

COCHRANE CORNER



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SURGICAL INTERVENTIONS FOR TREATING ISOLATED CARTILAGE DEFECTS OF THE KNEE IN ADULTS

The first review this month covers the controversial topic of isolated cartilage defects in the adult knee. Seldom does a month seem to go by without the pages of 360 reporting on a new study evaluating an intervention for chondral defects. Focal chondral defects are most often seen in the active demographic, usually secondary to traumatic injury either in combination with ligamentous or meniscal injury or in isolation. Treatment should focus on relieving symptoms as well as preventing or delaying progression to arthritis and larger areas of wear. Marrow-stimulating techniques (such as microfracture) are the most commonly used intervention globally, although osteochondral transplantation and other emerging therapies are also available. This new review looked to examine the efficacy of four treatment options: microfracture; drilling; mosaicplasty; and allograft transplantation.¹

The authors found no randomised trials on allograft transplantation or drilling, but identified three comparing mosaicplasty with microfracture. These trials totalled 133 patients who had grade three or four focal cartilage lesions with a mean area of 2.8 cm².¹ The authors comment that in one trial in a population of athletes only, with very low quality evidence, higher patient-reported functional scores are seen at one year and ten years with mosaicplasty, although the other two trials, again with very low quality evidence, showed little difference between the two. Furthermore, while both groups had patients with primary symptom recurrence, very low quality evidence favoured mosaicplasty over microfracture for treatment failure.¹

The authors feel that the quality of evidence is insufficient to draw conclusions. Current decision-making algorithms seem to be based on patient factors, functional demands, lesion size and underlying knee pathologies but clearly there remains a requirement for well designed trial research in this area, especially given the costs of such treatments and the ongoing debate surrounding their efficacy.

BIOABSORBABLE VERSUS METALLIC INTERFERENCE SCREWS FOR GRAFT FIXATION IN ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

The methods and techniques employed in anterior cruciate ligament reconstruction surgery have provoked their fair share of debate over the last few decades. With debate surrounding numbers of bundles, location of grafts, supplementary extra-anatomical reconstructions, type of donor tendon and fixation method there is plenty here for the Cochrane

Collaboration to get its teeth into. This new Cochrane review sought to establish the answer to the deceptively simple question about which interference screws are better suited for stabilising grafts in bone tunnels. In particular, this study examined the efficacy of bioabsorbable *versus* metal interference screws.²

The review team identified 12 trials, reporting the outcomes of 944 participants, randomising patients to either bioabsorbable or metal interference screws (screws in both femur and tibia in seven trials, or one of the two in four trials, and not reported in one trial).² The authors found no clinically important differences in patient-reported knee function for either group.² Treatment failure was also reported (intra-operative implant breakage or major related post-operative complications) and the summed data found greater treatment failures in the bioabsorbable screw group.²

Despite the reasonable number of clinical trials in this area, the stringent Cochrane methodology picked out enough limitations in the trial data and, as such, the authors suggested that the above findings were gleaned from only 'very low quality evidence'.

NUTRITIONAL INTERVENTIONS IN HIP FRACTURE

In a new review from the **UK**, the topic of malnourishment in the older hip fracture patient has come under the spotlight of the Cochrane collaboration. Focusing on the reported effects of nutritional interventions in the older person recovering from hip fractures, the authors were able to include an impressive 41 trials reporting the outcomes of 3881 patients in their intervention review.³ As with many of these reviews reporting multiple small trials, many of the trials had flawed methodology and were at high risk of bias (particularly with regard to allocation concealment and selective reporting of outcomes). Although low quality evidence was provided for meta-analysis, there was a moderate effect seen with oral post-operative multinutrient feeding with a relative risk of complications of 0.71 (95% CI 0.59 to 0.86) and a reported reduction in peri-operative mortality, although this was not significant. No real conclusions could be drawn surrounding other feeding methods (such as IV vitamin B1) as the quality of the evidence was too poor.³

Overall, there appears to be a benefit from post-operative oral dietary supplementation in those patients presenting with a neck of femur fracture, however, as with many of these interventions the evidence to support its use is of low quality. Given the high rates of morbidity and mortality in this group, this is clearly an area which would benefit from being addressed with intervention studies of decent quality.

ULNAR NEUROPATHY TREATMENT OPTIONS

Ulnar neuropathy is a common mononeuropathy (and a favourite exam question given the sites around which it can be entrapped). This updated review from **Rome (Italy)** focuses on the various interventions to alleviate either the entrapment or the symptoms.⁴ Surprisingly, the authors were able to identify nine trials, three of which were new for this update. They concentrated their review on two meta-analyses evaluating clinical and neurophysiological end points for the various interventions tested. Those studies evaluating simple decompression and decompression with transposition did not appear to yield any benefit of one intervention over another with either reported outcome despite the moderate quality evidence. However, there was a higher complication rate in the transposition group. The authors were not able to draw conclusions surrounding conservative treatment methods as there were only two studies using conservative treatment as the comparator.⁴ On the other hand, they were able to conclude that endoscopic surgery led to a high rate of post-operative haematoma formation. So it appears that, for now at least, open decompression even for severe neuropathy remains the gold standard although questions remain about its overall efficacy compared with that of conservative treatment options.

ANTIBIOTICS IN OSTEOMYELITIS WITH SICKLE CELL

Sickle cell disease leads to a high incidence of osteomyelitis, and this can often be multifocal. Patients can suffer with recurrent episodes, and the mainstay of treatment is often antibiotic therapy with or without appropriate targeted surgical intervention.

However, there is not yet a consensus as to the best strategy for antibiotic administration either as an empirical regime or with pathogen-specific treatments. A review team from **Valencia (Venezuela)** reviewed the evidence for one approach over another and was unable to include any relevant trials.⁵ So despite the clinical relevance of the question, in large parts of the world it appears that there is no current evidence around which to make treatment decisions.⁵

LUMBAR SPINAL STENOSIS AND THE SURGICAL OPTIONS

A review team in **Sydney (Australia)** has tackled the tricky topic of lumbar spinal stenosis and, in particular, their review focuses on the surgical options for treatment.⁶ This review includes 24 randomised controlled trials (although there were 39 articles reporting these trials) and the outcomes of 2352 patients all comparing differing surgical techniques. There were no trials comparing surgical interventions or with sham surgery. In common with all studies of this nature, the review team classified all of the

trials as being at high risk of bias with regard to the blinding of the intervention provided, however, there is little excuse for the reported lack of allocation concealment or failure to use intention-to-treat analysis.⁶

There appeared to be no advantage of decompression and fusion over decompression alone in terms of pain relief or disability reduction and, perhaps more surprisingly, there was no difference in the long-term re-operation rates between the two groups.

A number of studies compared interspinus spacer devices both with each other and with decompression with or without fusion. These devices were equally as effective as more traditional surgical options and yielded a small but significant reduction in disability over the decompression and fusion. In the longer term there was no difference in re-operation rate.

It would appear from the conclusions of this review that all of the available options are roughly equally effective and, whilst this supports the use of any surgical intervention, we would favour the least invasive and least costly simple decompression based on these results.

NEW PROTOCOLS

We would draw the attention of our readers to a review protocol from the *Anaesthesia & Critical Care* group examining the efficacy and safety of pre-operative recombinant human erythropoietin (rHuEPO) with supplemental iron (parenteral or oral) and, in particular, a focus on its efficiency in reducing post-operative transfusions.⁷ The potential to improve pre-operative optimisation and thereby avoid allogenic blood transfusions has its advantages and we eagerly await the results.

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