

ACC Review:

Soft Tissue Knee Injuries internal derangements: management

- The use of R.I.C.E. is accepted practice for self-management in the first 48-72 hours
- Aspiration, performed by an experienced practitioner, is indicated for severe haemarthrosis
- Topical NSAIDs are effective and safe treatment for acute sprains and strains
- Bracing is generally not required, but is accepted practice for severe Grade II and III MCL injuries
- Rehabilitation is recommended for all grades of isolated MCL injuries and post-operative ACL, PLC and PCL injuries, but is not advocated following meniscectomy unless functional limitations are identified
- There is insufficient evidence to support the use of electrotherapy modalities in knee injury management

Background^A

A summary of the current evidence and recommendations for the management of soft tissue knee injuries from ACC's 2003 guideline, *The Diagnosis and Management of Soft Tissue Knee Injuries: Internal Derangements*, is provided. This follows on from Issue 3, which focused on the diagnostic evidence.

General Management^A

The following aspects of management are common to all knee injuries.

Rest, Ice, Compression, Elevation (R.I.C.E.)

There is insufficient evidence to support the use of R.I.C.E. However, it is commonly accepted practice for self-management in the first 48-72 hours.⁴

Pharmacology

Paracetamol is recommended as the potentially least harmful and most cost-effective analgesic.⁴ However, non-steroidal anti-inflammatory drugs (NSAIDs) may be beneficial for treating a persistent effusion that has not responded to R.I.C.E.⁴ There is moderate evidence that topical NSAIDs are safe and effective for treating soft tissue injuries.¹⁺

Aspiration

No evidence on the benefits or harms of aspiration was located. However, aspiration is indicated for a severe suspected haemarthrosis following an acute injury.⁴ This should be performed by a practitioner experienced in the procedure.⁴

Rehabilitation

Physiotherapy: There is insufficient evidence to establish the relative effectiveness of the various interventions in current use.¹⁺⁺

Electrotherapy: There is good evidence that ultrasound has little benefit in soft tissue knee injury treatment.¹⁺⁺ Following meniscectomy or ACL reconstruction, there is insufficient evidence to support the use of neuromuscular electrical stimulation (NMES), transcutaneous electric nerve stimulation (TENS), or biofeedback (electromyography – EMG).

Bracing

There is insufficient evidence to determine the benefit of bracing. It may be indicated where surgery is precluded but recurrent instability exists, where a psychological benefit may enhance an individual's ability to undertake work or sport, or with certain MCL injuries (see below).⁴

Specific Management^A

Medial collateral ligament (MCL)

Non-operative management is recommended for all grades of isolated MCL injuries.³ Grade I and II injuries are best managed with early functional rehabilitation.³ However, for severe Grade II and isolated Grade III injuries, bracing is recommended for the first 4-6 weeks to allow rehabilitation to begin.⁴

Medial and lateral meniscus

Non-operative management is preferred for individuals with clinically stable meniscal tears, mild symptoms, and occupations not demanding on the knee.⁴ In the absence of locking due to meniscal entrapment, a trial of rehabilitation for 6-8 weeks is appropriate. Specialist referral is advised if symptoms persist.

Following meniscectomy, there is insufficient evidence to advocate routine physiotherapy.¹⁺⁺

Anterior cruciate ligament (ACL)

Only poor quality studies were found for ACL injury management. However, it is recommended that ACL reconstruction is likely to benefit individuals with recurrent instability who must perform multi-directional activity in their occupation or sport.⁴ There is a trend towards earlier surgical reconstruction to prevent secondary pathologies such as meniscal tears.

Following reconstruction, an active functional treatment programme, supervised by a recognised rehabilitation provider, is recommended.⁴ Open kinetic chain (OKC) exercises in the later stage of rehabilitation do no harm and may benefit the return to normal activity.¹⁺ OKC exercises are recommended from 4-6 weeks between 90 and 45 degrees of knee flexion.⁴ Bracing in the immediate post-operative period is not effective.¹⁺

Posterior cruciate ligament (PCL)

It is recommended that isolated Grade I and II tears are best managed non-operatively.⁴ However, the evidence is insufficient to establish the relative benefits of operative versus non-operative management of isolated Grade III tears.

Post-operative management should be based on the rehabilitation protocol recommended by the orthopaedic surgeon.⁴

Posterolateral complex (PLC)

Non-operative treatment for minor injuries achieves good functional outcomes but surgery is usually required for individuals with complete tears and involvement of other joint structures.⁴ Early surgical repair (1-2 weeks) achieves better outcomes than delayed reconstruction.

In Summary

Individuals with a locked knee, ACL, PCL, or PLC injury should be referred early for specialist treatment. Those with mild injuries should be treated conservatively and referred if symptoms persist after 6-8 weeks.

Reference and Key

- A. New Zealand Guidelines Group and Effective Practice, Informatics and Quality Improvement Group, University of Auckland. *The Diagnosis and Management of Soft Tissue Knee Injuries: Internal Derangements*. Commissioned by ACC, July 2003.

Adapted Scottish Intercollegiate Guidelines Network (SIGN) grading system – as used in the guideline^A

- The evidence is graded according to the quality of the study or studies from which it was drawn.
- 1++ Meta-analysis (MA)/systematic reviews (SR) of Randomised Controlled Trials (RCTs) with a very low risk of bias
 - 1+ MA/SR of RCTs with a low risk of bias
 - 1- MA/SR of RCTs with a high risk of bias
 - 2++ SR of case-control/cohort studies with a low risk of bias/moderate probability of causal relationship
 - 2+ Case-control/cohort studies with a low risk of bias/moderate probability of causal relationship
 - 2- Case-control/cohort studies with a high risk of bias/significant risk of non-causal relationship
 - 3 Non-analytic studies
 - 4 Expert opinion (from the literature or the multidisciplinary NZ guideline team)