

COCHRANE CORNER



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The Cochrane Collaboration has been busy in the past few months since we last undertook a Cochrane Corner Roundup. There are five intervention studies we would like to bring to the attention of 360 readers, all looking at relevant outcomes in the trauma population. And for once, not all of the conclusions are “further high quality evidence is required”!

DIAGNOSING THOSE TRICKY SCAPHOIDS

The scaphoid can be a tricky little problem. A proportion of patients presenting with clinical suspicion of a scaphoid fracture but normal initial radiographs will still have a true scaphoid fracture. In an attempt not to miss and undertreat these, additional imaging is almost always required.

In clinical practice the protocols surrounding this further imaging strategy is often quite varied. In a new review from the Netherlands,¹ the review team investigated the diagnostic accuracy of a range of commonly used imaging modalities to establish what pearls of wisdom (if any) the collective literature had to offer on further investigation of suspected scaphoid fractures. The authors identified 11 suitable studies, all evaluating one or more modality where summary sensitivities and specificities for each index test were used for both ROC curve and meta-analyses. Four studies describing the outcomes of 277 patients looked at CT, 5 studies described 221 patients focused on MRI, and 6 studies including imaging of 543 scaphoids looked at the venerable bone scan. However, only four of the studies made direct comparisons between two tests on the same scaphoid.

Based on indirect pooled comparisons, the authors assert that in all likelihood CT and MRI have comparable diagnostic accuracy. Despite new sequences and the popularity of MRI and CT bone scintigraphy, the more invasive test remained statistically the best diagnostic tool to definitively confirm a diagnosis of fracture.

The review found the included studies to be of moderate to good quality, but raised awareness of the importance of accuracy in interpreting the results, as all three tests had wide confidence intervals and few of the studies made direct comparisons between the different modalities.

CLAVICLES GET THE COCHRANE TREATMENT

In the second trauma review in this update to the collaborations evidence base, an updated intervention review from Brazil does its best to evaluate the different types of surgical treatment for clavicle

fractures and their outcomes, for acute or non-union middle third clavicle fractures.²

These study authors found four new trials in their literature review for this update. These four trials compared intramedullary with plate fixation for acute fractures in adults. As is often the case when comparing two similar interventions, even pooled results did not indicate a clinically significant improvement outcome with either intervention, using both Constant and Oxford scores at long-term follow-up of 6 months or more.² Sadly, these authors also commented that there was very low quality evidence with regards to pain, treatment failure and time to consolidation, and indicated little difference between the two techniques.

The three older studies included in the review were from small trials looking at different techniques (dynamic compression plate, Knowles pin, reconstruction plate), all of which again presented low or very low quality evidence from which to draw conclusions.

We eagerly await the results of four currently ongoing prospective randomised trials, two of which are looking at plate *versus* intramedullary fixation, with the remainder focussing on plate position.

INTERVENTIONS FOR TREATING FRACTURES OF THE PATELLA IN ADULTS

This new intervention review, again from Brazil, looked to assess different interventions available for treating patellar fractures in adults. The clinical indications for either conservative or surgical management for these fractures are quite widely accepted and therefore, unsurprisingly, the only trial studies found for management of patellar fractures were those comparing surgical technique.

Two trials (n = 48) compared biodegradable *versus* metallic implants for treating displaced patellar fractures. The authors, however, found little difference with regards to knee pain, range of motion and adverse events at two-year follow-up, which is slightly surprising given the numbers of patients who often require removal of their metalwork following fracture fixation.

A thankfully very small trial of 28 participants looked at patellectomy *versus* patellectomy with a VMO advancement for comminuted patellar fractures. Very low quality evidence from this small trial found better results with the latter; however we are not aware, here at 360, of any surgeons routinely treating fractures with patellectomy due to the long-term morbidity.

Finally, the review includes two studies comparing novel percutaneous fixation techniques *versus* open surgery for treating displaced patellar

fractures. Again, very low quality evidence showed improved knee pain scores up to three months and fewer complications with percutaneous fixation as well as improved clinician-rated knee function at 12 months, but not clinically important at 24 months.³

It seems that there is very little trial evidence of any quality to change clinical practice in terms of materials used or fixation techniques. We do wonder here at 360 if in the rigour of review methodology the point can sometimes be missed. There are a few unique fracture fixation strategies in the patella, and given the variety of fractures it is difficult to draw out a clear winner from studies that likely include a wide range of patent and fracture types.

DISTAL TIBIAL FRACTURES IN ADULTS

This updated intervention review from Taiwan assessed different methods of surgical intervention for distal tibial metaphyseal fractures in the adult population. The authors were able to find just three trials suitable for inclusion in this review, with a combined reporting of 213 participants. All of these studies compared intramedullary nailing with plate fixation. The authors state that the trial evidence is of 'very low quality' and could not find any important differences in function, pain, mal/nonunion or complications.⁴

The verdict is still out; we are hopeful that the prospective multicentre UK FixDT trial from the Warwick Clinical Trials Unit will shed some light on this important clinical question.

TRANSFUSION AND HIP FRACTURE

Elderly hip fracture patients are some of our most vulnerable, and have benefitted greatly from the more structured care afforded by comprehensive care pathways. Ever-improving outcomes with these pathways, in

addition to ward-based doctors and orthogeriatric input, have been one of the biggest evolutions in orthopaedic traumatology this decade. In optimising patients' peri-operative outcomes, blood transfusion is quite common, and this new intervention review from the UK looks to identify the evidence around this matter.

The review team identified a surprising six trials, all comparing blood transfusion triggers at 8 g/dL *versus* 10 g/dL, with the largest of these studies having 2016 patients. The authors, however, found there was no difference in 30- or 60-day mortality, function or post-operative morbidity between the two different thresholds for transfusion.⁵

The study does question the reliability of some of the results, and as such have deemed the evidence 'low quality'. This current best evidence, however, doesn't support a more aggressive threshold of 10g/dL for transfusion.⁵ These results from all studies omitted patients who were symptomatic or unstable, as of course there would have been a clinical indication for transfusion rather than an arbitrary figure.

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