

# Foot & Ankle

For other Roundups in this issue that cross-reference with Foot & Ankle see: Trauma Roundup 5; Research Roundup 2, 3, 4.

## TightRope in Weber C fractures

### x-ref Trauma

■ The 'TightRope' device offers the attractive potential of a mobile reconstruction of the syndesmosis, but also has the downside of suture abrasion. There are very few studies of reasonable size examining the potential benefits (or otherwise) of the device. However, this month sees two relevant papers on the topic. The first study of interest is a randomised controlled trial from **Oulu (Finland)**. Investigators enrolled 43 patients, all with Lauge-Hansen pronation external rotation (Weber C-type) ankle fractures with an associated syndesmosis injury. Patients were randomised to either screw fixation or TightRope fixation, and outcome measures including VAS and the Olerud-Molander score were assessed at two years post-operatively. Unusually, all patients underwent CT assessment intra-operatively to assess the accuracy of the reduction of their syndesmosis. Independent verification by a radiologist suggested that four patients (one in the TightRope group) suffered intra-operative malreduction.<sup>1</sup> There were no significant differences in any of the assessed primary or secondary outcome measures including reduction, and, as such, the authors concluded that standard syndesmotic screw fixation and the TightRope device had similar post-operative outcomes. Curiously, they also suggest that at two years' follow-up, malreduction rates may increase when using screw fixation, a statement the paper, however, provides no data to support. The incidence of ankle joint osteoarthritis and functional outcome was not

significantly different between the two fixation methods. The syndesmosis screw option given the cost benefit seems to win out here!

## A second look at the TightRope

### x-ref Trauma

■ A second recent study – this time originating in collaborative work between **Québec (Canada)** and **Amsterdam (The Netherlands)** – has also dealt with the question of



the TightRope in a randomised controlled study. Their study included five different centres and 70 patients, all presenting with an acute ankle syndesmosis rupture requiring surgical repair. Patients were randomised to either TightRope fixation or standard care (screw fixation). Outcomes in this study were assessed with the Olerud-Molander score administered at between three and 12 months post-operatively. Curiously in this similarly designed study, the results seemed to favour the TightRope device, with significantly better outcomes in the TightRope group at all follow-up intervals. The authors also reported lower implant failure and reoperation rates.<sup>2</sup> Like many conflicting studies, we will need to wait for a larger study to establish what is actually the best thing to do here. It may be that the slightly different inclusion criteria for this study

have resulted in the conflicting outcomes between the two studies, but in the absence of compelling data the standard screw fixation option remains the gold standard.

## Incisional VAC comes of age?

■ It has become common practice in some centres to apply 'incisional VAC' dressings to potentially problematic wounds. Early work has suggested that this may improve healing rates and decrease post-operative infection levels in high-risk wounds. Total ankle arthroplasty is growing in popularity, and it seems that the indications are broadening endlessly. Complication rates are well documented and, given the extremity of the surgery, wound breakdown and infection are among the most serious. There are reports in the literature of wound breakdown rates after TAA affecting up to 40% of patients in some cohorts. This study from **Winston-Salem, North Carolina (USA)** is a single-surgeon series and reports the outcomes using the incisional negative pressure VAC dressings for six days post-operatively. The authors report a matched retrospective cohort study. Groups were matched for demographics and risk factors pertaining to wound healing on a 1:1 basis, thus there were 72 patients (36 in each group) included in this study. The results are remarkable, with the VAC-treated group having a reported complication rate of just 3%, compared with 24% in the control group.<sup>3</sup> While the study suggests that negative pressure dressings can have a positive effect on wound healing in the setting of a tenuous soft-tissue envelope, it is important to put these findings into context and remember that, in this kind of historical change-of-practice study, this may not be the only relevant variable that has changed

during the study period.

## Platelet-derived growth factor and ankle fusion

■ Union rates in all types of fusion and trauma surgery are subject to not only surgical and implant factors, but also patient factors. Even the best of surgeons suffer some non-unions and failed fusions due to both technical error and bad luck. The market for biologics has grown exponentially following the introduction of BMPs around a decade ago, and of the new generation. Platelet-derived growth factor (PDGF) is one of the more promising biologics. Researchers in **Toronto (Canada)** have designed a study to test its efficiency in hindfoot fusion. Although hindfoot fusion success is currently reported as 90% on average across the literature, and this usually refers to approximately 50% bone bridging, not complete union. The study team co-ordinated a large randomised prospective multicentre trial of 75 patients, the largest of its kind, to examine the efficacy of platelet-derived growth factors in hindfoot fusion procedures. Their study randomised patients to either PDGF-augmented fusion or allograft alone. Outcomes were assessed to a year of follow-up and fusion rates were assessed using cross-sectional CT imaging. The results are in fact compelling. Using the CT scans, a *complete* union rate of 84% at 24 weeks is reported, in comparison with 65% in the allograft group. Clinical success at 52 weeks was reported at 92% in the recombinant human platelet-derived growth factor BB group (rhPDGF-BB), compared with 78% in the allograft group, with no adverse events reported in the rhPDGF-BB group.<sup>4</sup> Serious consideration should be given to the health economics of PDGF in

hindfoot fusion, and further similar quality studies in other indications are also clearly required.

### Achilles tendon rehab in the longer term following surgery

■ There are no long-term prospective randomised controlled trials comparing post-operative regimens after Achilles tendon rupture repair. Although there are a number of smaller studies investigating short-term outcomes, there are no longer-term outcome studies available. In the only such study (to our knowledge) of a randomised controlled trial of early weight-bearing with or without mobilisation, researchers from **Oulu (Finland)** have reported the ten-year outcomes of these two regimes. The early mobilisation group were able to bear weight and mobilise their ankles between neutral and plantar flexion. Of the original 50 patients, a total of 37 were available at 11 years post-operatively. Outcomes were reported with clinical outcome scores and isokinetic strength. Interestingly, although the majority

of patients were satisfied, there were still measurable reductions in peak strength at over a decade of follow-up, with deficit of 5% of ankle torque at final follow-up. Perhaps surprisingly, there were no differences in outcomes between the two regimes.<sup>5</sup> We would love to see a similarly long-term follow-up of an operative *versus* non-operative study which is perhaps the more pertinent question at this point in time.

### Telemedicine for diabetic foot ulcer

■ Most major health burdens are in the 'glamorous' parts of medicine - cancer, heart disease and trauma - which are all major causes of morbidity and mortality. One can't help thinking that diabetic patients get the thin end of the wedge. Diabetic foot ulcers carry with them major morbidity and mortality and require specialist input from centralised services able to provide a multidisciplinary approach to care. In the absence of major charities and glamourisation, innovative foot and ankle surgeons in **Odense (Denmark)**

have turned to telemedicine to provide specialist services to those who struggle to get it.<sup>6</sup> They report the results of their efforts in a study of 401 patients with diabetic foot ulcers who were randomised to either standard follow-up or telemedicine follow-up (with every third visit being face to face). Outcomes were assessed as rates of wound healing and a Cox proportional hazards model was constructed which demonstrated that type of follow-up did not determine the likelihood of wound healing rates (HR = 1.11) or amputation (HR = 0.87), although curiously there was a statistically higher mortality rate in the telemedicine group. Further analysis is clearly needed to establish why this was, and whether the deaths could have been preventable with more frequent face-to-face visits. Until this has been established, the role of telemedicine in diabetic foot ulcer monitoring is clearly unclear!

### REFERENCES

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## Wrist & Hand

For other Roundups in this issue that cross-reference with **Wrist & Hand** see: **Trauma Roundup 10; Research Roundup 3, 4, 6.**

### Base of thumb arthritis – steroids not a waste of time

■ Should we inject arthritic joints with steroid? It seems that almost all joints that can, are injected. The injection itself cannot, however, change the pathology and rescue the joint. On the other hand, steroids can, and do, reduce the inflammation associated with flare-ups of the disease. Anecdotally, patients often find the injection helps, at least for a while, and they often come back for another. In a

disease process like trapeziometacarpal arthritis where the disease is known to burn out, perhaps the key question is whether for some patients the injection will remove the need for surgery by controlling the symptoms in the meantime. A team from **Derby (UK)** have undertaken a thorough systematic review with the aim of answering just this question.<sup>1</sup> Following a comprehensive search, 118 publications were initially identified, of which just nine papers fulfilled the authors' inclusion criteria. These were all prospective studies, with four RCTs and five prospective case series; the quality of the evidence on which this review is based is surprisingly

good. Despite a range of disparities in study design, outcome reporting and methods, the majority of studies found a transient benefit for intra-articular steroid injection into the TMJ. Having reviewed all the indexed studies on injecting this joint, the authors found that it does help for at least one to three months.

### De Quervain's tenosynovitis and steroids

■ While on the topic of steroid injections, we here at 360 are never ones to shy away from controversy. Local steroid injection in de Quervain's tenosynovitis is a well-used and accepted technique, but is it any good? With this very painful

condition, patients will often find therapy alternatives such as ultrasound and massage to be just too painful, so the question is, do local steroid injections offer a conservative option for those not wishing to undergo (or who are not suitable for) release?<sup>2</sup> A prospective study reported by researchers in **Boston (USA)** was designed to establish the efficacy of local anaesthetic and triamcinolone injections in de Quervain's. Their study reports the outcomes of a consecutive series of 50 patients, all treated with steroid injections for isolated primary de Quervain's. Outcomes were assessed at regular intervals up to a year following injection, and the authors