

# ROUNDUP<sup>360</sup>

## Wrist & Hand

### Random group therapy is no good at treating OA of the hand

■ Group therapies of all types are much in favour at the moment in nearly all healthcare circles. Not only does this cut therapy costs, but there is a thought that the positive reinforcement seen by patients competing with each other may be as beneficial in treatments as diverse as ACL rehabilitation and post joint replacement. Researchers in **Utrecht (The Netherlands)** decided to establish if this group therapy approach was applicable to patients with hand osteoarthritis (OA). The study employed parallel-group randomised controlled trial methodology and enrolled patients from three different rheumatology centres. Patients were allocated on a modified block randomisation scheme to either four sessions of multidisciplinary therapy or 30 minutes of education and three months of conservative therapy. While the patients and therapists were not blinded to the patients' allocations, the outcomes assessor was. Patients were all assessed at three months and interventions were assessed clinically using the OARSI (primary measure) and Australian Canadian Osteoarthritis Hand Index (AUSCAN) (secondary measure). A total of 151 patients were successfully recruited into the study (76 intervention and 75 control), and by three months there were no detectable differences in any of the primary or secondary outcome measures. The authors

conclude that: "hand OA causes a range of impairments and limitations in activities, programs with more guidance to formulate and implement individually tailored treatment plans could be probably more effective" which is, of course, supposition.<sup>1</sup> All that can be said in light of the findings of this study is that group therapy for hand OA is no more effective than a short education session and three months' expectant management as a treatment strategy.

### Salvaging failed CMCJ arthroplasty

■ First carpometacarpal osteoarthritis of the thumb is a common problem, and after failure of splints and steroid injections, thoughts may well turn to surgical intervention, often trapeziectomy. There are few other places in the body where excision arthroplasty continues to be performed allowing a good level of function. However, with the potential drawbacks of slow rehabilitation and the dreaded complication of instability and metacarpal shortening, surgeons and bioengineers alike continue to seek out new alternatives to the tried and tested trapeziectomy. The dizzying array of implants and spacers introduced over the years to combat this have not enjoyed universal success and many have now been withdrawn. While allowing the potential for an earlier return to function and the added attraction of maintaining thumb length, the surgery can be technically challenging and have a significant complication rate of

early aseptic loosening. Surgeons in **Heidelberg (Germany)** have shared their experience of 16 patients who underwent salvage surgery, in all cases for failing implants. The study team devised a case-matched study matching the salvage patients to primary trapeziectomy patients for demographics (age and gender) and follow-up interval in order to establish whether salvage trapeziectomy is as successful as the primary operation. The study team evaluated mobility (range of movement and Kapandji score), grip strength, and outcome tools (pain, satisfaction and DASH score). The authors were unable to establish any significant differences between the two scores at nearly 48 months of follow-up.<sup>2</sup> With follow-up to over four years and outcomes of secondary trapeziectomy comparable to primary procedure it is certainly possible to say there is a reasonable salvage option. However, this still doesn't help us answer the question as to whether implants have any indications. On the one hand they can be salvaged successfully to a trapeziectomy, but we have yet to see any conclusive evidence to suggest why one should bother in the first place.

### Scaphocapitate arthrodesis for instability in manual workers

■ Despite the enlightened age of 'evidence-based medicine' in which we live, the surgeon still needs help in decision making with a host of less common pathologies, often based on evidence from small case

series and expert opinion. In the world of wrist and hand surgery, chronic scapholunate instability is high on the list of difficult to treat pathologies. In the first of two papers in this edition of 360, the difficulties of scapholunate instability in manual workers, where the demands the patient places on their proximal and mid-carpal joints are significant, are discussed. Surgeons from **Paris (France)** examine the benefit of scaphocapitate arthrodesis for the treatment of scapholunate instability in this tricky to manage group. The research team retrospectively reviewed 20 manual workers at mean of ten years' follow-up. All patients had static SL instability and were middle-aged (mean 43 years). They had a significant SL gap (4 mm to 9 mm) but intact articular cartilage. At current follow-up, the patients had, on average, managed to achieve a grip strength of around 60% compared with the other side, and a remarkable flexion/extension arc of 87°, with a very satisfactory Quick DASH of 19. Over 90% of the patients had managed to return to manual work. Radiological outcomes were also satisfactory with all patients demonstrating union and an improved carpal height, although there was a 30% rate of radiocarpal arthritis noted; this may have been due to the initial injury, not necessarily the fusion.<sup>3</sup> The authors conclude that based on their results, the ongoing use of this procedure is justified. We would certainly agree with them. In this tricky population over a

sustained follow-up period our colleagues in Paris have demonstrated isolated scaphocapitate fusion to be a successful operation.

### **Brunelli tenodesis and scapholunate instability**

■ A second shard of light has been shed recently on the somewhat opaque topic of scapholunate instability. Preferring the tenodesis option, a second set of researchers from neighbouring **Marseille (France)** have reported on the efficacy of a modified Brunelli tenodesis at an impressive ten years of follow-up. Reasoning that in the absence of osteoarthritis, fusion is a big step, the research team opted for a flexor carpi radialis transfer to stabilise the scaphoid. Despite the headline-grabbing long follow-up, the surgical team were only able to report on the results of 19 patients. While grip strength (85%) and flexion extension arc (10°) and DASH score were better than those reported in the previous series, we note here at 360 that the dataset is not quite complete.<sup>4</sup> That said, both offer comparable long-term follow-up figures and in the light of both options, it seems that soft-tissue reconstruction may be more effective, but perhaps in the most demanding patient, the permanence offered by a partial fusion should be preferred. Both approaches certainly seem a reasonable option based on the evidence presented in these two papers.

### **Night splints for Dupuytren's revisited**

■ As discussion concerning post-operative splinting following Dupuytren's contracture release (to splint, not to splint or to splint at night) continues unabated, researchers in **Auckland (New Zealand)** have thrown a randomised controlled trial into the mix. Wishing perhaps to prove their point to 'splint sceptics', the tenacious Kiwi's designed and conducted a single-centre randomised controlled trial with the aim of answering what effect night extension splinting would have on range of movement following

surgical release of Dupuytren's contracture. A cohort of 56 patients were randomised post-operatively to a regime of hand therapy plus night splintage (n = 26) or hand therapy alone (n = 30), and the primary outcome assessed was total active extension. Secondary outcomes also assessed were active flexion, active distal palmar crease, grip strength and the DASH score.<sup>5</sup> Despite careful design and recruitment and atten-



tion to detail with their study, the study team were not able to establish any significant differences between the two groups and any of the study outcomes. We would agree with the research team here, that in light of these (and the findings of others) the practice of providing every patient with a splint may not be justified.

### **The smallest IM nail?**

■ Establishing effective fusion without soft-tissue compromise of the interphalangeal and distal-interphalangeal joint of the thumb is an excellent way of treating the pain and deformity associated with degenerative joint disease. Unfortunately, the procedure, while commonly performed, can be a little tricky and associated with difficulties from prominent metalwork. Recently the trend has been to use headless compression screws for this surgery and surgeons in **Tokyo (Japan)** have investigated the use of the 'reverse fix nail', a specific headless compression screw designed for

fusion of the DIPJ or IPJ. Using fusion rates as the main outcome measure (but also reporting complications), the study team conducted a retrospective case review (Level IV evidence) of 89 cases in 60 patients. In all cases, the medical charts and radiographs were reviewed of patients undergoing the 'reverse fix nail'. Union did not appear to be a problem with 86 patients (97%) going on to bony union, although there were four patients who suffered one or more complication.<sup>6</sup> It does certainly seem from this report that the reverse fix nail is suitable for phalangeal fusions, with a much lower complication and nonunion rate than published previously with other fusion methods.

### **Early diagnosis of CRPS?**

■ Complex regional pain syndrome (CRPS) is sometimes a difficult diagnosis to reach and always a challenging condition to treat. Relatively common following surgery and trauma to the upper limb, the diagnosis can sometimes be delayed as the early symptoms of CRPS are akin to those expected anyway in the post-operative or post-traumatic period. Early detection of CRPS is one way of improving treatment outcomes. A study team from **Szczecin (Poland)** set out to establish if there is any benefit in the use of CRPS severity scores to aid early detection of CRPS following distal radial fracture. They identified two systems for the diagnosis of CRPS, the International Association for the Study of Pain (IASP) criteria and the complex regional pain syndrome severity score (CRPSSS) and designed a prospective diagnostic study to evaluate their use in the early diagnosis of CRPS. A serial cohort of 120 patients were screened following their distal radial fracture for the signs and symptoms of CRPS with the two scores. Initial assessment at six weeks revealed that ten patients (8.3%) met the diagnostic criteria on both diagnostic scores. By ten weeks only 71 patients were available for assessment, but again around 8%

fulfilled the diagnostic criteria for CRPS according to the IASP score but just 3% on the CRPSSS. The clinicians only reached a diagnosis of CRPS in a single case in this series, while in the other at risk patients, symptoms subsided spontaneously.<sup>7</sup> The study team note that their reported incidence is much lower than reported elsewhere in the literature, and that with such a low specificity of both scores it would be impossible to reach clinical or diagnostic decisions based on the scores alone.

### **Endoscopic carpal tunnel release?**

■ The fashion for endoscopic carpal tunnel release had (we presumed here at 360) subsided. For such a straightforward operation and condition there are literally volumes of research produced each year concerning carpal tunnel syndrome: who is likely to get it, what is the best treatment, how best to perform the surgery, etc. Researchers in **Hellerup (Denmark)** have revisited the controversial topic of how best to perform the operation, and with some style, we have to say. The researchers designed a single blinded randomised controlled trial (Level I evidence) evaluating three operative approaches; classical, short incision and endoscopic. A total of 90 patients were entered into the study and consecutive cases were used. While by 24 weeks there were no differences in pain, parasthesiae, mobility or grip strength, there was a significantly shorter time off work requirement in the endoscopic group. Although the researchers were unable to find any outcome in favour of the short incision, their study certainly suggests that use of the endoscopic approach may reduce patient sick leave associated with the condition.<sup>8</sup> We will leave the health economists to argue over the potential benefits of increased operative time and special equipment *versus* the benefits of a faster return to work. Our Danish colleagues certainly have firmly reopened this debate.

## REFERENCES

1. **Stukstette MJ, Dekker J, den Broeder AA, et al.** No evidence for the effectiveness of a multidisciplinary group based treatment program in patients with osteoarthritis of hands on the short term; results of a randomized controlled trial. *Osteoarthritis Cartilage* 2013;21:901-910.
2. **Kaszap B, Daecke W, Jung M.** Outcome comparison of primary trapeziectomy versus secondary trapeziectomy following failed total trapeziometacarpal joint replacement. *J Hand Surg Am* 2013;38:863-871.
3. **Luegmair M, Saffar P.** Scaphocapitate arthrodesis for treatment of scapholunate instability in manual workers. *J Hand Surg Am* 2013;38:878-886.
4. **Chabas JF, Gay A, Valenti D, Guinard D, Legre R.** Results of the modified Brunelli tenodesis for treatment of scapholunate instability: a retrospective study of 19 patients. *J Hand Surg Am* 2008;33:1469-1477.
5. **Collis J, Collocott S, Hing W, Kelly E.** The effect of night extension orthoses following surgical release of dupuytren contracture: a single-center, randomized, controlled trial. *J Hand Surg Am* 2013;38:1285-1294.
6. **Matsumoto T, Nakamura I, Miura A, Momoyama G, Ito K.** Distal interphalangeal joint arthrodesis with the reverse fix nail. *J Hand Surg Am* 2013;38:1301-1306.
7. **Zyluk A, Mosiejczuk H.** A comparison of the accuracy of two sets of diagnostic criteria in the early detection of complex regional pain syndrome following surgical treatment of distal radial fractures. *J Hand Surg Eur Vol* 2013;38:609-615.
8. **Larsen MB, Sørensen AI, Crone KL, Weis T, Boeckstyns ME.** Carpal tunnel release: a randomized comparison of three surgical methods. *J Hand Surg Eur Vol* 2013;38:646-650.