

## **Fuse or replace? The index PIPJ X-ref**

■ The index finger proximal interphalangeal joint (PIPJ) carries a considerable load when operating against the thumb in a pinch grip, a not uncommon movement. There has been a recent vogue to replace the PIPJ, perhaps in the vain hope of reproducing the excellent, predictable and durable results that can be expected with hip and knee arthroplasty. However, as with many other small joint arthroplasties, this goal is elusive and the PIPJ replacements continue to disappoint. Given that the index finger PIPJ does not need to bend much to function well, fusion may offer as effective a functional result as arthroplasty, as long as it is pain free and stable. Authors from the Mayo Clinic, **Rochester (USA)** recently reported their own experience of both fusion and arthroplasty in a comparative case series of 79 index PIPJ procedures. The authors were able to report clinical outcomes including range of motion, strength and PROMS (patient satisfaction and Michigan Hand Score), and complication rates in a range of patients. The follow-up interval was unfortunately variable (a median of 72 months for the arthroplasties and just eight months for the fusion group). However, complete follow-up was available for 65 arthroplasties and 14 fusions. Surprisingly, the arthroplasty group maintained their range of motion post-operatively, however, an improvement was only seen in pinch strength, whereas the fusion group sacrificed motion in return for improved opposition and apposition pinch. Given that the replacement group was associated with a 4.3-fold increased chance of complication without improvements in functional scores, it may be wiser to consider the need for a reliable and durable operation if

the patient has a painful index PIP joint.<sup>1</sup>

## **A solution for the unstable DRUJ at last**

■ The unstable arthritic distal radioulnar joint (DRUJ) has been a challenge for surgeons for many years. The more traditional procedures involve removal of the ulnar head (e.g. the Darrach or Sauvé-Kapandji procedure) but this can make matters much worse, with descriptions of apparently irretrievable problems of painful instability. Attempts at revision with various tendon weaves or hemiarthroplasty have, thus far, all appeared to be unsuccessful. Here at 360 we are relieved to see that a potential solution has emerged from surgeons in **Louisville, Kentucky** and **Cleveland, Ohio (USA)** in the form of a semi-constrained total replacement for the DRUJ. This ingeniously engineered arthroplasty at long last provides a potential solution for this previously significant and sometimes intractable problem. The design teams' early results are reported in a series of 46 implants, all used in patients under the age of 40, reporting good functional outcomes and excellent pain relief with 96% survivorship at five years. Of course we need these results to be presented as a longer follow-up series, and independent verification from centres outside that of the developer would be ideal, but this is an implant we will monitor with interest.<sup>2</sup>

## **Anatomical reconstruction in place of arthroplasty?**

■ One option for the DRUJ when arthritis or instability (or both) has developed is replacement, as described in another 360 featured paper this edition. However, in those patients without arthritis, joint arthroplasty with its unproven durability is potentially unsuitable, and a variety of soft-tissue techniques have been described. As is often the case in both

surgery and life in general, simple solutions are usually the best, and so it is with this paper describing a simple and elegant technique from **Maastricht (The Netherlands)** including the clinical results of 14 patients. With this technique, the palmaris longus tendon is passed percutaneously through the radius and ulna to reproduce the tension in the distal oblique bundle of the interosseous membrane. Despite the small number of patients, the authors were able to venture a mean improvement of around 32 points in the QuickDASH score approximately two years after surgery. There was a single recurrence of symptoms in the two years of follow-up. This certainly seems to represent a potentially promising technique for what can be a tricky problem to solve.<sup>3</sup>

## **The Welsh 'fight bite' X-ref**

■ The population of South Wales has provided researchers from **Cardiff (UK)** with a large series of 'fight bites' allowing them to shed light on the outcomes of such an injury in a sizable group of patients, all with an open small joint of the hand. Their series of 159 patients included 130 metacarpophalangeal (MCP) joints and 29 PIP joints, all of which required surgical exploration on two to eight occasions. The authors were able to report overall encouraging results in MCPJs, all of which fared well. There was a slightly different story for the PIPJs, however. The results were suggestive of a 42% incidence of poor outcome, including four amputations and one fusion. The message here is that early exploration and aggressive treatment is mandatory in any fight bite, but even more attention is required for the PIPJ.<sup>4</sup>

## **Does surgeon empathy improve results? X-ref**

■ Patient satisfaction is becoming more of an essential part of our practice as surgeons – no longer is it just worth a warm fuzzy feeling and a

box of chocolates in many healthcare systems. Remuneration, commissioning and referrals are linked now to patient outcome scores. We have a tendency as medics to think that a clever operation skillfully performed by a clinically astute surgeon is the only thing able to achieve good results and is bound to lead to satisfied patients. This may be so, but we all know this isn't the whole story. Canny researchers from Harvard, **Boston (USA)** remind us that the way we empathise with patients affects their satisfaction. Their study reported the results of 112 patients attending an outpatient appointment. Patients undertook a range of structured assessments with various rating scales including 'Consultation and Relational Empathy Measure', the 'Newest Vital Sign' health literacy test, a sociodemographic survey, and three PROMs. The main message of this paper is perhaps one that surgeons wouldn't like to hear - around 65% of the variation in patient satisfaction could be accounted for by the surgeon's empathy. So, as we are likely to be judged on many levels including our patient's subjective satisfaction, it would be wise to bear in mind the softer side of medicine.<sup>5</sup>

## **Regional or local for wrist analgesia**

■ Post-operative analgesia is key to enhanced recovery pathways, shortening patient stay and optimising outcomes following surgery. Traditional analgesia (PCA, long-acting agents and plexus blockade) has given way to regional techniques that come in the form of either local blockade or large volume local anaesthetic infiltration. Both have been described in enhanced recovery after surgery protocols for large joint surgery. Following wrist arthroscopy, infusion of local anaesthetic into the portals is commonly used for post-operative analgesia, offering the appeal of simplicity and effectiveness

of pain relief. There is, however, ongoing disquiet about the risk of chondrotoxicity, which led researchers in **Rotherham (UK)** to design a randomised trial of 66 patients comparing local anaesthetic infusion to wrist blockade following surgery. The authors used the local anaesthetic, levobupivacaine, for both regional and intra-articular analgesia, with outcomes being assessed, including via the VAS pain scale and supplementary analgesic use. While both regimes appeared to offer effective post-operative analgesia, there were significantly better pain scores in patients undergoing a wrist block during the evening of the day of surgery and 24 hours post-operatively. The wrist block appeared more effective here, suggesting we should consider a change in practice to get better analgesia and reduce the risk of toxicity.<sup>6</sup>

### The evidence for wrist arthroplasty X-ref

While hip and knee arthroplasties, with some notable exceptions, have established a record for predictability and durability, the same cannot yet be said for wrist replacement. A review team from **Brighton (UK)** performed a thorough systematic review of where we are with the evidence for total wrist arthroplasty. The review team was able to identify reports of 405 prostheses in eight articles reporting outcomes from between two and seven years of follow-up. While in the majority of studies some movement of the wrist was usually preserved, and function generally improved across all the studies, the review team noted a high rate of complications. There were particular concerns about loosening and osteolysis, and the paucity of



data to reassure regarding longer-term survivorship. So this type of procedure is, in our view at 360, still experimental and should be subject to a very careful consideration of the indications and very close follow-up of results.<sup>7</sup>

### FPL rupture a hidden problem?

■ There is a 'silent' trickle of flexor pollicis longus (FPL) rupture as a result of the volar locking plate trend.

The level of incidence is reported as between 1% and 12% following volar locking plate application, and it stands to reason that a more prominent distal plate will increase the risk of attrition rupture. In modern practice and in many units there is a bit of a 'disconnect' between the orthopaedic surgeons (often on a general trauma rota) who use the implants, and those ultimately responsible for dealing with

the problem (usually a hand surgeon involved in metalwork removal and FPL reconstruction with bridge graft). The ruptures themselves may occur many years after implantation, and not present to the initial treating surgeon, thus reducing complication awareness. Orthopaedic surgeons who recognise this rare but significant complication may ask which plates it is best to remove. A research team in **Matsumoto (Japan)** designed a prospective study of 127 wrists, all of which had undergone volar locking plate insertion and removal from a pool of 192 who were plated. Slightly unusually, the authors used audible crepitus through an electronic stethoscope, radiographs of the plate, ultrasound of the FPL and operative findings in an attempt to work out which might rupture and therefore should undergo prophylactic

removal - although the authors seem to remove theirs routinely. This study did, however, give the opportunity to report on the condition of the FPL intra-operatively, and allow the authors to estimate the predictive value of the tests. Crepitus and a plate which is more volarly prominent were significant positive independent predictors of tendon attrition (13 cases of 127), with more distal plates having a lesser effect. The authors recognise that in the absence of higher-level evidence, clinical decision-making on plate removal is determined by expert opinion, personal experience and institutional traditions. This study had a plate removal rate of 66%, where a more normal reported routine incidence stands at around 6%. It may be some time before we all have to go and buy stethoscopes!<sup>8</sup>

### Deciding on surgery in the distal radius X-ref

■ Starting with the bold conjecture that 'there is no consensus regarding indications for surgery and there is inadequate data to determine optimal operative technique', a senior research team from **Boston (USA)** attempted to establish what, if any, were the factors that influenced the decisions of surgeons worldwide to operate in distal radial fracture. In an ambitious study for what was essentially a questionnaire-based survey, the research team set out to establish what the interplay was between surgeon, patient and fracture factors in the decision to offer surgical stabilisation in distal radial fractures. Their study involved seeking opinion on best management of 30 patients from a cohort of 252 surgeons worldwide. The study participants had to decide whether to operate or not, based on radiographs alone, and then radiographs in association with a clinical vignette. The authors established there was moderate agreement on decision to operate between surgeons, with a 52% operative rate across the board. The addition of patient details didn't change that, and there was surprisingly little variation

between surgeons. In other words, it appears in this study, at least, that the key indication for operative intervention is just the radiograph findings!<sup>9</sup>

### Composing that paper in hand surgery

■ Finally we would commend to the readership of 360 a brilliant and simple update, 'Preferred terminology for medical journals' by Freshwater – a simple reminder on terminology and how to write a good paper!<sup>10</sup>

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