COCHRANE CORNER

New and updated reviews published by the Cochrane collaboration.
Correspondence should be sent to Mr A. Das MRCS (Eng) , Trauma & Orthopaedics, Queens Medical Centre, Nottingham, UK.
Email: avidas17@doctors.org.uk

PHYSIOTHERAPY WORKS IN ANTERIOR KNEE PAIN

Anterior knee pain is a common problem, and readily referred by family doctors to the orthopaedic outpatient clinic. Once the heart-sink diagnosis of patellofemoral pain syndrome has been reached (and other distinct pathologies such as osteochondral defects are excluded), a frustrating journey begins for both patient and clinician – with the aetiology of the condition unclear, the vast majority of patients are treated with physiotherapy to varying effect. The philosophy is usually to improve patellofemoral joint mechanics and extensor strength, though more recently thought has also been given to targeting the joints above and below, particularly the muscles surrounding the hip.

This intervention review[1] from The Netherlands updates a previous review and specifically looks at the effects of exercise therapy on improving knee function and reducing knee pain for patellofemoral pain syndrome. Authors included studies that looked at patellofemoral pain (or a recognised synonym such as anterior knee pain) but excluded trials that specified named knee pathologies such as Hoffa's syndrome or Osgood-Schlatter disease.

Remarkably for a condition without known aetiology, the review identified 31 studies (25 RCTs and six quasi RCTs) with a total of 1690 participants to include for qualitative analysis, and 19 studies that were also suitable for meta-analysis. Interventions assessed included exercise therapy *versus* control (no therapy/placebo), exercise therapy *versus* other conservative interventions (for example, taping) and comparisons of different exercises.

The largest comparison made was exercise therapy *versus* control, with outcomes assessed as various pain measures (during activity, usual pain and functional ability). This analysis favoured exercise therapy in both the short and long term. The second major comparison examined the recent trend for hip plus knee rehabilitation when compared with knee exercises alone. This is perhaps the most interesting portion of the review and identifies a clinically important reduction in pain, both during activity and at rest in the short and long term.[1]

While the authors add a range of the usual 'Cochrane caveats', mostly concerning the quality of the evidence, the message was pretty consistent across the reported trials. There were a number of other comparisons made looking at other forms and settings for exercise therapy that had insufficient evidence from which to draw conclusions.

OLECRANON FRACTURE FIXATION UNDER THE SPOTLIGHT

The Cochrane Collaboration has turned its steely-eyed gaze to the treatment of olecranon fractures. Probably partly due to the elegance of the concept and partly due to efforts of numerous AO table demonstrators, fractures of the olecranon are conventionally treated with a tension band wire. Conventional wisdom dictates that open fractures, those that involve displacement or compromise of the extensor mechanism, are suitable for surgical intervention. Whilst the most established surgical option is tension band wiring (TBW), internal fixation with a plating system is a common alternative.

This new review from the UK sets out to examine the evidence for different surgical interventions in the treatment of olecranon fractures in adults. Six small trials involving a total of 244 participants were eligible for analysis and included by the review team.[2] The bulk of the review is a commentary of outcomes as there is not enough evidence to support a formal meta-analysis.

One trial of 41 participants with low quality evidence found a better clinical outcome for plate fixation when compared with standard TBW, with little pain or loss of elbow motion: 19 of 22 *versus* 9 of 19, RR 1.82 (95% CI 1.10 to 3.01). This study also reports a suggestion of a lower incidence of symptomatic prominent metalwork with plate fixation, although no conclusions could be drawn about other adverse effects.

The review also includes a number of studies comparing 'traditional' TBW with various modified techniques of TBW (concomitant use of intramedullary screws and various pin systems). Positive findings included fewer cases of metalwork prominence with the use of intramedullary screws and improved functional outcome with the cable pin system *versus* standard TBW at a mean of 21 months. The authors do state that these results were produced from very low quality evidence and, as such, no real conclusions can be drawn.

There was a single paper identified by the review that was an RCT with 67 participants looking at standard TBW *versus* locking plate fixation in older patients. This study directly addresses one of the most important

clinical research questions in this area. One-year follow-up of this study was completed in September 2014 and we await the results.

PERIPHERAL NERVE BLOCKS FOR POST-OPERATIVE PAIN AFTER MAJOR KNEE SURGERY

Accelerated rehabilitation and earlier mobility in knee surgery reduces length of stay and is thought to decrease longer-term morbidity and increase patient satisfaction. Achieving this clearly requires a multimodal approach and effective analgesia has a pivotal role to play. Strategies to improve analgesia and reduce length of stay have included infiltration of local anaesthetic, and post-operative infusions are being seen frequently as part of enhanced recovery programmes. They certainly have a theoretical advantage with regards to site-specific localised pain relief and avoidance of the systemic side effects of opioid use.

This new intervention review from the Cochrane group in China aims to examine the evidence supporting the efficacy and safety of peripheral nerve blocks (PNB) for post-operative pain following major knee surgery when compared with systemic, local, epidural and spinal pain relief.[3]

The review team identified 19 studies, all of a high methodological quality and comparing PNB with systemic analgesia *versus* systemic analgesia alone, and found significantly lower pain intensity at rest at all time periods up to 72 hours post-operatively, and significantly lower pain intensity in movement between 48 and 72 hours.

Four other studies did look at comparisons between PNB and local infiltration or epidural analgesia, but there was not sufficient evidence to draw conclusions. Furthermore, there was not enough evidence from adverse event reporting to draw conclusions.[3]

It appears that one can safely say that the evidence for PNB is excellent, with high quality studies to support its use for analgesic effect. However, there is not enough evidence yet to support local infiltration as the method of choice which is the preferred analgesic modality in accelerated discharge programmes as it avoids the occasional motor block.

ASPIRATION FOR TREATING RADIAL HEAD FRACTURES?

Radial head fractures are the most common fracture seen in the adult elbow. The majority are simple non-displaced or minimally-displaced patterns that are treated conservatively, just requiring symptomatic management. The mainstay of treatment in these fractures is a combination of analgesia, early mobilisation and range of movement exercises. The analgesic effect can be facilitated by aspiration of joint haematoma and instillation of local anaesthetic into the joint. Often bringing instant relief, the review team aim to evaluate the practice.[4]

This new intervention review from Thailand looked to assess the potential benefits and complications of elbow joint aspiration for treating radial head fractures in adults. A thorough literature review found only two suitable trials from 1987 and 1991 with results available for 108 patients. Given the age of the studies, neither reported on pain- or function-validated PROM scores. The authors state 'very low' quality evidence, suggesting beneficial effect for pain relief immediately after aspiration, and lower pain at three weeks with unclear effects after this. There was also 'very low' quality evidence indicating little difference in function at 12 months. Neither trial reported any adverse event.

Given the studies are small and dated, along with the fact that they were at high risk of bias and had a lack of validated outcome measurement, there is not enough evidence to implicate clinical practice in current literature.

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