Comparison of Meniscectomy to Conservative Management on Meniscus Repair

Austin Feltner, Athletic Training Student
Project Sponsors: Brian Zeller, Ph.D., ATC; Nora Kraemer, Ph.D., ATC, CSCS
Health, Exercise and Rehabilitative Sciences Department
Winona State University

ABSTRACT

SEARCH STRATEGY

RESULTS AND SUMMARY OF SEARCH, CONT.

The meniscus transmits load and reduces stress and compression of the articular cartilage and subchondral bone of the knee during weight bearing. A meniscus tear is a common musculoskeletal injury that occurs in active populations. An investigation analyzing the effectiveness of surgical intervention vs. conservative management is important for patients to determine which provides better functional outcomes and pain reduction. Focused Clinical Question: When treating patients with medial meniscus tears and osteoarthritis, is meniscectomy or conservative management more beneficial in alleviating pain? Search Strategy: Databases used to search for evidence included PubMed, ProQuest Nursing Collection, and CINAHL Plus with Full Text. Inclusion criteria for this appraisal was randomized controlled trials (RCTs), with the articles having to be published after the year 2000 and the use of human subjects. Terms used to search for the articles included “partial meniscectomy,” “physical therapy,” “osteoarthritis,” and “meniscal tear.” Exclusion criteria involved patients that had symptoms persisting for three months or less. Evidence Quality Assessment: Quality of evidence was assessed by one evaluator using the PEDro scale, the scores ranged from 6/10 to 9/10 and OCEBM Levels of Confidence scale with an average score of 2/4. Results and Summary of Search: Pain was measured using various scales, such as Knee Injury and Osteoarthritis Outcome Score (KOOS), Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). Analyzing the pain scales to compare both treatment options, they showed conservative management as the better option for short term pain relief. When looking at the 6 and 12-months follow up surgical intervention showed improvement when looking at the pain scales as compared to the conservative treatment. Critical analysis of the studies showed mixed results; overall both treatment options were effective in decreasing pain after a meniscal tear. A weakness, the patient population amongst all the studies were similar, but primarily pin-pointed the older adult population rather than the younger athletic population. Clinical Bottom Line: The treatment that should be considered as the first option is partial meniscectomy. Conservative management should not be overlooked as a treatment option, but surgical removal of the torn meniscus is highly valuable to effectively treat pain. The Strengths of Recommendation based on a Body of Evidence (SORT) score was a B. Implications: These findings can help when deciding which type of treatment for a meniscal tear would return someone in a safe and orderly fashion.

EVIDENCE QUALITY ASSESSMENT

The 9 randomized controlled articles were found based on this criteria. The PEDro scores ranged from 6/10 to 9/10 and the Oxford Centre for Evidence Based Medicine score was 2 for all studies found. Patients were put into one of two groups: medial meniscectomy or conservative management; with the option of crossing between groups at any time.

RESULTS AND SUMMARY OF SEARCH

Pain was measured using various scales and their values were recorded at 3-months, 6-months, and 12-months post, such as the Knee Injury and Osteoarthritis Outcome Scale (KOOS), and Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). Figure 1. Partial Meniscectomy. Figure 2. Conservative Management.

FOCUSED CLINICAL QUESTION

When treating patients with medial meniscus tears and osteoarthritis, is meniscectomy or conservative management more beneficial in decreasing pain?

Table 1. Comparison of pain scales used among the research articles at last follow-up.

Table 2. Comparison of scales used among the research articles at last follow-up.

Table 1. Overview of Meniscal Meniscus compared to Conservative Management

Table 2. Comparison of the results from the research articles on meniscectomy and conservative management on pain relief.

Table 2. Final follow-up of the different pain scales voted over the span of studies. Statistically significant.

CLINICAL BOTTOM LINE

• Meniscectomy should be the first option patients look into, but with conservative management not being overlooked.
• More research should be conducted to finalize whether PT or surgical intervention will give the patient the most benefits when looking at pain management.
• Conservative Management caused pain relief immediately when compared to Meniscectomy.

IMPLICATIONS

• This evidence is rated as a B level recommendation on the strength of Recommendation for Evidence (SORT) scale.
• No significant differences in detecting a superior treatment when it came to the 12-month follow-up between the two interventions.
• More studies should be done to show that arthroscopic meniscectomy helps reduce the pain, or that conservative management if implemented early can help reduce the risk of potential meniscal repair when the patients are older.
• Potential weakness in that out of the 8 studies only 3 chose PT as the more effective option and one had surgical that was more effective outcome and the other 4 had no significant differences among the two groups.

REFERENCES