

CNSP

Critical Appraisal Skills Programme

CASP Checklist:
For systematic reviews

Reviewer Name:	Alexandria Watkins, Shang-You Yang
Paper Title:	Effectiveness of Meniscus Root Tear Repair Versus Conservative Therapy and Adjunct Therapies: A Systematic Review
Author:	Hayashi M, et al
Web Link:	https://www.cureus.com/articles/323403-effectiveness-of-meniscus-root-tear-repair-versus-conservative-therapy-and-adjunct-therapies-a-systematic-review#!/
Appraisal Date:	January 30, 2026
Section A: Are the results of the review valid?	
<p>1. Did the review address a clearly focused question?</p> <p>This study had two aims: first, to determine the effectiveness of MRT repair versus conservative therapy for patients with MRTs, and second, to assess the effectiveness of conventional versus multimodal or adjunctive therapies in these patients.</p> <p>This is a very broad set of questions that the authors did not narrow down to one question – which of the four therapies</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Can't Tell

<p>mentioned was associated with the best outcomes in QOL and ADL scores?</p>	
<p><i>CONSIDER WHETHER:</i></p> <p><i>Did the researchers state a research question?</i> <i>For a systematic review, a research question can be 'formulated' in terms of the PECO framework:</i></p> <ul style="list-style-type: none"> • <i>Population</i> • <i>Exposure/Risk factor</i> • <i>Comparator/Controls</i> • <i>Outcome/s or Event/s</i> 	
<p>2. Did the authors look for the right type of papers?</p> <p><i>The search criteria encompassed the following keywords: "meniscal root tears", "physical therapy", and "meniscal root tears repair".</i></p> <p>The keywords that were inputted into search criteria differed drastically between databases. Several keywords such as “randomized”, “cohort” and related words were altogether excluded from some database searches. The search criteria used in ClinicalTrials.gov was only limited to “Meniscus Root Tear”, which limits the opportunity for studies that do not directly name the injury; the phrases “tibial meniscal injuries” and related phrases were utilized in other databases but not for that former database.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Can't Tell</p>
<p><i>CONSIDER WHETHER:</i></p> <p><i>The best sort of studies' would</i></p> <ul style="list-style-type: none"> • Address the review's question • Have an appropriate study design (usually RCTs for papers evaluating interventions) 	
<p>3. Do you think all the important, relevant studies were included?</p> <p><i>These databases included PubMed, the Cochrane Central Register of Controlled Trials via Ovid, the Cumulative Index to Nursing and Allied Health Literature via EBSCO, and the Physiotherapy Evidence Database. Moreover, a search for grey literature was conducted using the OpenGrey platform and ClinicalTrials.gov. The search criteria encompassed the following keywords: "meniscal root tears", "physical therapy", and "meniscal root tears repair" (Table 1). The search was conducted from the establishment of the database until April 22, 2023, without language restrictions.</i></p> <p>Only two of the authors primarily searched for studies to be included. Although five databases plus grey literature were sought out, showing strength in minimizing selection bias, professional assistance with database searching and study</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Can't Tell</p>

<p>selection could have further minimized missing studies. The flowchart shows that 3 studies were not retrieved and authors did not have specific explanations as to why this occurred, which increases selection bias.</p>	
<p><i>CONSIDER WHETHER:</i></p> <ul style="list-style-type: none"> • Which bibliographic databases were used • Follow up from reference lists • Personal contact with experts • Unpublished as well as published studies • Non-English language studies 	
<p>4. Did the review’s authors do enough to assess quality of the included studies?</p> <p><i>The methodological quality of the included RCTs was assessed using the Cochrane Collaboration’s Risk of Bias 2 tool. Non-randomized studies were evaluated using the Newcastle-Ottawa Scale. Appraisal of the quality of evidence for the summary of findings was executed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach.</i></p> <p>Authors utilized well-known qualitative measurement tools to assess RCTs and cohort studies’ quality.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Can’t Tell</p>
<p><i>CONSIDER WHETHER:</i></p> <p><i>The authors need to consider the rigour of the studies they have identified. Lack of rigour may affect the studies’ results (“All that glisters is not gold” Merchant of Venice – Act II Scene 7)</i></p>	
<p>5. If the results of the review have been combined, was it reasonable to do so?</p> <p><i>Yes, in Table 2 summarized the studies using PICO. However, the time points ranged from baseline to 24 months, with outcomes indicating a trend toward improved ADL function and QOL on the KOOS subscale for both MRT repair and conservative therapy. The results of conventional therapy and multimodal or adjunct therapy, assessed at varying intervals ranging from baseline to 6 months, demonstrated improvements in both ADL function and QOL on the KOOS subscale for both therapy types. Conversely, the Tegner activity score showed no characteristic changes.</i></p> <p>Figures 3 through 9 inappropriately combine studies that differ by type (RCT vs cohort) and/or by time of follow-up (ranging from 2 to 24 months).</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Can’t Tell</p>

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CONSIDER WHETHER:

- Results were similar from study to study
- Results of all the included studies are clearly displayed
- Results of different studies are similar
- Reasons for any variations in results are discussed

Section B: What are the results?

6. What are the overall results of the review?

Yes No Can't Tell

MRT repair is recommended as an initial intervention for MRTs [9]. Biomechanical evaluations have shown that MRT effectively re-establishes normal joint mechanics and contact pressures. Additionally, clinical studies evaluating patients who underwent root repair have demonstrated healing using second-look arthroscopy and magnetic resonance imaging [37]. However, 33.5% of patients who underwent MRT transitioned to TKA within 10 years [9]. Therefore, although MRT repair is an effective treatment, its long-term effectiveness must be evaluated over 10 years.

The study explains the recommended management of MRTs with only subjective evidence that was not objectively measured in the study. Longer follow-up periods are needed to truly answer this question, which this study does not have the ability to conclude from.

CONSIDER WHETHER:

- If you are clear about the review's 'bottom line' results
- What these are (numerically if appropriate)
- How were the results expressed (NNT, odds ratio etc.)

7. How precise are the results?

Yes No Can't Tell

In the comparison of intervention effectiveness between MRT repair versus conservative therapy, conservative therapy was associated with an MD of 9.1 points lower (95% CI= -22.09 to 3.89) on the KOOS subscale ADL and an MD of 0.5 points

lower (95% CI= -18.74 to 17.74) in QOL. The certainty of evidence for the GRADE was very low.

In the comparison of intervention effectiveness between conventional therapy versus multimodal therapy, multimodal therapy was associated with an MD of 1.70 to 2.78 points higher (95% CI= -5.74 to 6.69) on the KOOS subscale ADL and an MD of -1.00 to 1.78 points higher (95% CI= -13.51 to 6.66) in QOL. The certainty of the evidence for this GRADE was very low .

The confidence intervals were wide in all four comparisons measured.

CONSIDER WHETHER:

Look at the confidence intervals, if given

Section C: Will the results help locally?

8. Can the results be applied to the local population? Yes No Can't Tell

This systematic review was to examine studies that met the following criteria:

(i) Study participants afflicted with MRTs (medial or lateral), encompassing Kellgren and Lawrence (KL) classification, Ahlback classification, any age, and both genders...

The study does not mention what regions/countries included in the selected studies or what type of healthcare system they were treated at.

CONSIDER WHETHER:

- The patients covered by the review could be sufficiently different to your population to cause concern
- Your local setting is likely to differ much from that of the review

9. Were all important outcomes considered? Yes No Can't Tell

The outcomes for MRT repair and conservative therapy were summarized by time point. The time points ranged from baseline to 24 months, with outcomes indicating a trend

<p><i>toward improved ADL function and QOL on the KOOS subscale for both MRT repair and conservative therapy.</i></p> <p><i>... secondary outcomes including pain, physical functionality, body mass index (BMI)..</i></p> <p>The study did not consider outcomes of osteoarthritis, and outcome scores past 2 years across multiple studies for any of the 4 interventions. The study also did not report some of the secondary outcomes listed in the methods section.</p>	
<p><i>CONSIDER WHETHER:</i></p> <ul style="list-style-type: none"> • There is other information you would like to have seen 	
<p>10. Are the benefits worth the harms and costs? <i>The Lysholm knee scoring scale and Tegner activity score showed that conservative therapy had a short-term benefit but a plateau in long-term outcomes. In contrast, MRT repair showed a trend toward long-term improvement.</i></p> <p>While the benefits of increased quality of life and activities of daily living scores were measured benefits, no risks were assessed for each intervention type such as recurrence of symptoms, need for escalation to surgery, and surgical complications.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Can't Tell</p>
<p><i>CONSIDER WHETHER:</i></p> <ul style="list-style-type: none"> • Even if this is not addressed by the review, what do you think? 	