RAPID RESEARCH

@physicaltherapyresearch

March 2023

Inside This Week:

Long Head of Biceps Brachii

- Clinical Tests vs. MRI to Detect SLAP Tears
- Relationship Between Chronic Supraspinatus & LHB tendons
- Tenotomy or Tenodesis to Treat LHB Tendinopathy

CLINICAL TESTS VS. MRI TO DETECT SLAP TEARS

MARCH 2023

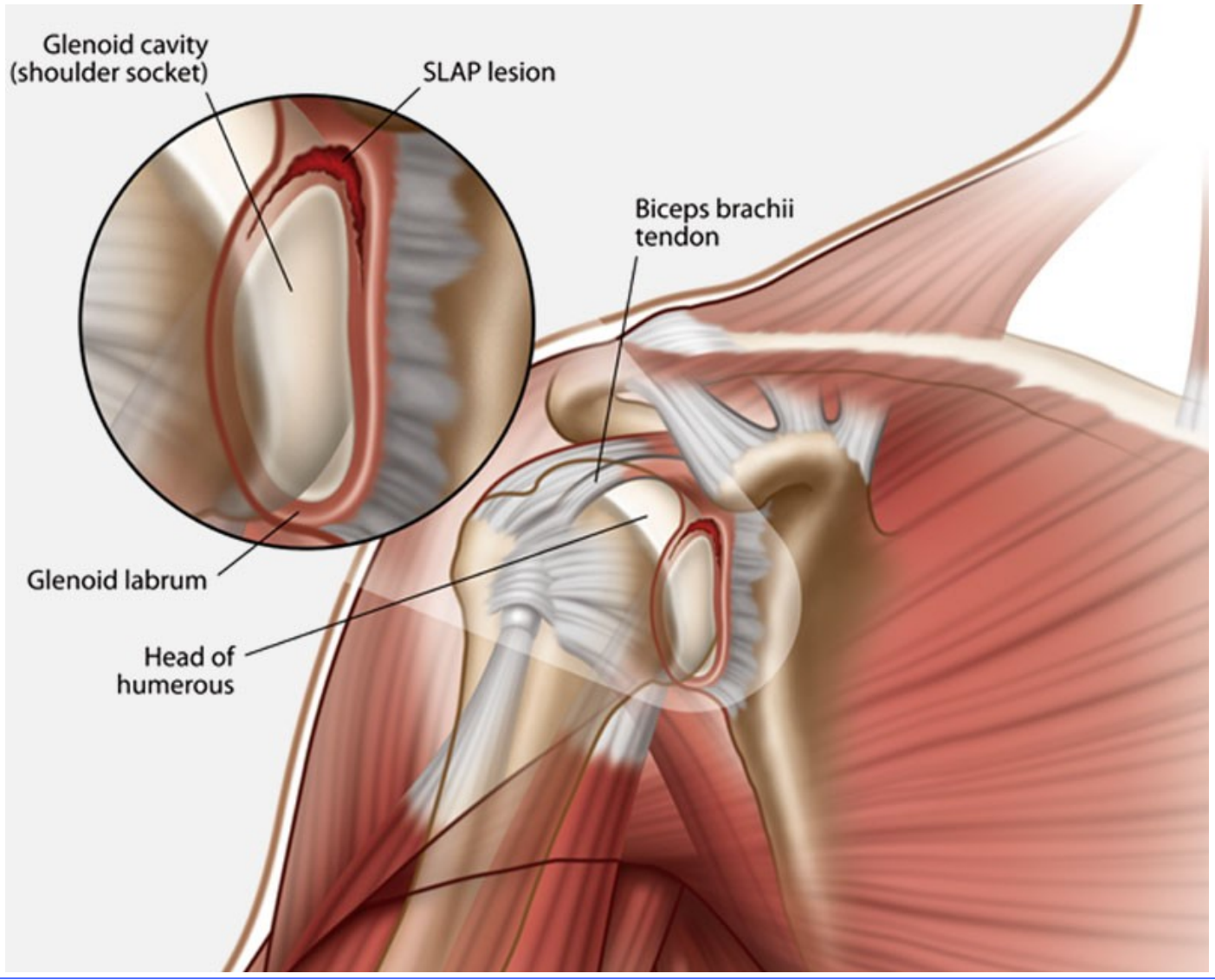
Click for Full Text (Clark et al. 2019)

JBI 8/10 [80%]

Quality Check

*see appx

This review examined specific combinations of SLAP lesion special tests and identified which clusters of tests have the highest sensitivity and specificities.



KEY FINDINGS

11 Studies included
5 tests with the highest overall high-end values were selected.
Biceps Load Test I & II, Speed's, O'Brien's, Passive Compression

MRI & MRA Accuracy:
MRI [Sensitivity 38-90% | Specificity 77-100%]
MRA [Sensitivity 65-98% | Specificity 80-100%]

Clinical Testing Accuracy:
Biceps Load Test I [Sensitivity 90% | Specificity 96%]
Biceps Load Test II [Sensitivity 90% | Specificity 97%]
Combined BL I & II [Sensitivity 99% | Specificity 100%]
Combined BL I & O'Brien's [Sensitivity 99% | Specificity 100%]
Combined BL1 & Passive Compression [Sensitivity 98%|Specificity 99%]
All 5 tests combined [Sensitivity 99.9% | Specificity 99.9%]

MAIN TAKEAWAYS

Combined testing, (2-3 positive) for a shoulder labral tear may be used to confidently diagnose (or rule out) a shoulder SLAP lesion.

This may help better determine when and MRI/MRA or specialist referral is needed vs managing the patient conservatively.

Grouping of special tests demonstrates increased accuracy in the identification of SLAP lesions as compared to a single test alone.

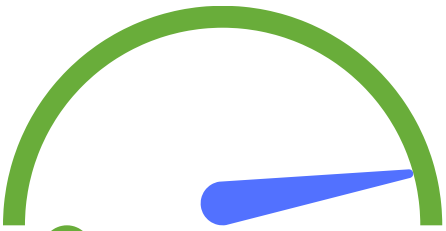
Clinical tests can be as accurate as MRI or MRA imaging.

RELATIONSHIP BETWEEN CHRONIC SUPRASPINATUS & LHB TENDONS

MARCH 2023

Click for Full Text (Redondo-Alonso et al. 2014)

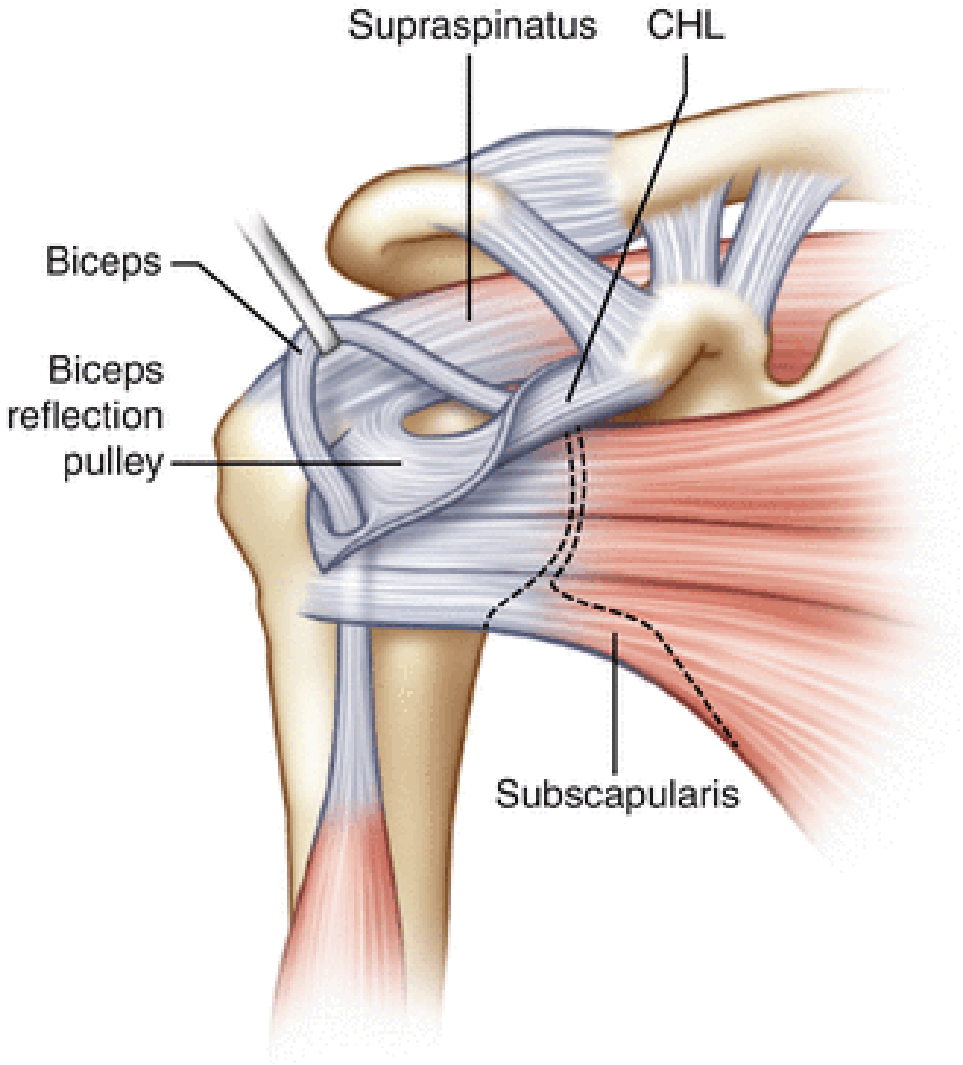
JBI 11/11 [100%]



Quality Check

*see appx

This review aimed to study the prevalence of lesions in LHBT associated to the chronic pathology of the Supraspinatus tendon.



KEY FINDINGS

5 studies were included; 599 participants

An epidemiological relationship exists between both tendons.

Age range 35-80 yrs & more frequent in men than in women.

Diagnostic testing normally arthroscopy, ultrasound, magnetic resonance imaging and assessment tests.

Associated Lesions of LHBT and Supraspinatus Tendons:

22-78.5%

Major prevalence in the studies with a smaller sample.

MAIN TAKEAWAYS

An association between the chronic pathology of the supraspinatus tendon and LHBT is supported through the epidemiological data.

Differential diagnosis of both structures should be considered and therefore, improve treatments.

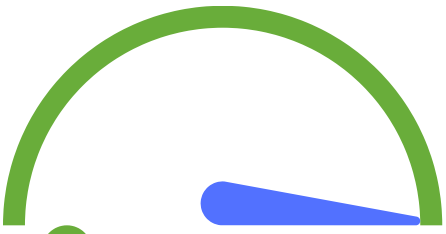
Both tendons are involved in the stabilization of the humeral head, and the damage to either one could affect the function of the other.

TENOTOMY OR TENODESIS TO TREAT LHB TENDINOPATHY

MARCH 2023

Click for Full Text (Kooistra et al. 2021)

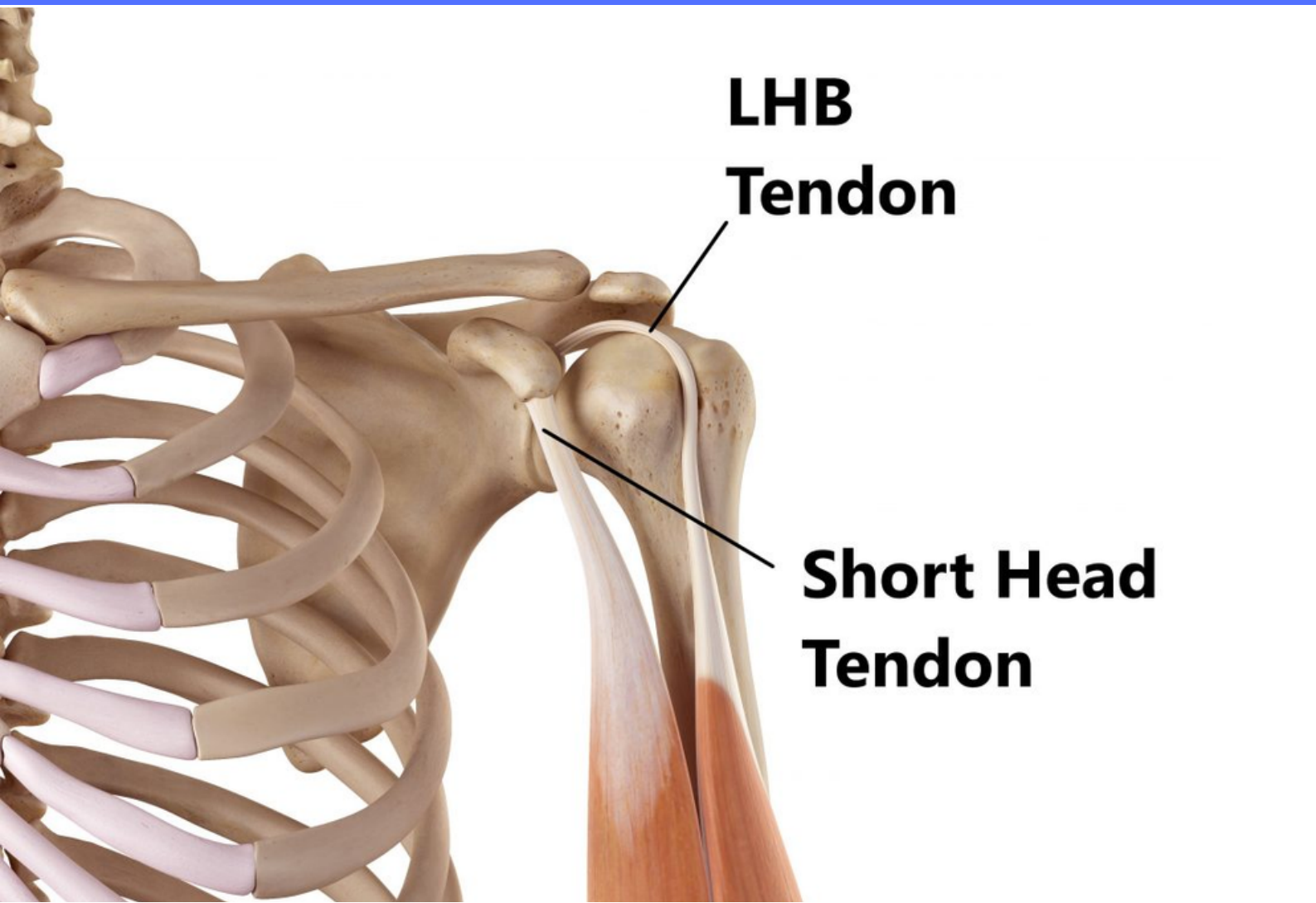
JBI 10/11 [90%]



Quality Check

*see appx

This systematic review provided an up-to-date comparison of clinical outcomes of tenotomy and tenodesis in the surgical treatment of long head of the biceps brachii (LHB) tendinopathy.



KEY FINDINGS

25 studies included; 2191 participants

Main Outcomes:
Constant Score, ASES Score, Pain, Popeye Deformity, ESI, FSSI, Cramping

Tenotomy vs. Tendonesis:
No clinically relevant differences in
Constant Score [avg difference, 0.9 pts]
American Shoulder and Elbow Society Score [avg difference, 1.1 pts]
Shoulder pain [avg difference -0.3 pts]
Elbow Flexion Strength Loss [avg difference, 0%]
Forearm Supination Strength [avg difference, 3%].

Popeye deformity less common following Tenodesis (9% vs 23%).

MAIN TAKEAWAYS

Popeye deformity was more commonly observed in patients treated with tenotomy.

No evidence-based benefit of LHB tenodesis over tenotomy in terms of shoulder function, shoulder pain or biceps-related strength.

It is unclear whether LHB tenodesis is of benefit in specific patient groups such as younger individuals.

GIVE US YOUR FEEDBACK!

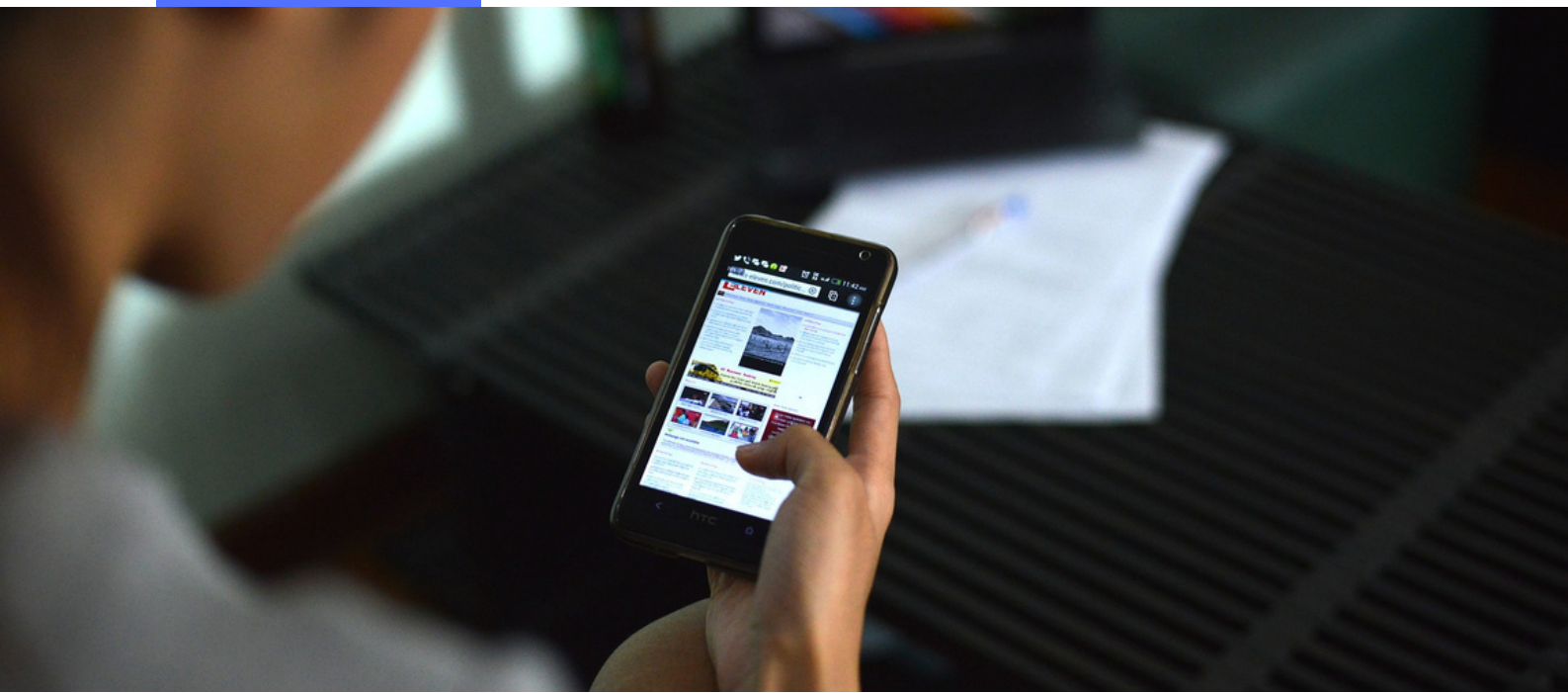
MEMBERS

We are on a mission to make research more accessible, easier to interpret, and quicker to implement.

Help us by giving 1 minute of your time to leave feedback for us.

We would greatly appreciate any feedback you have, as it helps us continually improve!

Leave Review



JBI Critical Appraisal Checklist for systematic reviews and research syntheses

Author: Clark et al. Year: 2019

		Yes	No	Unclear	Not applicable
1.	Is the review question clearly and explicitly stated?	+	☐	☐	☐
2.	Were the inclusion criteria appropriate for the review question?	+	☐	☐	☐
3.	Was the search strategy appropriate?	+	☐	☐	☐
4.	Were the sources and resources used to search for studies adequate?	+	☐	☐	☐
5.	Were the criteria for appraising studies appropriate?	+	☐	☐	☐
6.	Was critical appraisal conducted by two or more reviewers independently?	☐	☐	X	☐
7.	Were there methods to minimize errors in data extraction?	+	☐	☐	☐
8.	Were the methods used to combine studies appropriate?	☐	☐	☐	+
9.	Was the likelihood of publication bias assessed?	☐	X	☐	☐
10.	Were recommendations for policy and/or practice supported by the reported data?	+	☐	☐	☐
11.	Were the specific directives for new research appropriate?	+	☐	☐	☐

Overall appraisal: 8/10 (80%)

LIMITATIONS:

The clinical special tests examined were specifically selected due to their highest overall results based upon current literature, leading to a selection bias on the part of the authors.

It is impossible to determine if the "true" value is higher or lower than the value utilized for the regression analyses.

JBI Critical Appraisal Checklist for systematic reviews and research syntheses

Author: Redondo-Alonso et al. Year: 2014

		Yes	No	Unclear	Not applicable
1.	Is the review question clearly and explicitly stated?	+	☐	☐	☐
2.	Were the inclusion criteria appropriate for the review question?	+	☐	☐	☐
3.	Was the search strategy appropriate?	+	☐	☐	☐
4.	Were the sources and resources used to search for studies adequate?	+	☐	☐	☐
5.	Were the criteria for appraising studies appropriate?	+	☐	☐	☐
6.	Was critical appraisal conducted by two or more reviewers independently?	+	☐	☐	☐
7.	Were there methods to minimize errors in data extraction?	+	☐	☐	☐
8.	Were the methods used to combine studies appropriate?	+	☐	☐	☐
9.	Was the likelihood of publication bias assessed?	+	☐	☐	☐
10.	Were recommendations for policy and/or practice supported by the reported data?	+	☐	☐	☐
11.	Were the specific directives for new research appropriate?	+	☐	☐	☐

Overall appraisal: 11/11 (100%)

LIMITATIONS:

5 articles had to be excluded for being written in a different language to English or Spanish (Italian, Turkish, German).

Quantitative measuring of data could not be performed as the characteristics of the studies included did not allow it.

JBI Critical Appraisal Checklist for systematic reviews and research syntheses

Author: Kooistra et al. Year: 2021

		Yes	No	Unclear	Not applicable
1.	Is the review question clearly and explicitly stated?	+	☐	☐	☐
2.	Were the inclusion criteria appropriate for the review question?	+	☐	☐	☐
3.	Was the search strategy appropriate?	+	☐	☐	☐
4.	Were the sources and resources used to search for studies adequate?	+	☐	☐	☐
5.	Were the criteria for appraising studies appropriate?	+	☐	☐	☐
6.	Was critical appraisal conducted by two or more reviewers independently?	+	☐	☐	☐
7.	Were there methods to minimize errors in data extraction?	+	☐	☐	☐
8.	Were the methods used to combine studies appropriate?	+	☐	☐	☐
9.	Was the likelihood of publication bias assessed?	☐	X	☐	☐
10.	Were recommendations for policy and/or practice supported by the reported data?	+	☐	☐	☐
11.	Were the specific directives for new research appropriate?	+	☐	☐	☐

Overall appraisal: 10/11 (90%)

LIMITATIONS:

Quality of the included studies is highly variable, as is evident from the wide range in Coleman scores.

High frequency of co-interventions in the included studies.

The outcome measures used in the studies may be insufficient.