using volar plates has by no means been settled by the recent Distal Radius Acute Fracture Fixation Trial (DRAFFT) study – what DRAFFT has achieved is most definitely clarity of thought in many surgeons' minds, if not agreement! Nevertheless, either as a DRAFFT believer or not, most surgeons are plating fractures that cannot achieve a closed reduction. When undertaking plate fixation, careful surgery to avoid nerve damage remains, of course,

paramount. The old-fashioned and frankly dreadful midline approach - predictably threatening the median nerve and palmar cutaneous nerve (PCB) - has been rightly abandoned in favour of the flexor carpi radialis (FCR)-based approach. However, researchers from **Philadelphia, Pennsylvania (USA)** have set out to establish if this approach is as safe as we all like to think.⁴ Their observational study sought to determine the rate of incidence of anomalous palmar cutaneous branch (PCB) within the wrist. Their study recorded the course of the PCB in 182 patients undergoing volar plating. Within this group, around 5.5% were anomalous with the PCB piercing the sheath of the FCR in ten cases. It turns out that this approach is not quite safe either, should the surgeon cut through the bed of the FCR, thus dividing the dorsal sheath. Given their findings of a predominantly radial-sided entry to the FRC sheath in those patients with an anomalous course of the nerve, the authors thus recommended that the approach should run through the fascia radial to the radial edge of FCR and the FCR sheath itself, leaving the FCR within its sheath. This strikes us here at 360 as sensible advice.

Wait for ulnar pain to settle after a wrist fracture X-ref

■ It is known that patients experience pain in the ulnar corner of their wrist following a distal radial fracture, and that they can present complaining bitterly about this symptom, asking for 'something to be done'. This occurs both with and without an ulnar styloid fracture. Authors in **Seoul (South Korea)** have set out to establish the aetiology and natural history of this condition – is there really triangular fibrocartilage complex (TFCC) pathology in all of these patients?⁵ They enrolled 140 patients, all with three-month radiographs, following surgery for a distal radial fracture. A full evaluation included grip strength



measurements and clinical assessment. Further assessments at six and 24 months have been undertaken. While 16% had ulnar pain at three months, this decreased to 8% at six months and just 2% at 12 months; none of these patients wanted treatment. The pathophysiology is not quite clear, and could be due to the ulnar head impacting into the carpus as the radius has shortened. The distal radioulnar joint may be incongruous due to tilting of the distal radius. If we consume resources and organise an MRI scan, we may well see some signal disruption in the margins or centre of the TFCC. But do these need treating? Our clinical

experience matches that in Korea; if we wait rather than intervene too early, it is suggested that the pain may well settle. So the message is clear - avoid early scans, osteotomies and arthroscopies. Use good old-fashioned time and reassurance instead.

Fixation of the ulnar styloid fracture X-ref

■ Hot on the heels of the Seoul experience of ulnar-sided wrist pain following distal radial fracture is an article from **Nagoya (Japan)** exploring the question of whether the ulnar styloid fragment needs fixing in distal radial fractures.⁶ These authors comment that significant controversy surrounds treatment of the ulnar styloid fragments. They report their experience of a case-matched series with 3:1 matching. Their 16 patients, who underwent radial and ulnar styloid fixation, were matched to 48 patients who did not undergo fixation but were matched for fracture pattern, age and sex. Outcomes were assessed in terms of a range of radiographic measures and clinical scores. Perhaps unsurprisingly, there were no differences in the radiographic or clinical parameters

that the authors measured as part of the study. They were able to say that the chances of radiographic union are higher. Putting these two studies together, it seems sensible to watch and wait, and allow nature to take its course with ulnar-sided wrist pain after fixation of a distal radial fracture.

Even Michelangelo had arthritis in his hands!

■ Michelangelo, the Renaissance master who produced some of the most sublimely beautiful and famous pieces of art, not least of which are the iconic hands of God and Adam ('The Creation of Adam', Sistine Chapel, Vatican City), had arthritis in his hands. In 1552, he wrote to his nephew that "writing gives me great discomfort..." Collaborators in **Florence (Italy)** and **Sydney (Australia)**⁷ studied three portraits of Michelangelo himself, aged between 60 and 65 years. They each show his left hand, suggesting he was left-handed. The hand displays the typical squaring of the thumb trapeziometacarpal joint, with lesser changes in the thumb metacarpophalangeal joint and interphalangeal joints, as well as the proximal interphalangeal joint of the

index finger.

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Shoulder & Elbow

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

Reverse shoulder arthroplasty: the key is in the greater tuberosity X-ref

■ This study further highlights the increasing use of reverse total shoulder arthroplasty (rTSA) for complex fractures of the proximal humerus, which was featured in a paper discussed in the last edition of 360.¹ This multicentre retrospective study from **Zürich (Switzerland)** reports the use of rTSA for the

more complex head-splitting three- and four-part proximal humeral fractures.² The authors were able to gather together a series of 51 patients with a mean age of 77 years who were analysed at a mean of three years following acute reverse total shoulder arthroplasty (RSA). Outcomes were assessed using the Constant score and the subjective shoulder value (SSV), both administered at a single follow-up point with patients achieving, on average, 86% of the shoulder function on the other side. A total of 92% of patients rated their management as excellent

or good, with overall satisfaction levels high at 93%. Although no intra-operative complications were recorded, of the original 73 patients, four underwent revision surgeries: one periprosthetic humeral fracture, one post-operative haematoma and two infections. An inferior outcome was associated with secondary displacement of the greater tuberosity (GT) when compared with those with a GT that was radiographically united. The authors concluded that rTSA is a sound treatment modality for these difficult and challenging cases, while also suggesting that

revision surgery may be indicated for secondary displacement of the GT, although this statement is made without a comparison. This study is one of the largest in the literature reporting on this topic for managing acute complex proximal humeral fractures in elderly patients, where the indication for the reverse implant could be on the rise; utilisation certainly is.

Shoulder arthroplasty may improve the driving performance of patients

■ It must be one of the most common questions asked by a