LENDO REVISÕES SISTEMÁTICAS

Curso básico

POR QUE LER REVISÕES SISTEMÁTICAS?

Revisões Sistemáticas x Revisões Narrativas

ambas tem viés mas a sistemática tem menos

Narrativas - o autor escolhe um tema, escolhe por critérios pessoais os artigos que considera relevantes e escreve uma síntese

Sistemáticas - o autor escolhe um tema, sempre tem uma seção chamada métodos, a coleta de todos os artigos relevantes é baseada em critérios de inclusão e exclusão, apresenta-se os dados de todos os artigos, aplica-se estatística aos dados (sempre que possível) e escreve-se uma síntese

QUANDO LER UMA REVISÃO SISTEMÁTICA?
Contexto da Prática Baseada em Evidência (clínicos)

A detecção do estado da arte e o que ainda resta por conhecer (pesquisadores)

REVISÃO DE LITERATURA NARRATIVA

Critical and Theoretical Perspective on Scapular Stabilization: What Does It Really Mean, and Are We on the Right Track?

McQuade KJ[1], Borstad J[2], de Oliveira AS[3].

⊕ Author information

Abstract

Stabilization exercises have been a focus and mainstay of many therapeutic and performance training programs in the past decade. Whether the focus is core stabilization for the spine or scapular stabilization, clinicians and trainers alike have endorsed these programs, largely on the basis of conceptual theory and anecdotal experience. The notion that an unstable scapula is related to shoulder dysfunction and pathology is well accepted, but is it accurate? The aim of this perspective article is to challenge the concept of scapular stabilization through the application of biomechanical and motor control constructs. The objectives are to critically examine current beliefs about scapular stabilization, to discuss definitions of stabilization and stability in the context of the scapulothoracic region, and to evaluate key evidence regarding scapular stabilization and scapular dyskinesia. Several new approaches that may affect the understanding of normal and atypical scapula motion are explored. Finally, a historical analogy is presented and future research and clinical directions are suggested. The aims are to lead readers to the essential concepts implied on scapular stabilization, to increase the critical thought process in rehabilitation practice, and to suggest some open topics to be explored in future research.

REVISÃO DA LITERATURA SISTEMATIZADA

Prognostic Models in Adults Undergoing Physical Therapy for Rotator Cuff Disorders: Systematic Review.

Braun C[1], Hanchard NC[2], Batterham AM[3], Handoll HH[4], Betthäuser A[5].

⊕ Author information

Abstract

BACKGROUND: Rotator cuff-related disorders represent the largest subgroup of shoulder complaints. Despite the availability of various conservative and surgical treatment options, the precise indications for these options remain unclear.

PURPOSE: The purpose of this systematic review was to synthesize the available research on prognostic models for predicting outcomes in adults undergoing physical therapy for painful rotator cuff disorders.

DATA SOURCES: The MEDLINE, EMBASE, CINAHL, Cochrane CENTRAL, and PEDro databases and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) up to October 2015 were searched.

STUDY SELECTION: The review included primary studies exploring prognostic models in adults undergoing physical therapy, with or without other conservative measures, for painful rotator cuff disorders. Primary outcomes were pain, disability, and adverse events. Inclusion was limited to prospective investigations of prognostic factors elicited at the baseline assessment. Study selection was independently performed by 2 reviewers.

DATA EXTRACTION: A pilot-tested form was used to extract data on key aspects of study design, characteristics, analyses, and results. Risk of bias and applicability were independently assessed by 2 reviewers using the Prediction Study Risk of Bias Assessment tool (PROBAST).

DATA SYNTHESIS: Five studies were included in the review. These studies were extremely heterogeneous in many aspects of design, conduct, and analysis. The findings were analyzed narratively.

LIMITATIONS: All included studies were rated as at high risk of bias, and none of the resulting prognostic models was found to be usable in clinical practice.

CONCLUSIONS: There are no prognostic models ready to inform clinical practice in the context of the review question, highlighting the need for further research on prognostic models for predicting outcomes in adults who undergo physical therapy for painful rotator cuff disorders. The design and conduct of future studies should be receptive to developing methods.

REVISÃO SISTEMATIZADA + METANÁLISE

Diagnostic accuracy of ultrasonography, MRI and MR arthrography in the characterisation of rotator cuff disorders: a systematic review and meta-analysis.

Roy JS[1], Braën C[2], Leblond J[3], Desmeules F[4], Dionne CE[5], MacDermid JC[6], Bureau NJ[7], Frémont P[5].

⊕ Author information

Abstract

BACKGROUND: Different diagnostic imaging modalities, such as ultrasonography (US), MRI, MR arthrography (MRA) are commonly used for the characterisation of rotator cuff (RC) disorders. Since the most recent systematic reviews on medical imaging, multiple diagnostic studies have been published, most using more advanced technological characteristics. The first objective was to perform a meta-analysis on the diagnostic accuracy of medical imaging for characterisation of RC disorders. Since US is used at the point of care in environments such as sports medicine, a secondary analysis assessed accuracy by radiologists and non-radiologists.

METHODS: A systematic search in three databases was conducted. Two raters performed data extraction and evaluation of risk of bias independently, and agreement was achieved by consensus. Hierarchical summary receiver-operating characteristic package was used to calculate pooled estimates of included diagnostic studies.

RESULTS: Diagnostic accuracy of US, MRI and MRA in the characterisation of full-thickness RC tears was high with overall estimates of sensitivity and specificity over 0.90. As for partial RC tears and tendinopathy, overall estimates of specificity were also high (>0.90), while sensitivity was lower (0.67-0.83). Diagnostic accuracy of US was similar whether a trained radiologist, sonographer or orthopaedist performed it.

CONCLUSIONS: Our results show the diagnostic accuracy of US, MRI and MRA in the characterisation of full-thickness RC tears. Since full thickness tear constitutes a key consideration for surgical repair, this is an important characteristic when selecting an imaging modality for RC disorder. When considering accuracy, cost, and safety, US is the best option.

METANÁLISE

Método estatístico para analisar dados de vários ECAs ao mesmo tempo

Tem a vantagem de ampliar o tamanho amostral sem o custo adicional de realizar um novo estudo

Como resultado retorna informação sobre o a direção e tamanho de efeito de um tratamento em relação a outro para uma determinada variável

Essa análise pondera os tamanhos amostrais de cada estudo

Nem sempre é possível realizar a metanálise
  número de estudos disponíveis avaliando a mesma variável
  descrição adequada dos resultados nos artigos originais

Pode fazer metanálise em revisões narrativas
  mas não reduz o viés de seleção dos artigos

FOREST PLOT

FIGURE 4. Forest plot of pooled studies comparing manual therapy alone to manual therapy in conjunction with another intervention for change in pain. The squares are mean difference and the diamonds are pooled mean difference with 95% confidence interval.
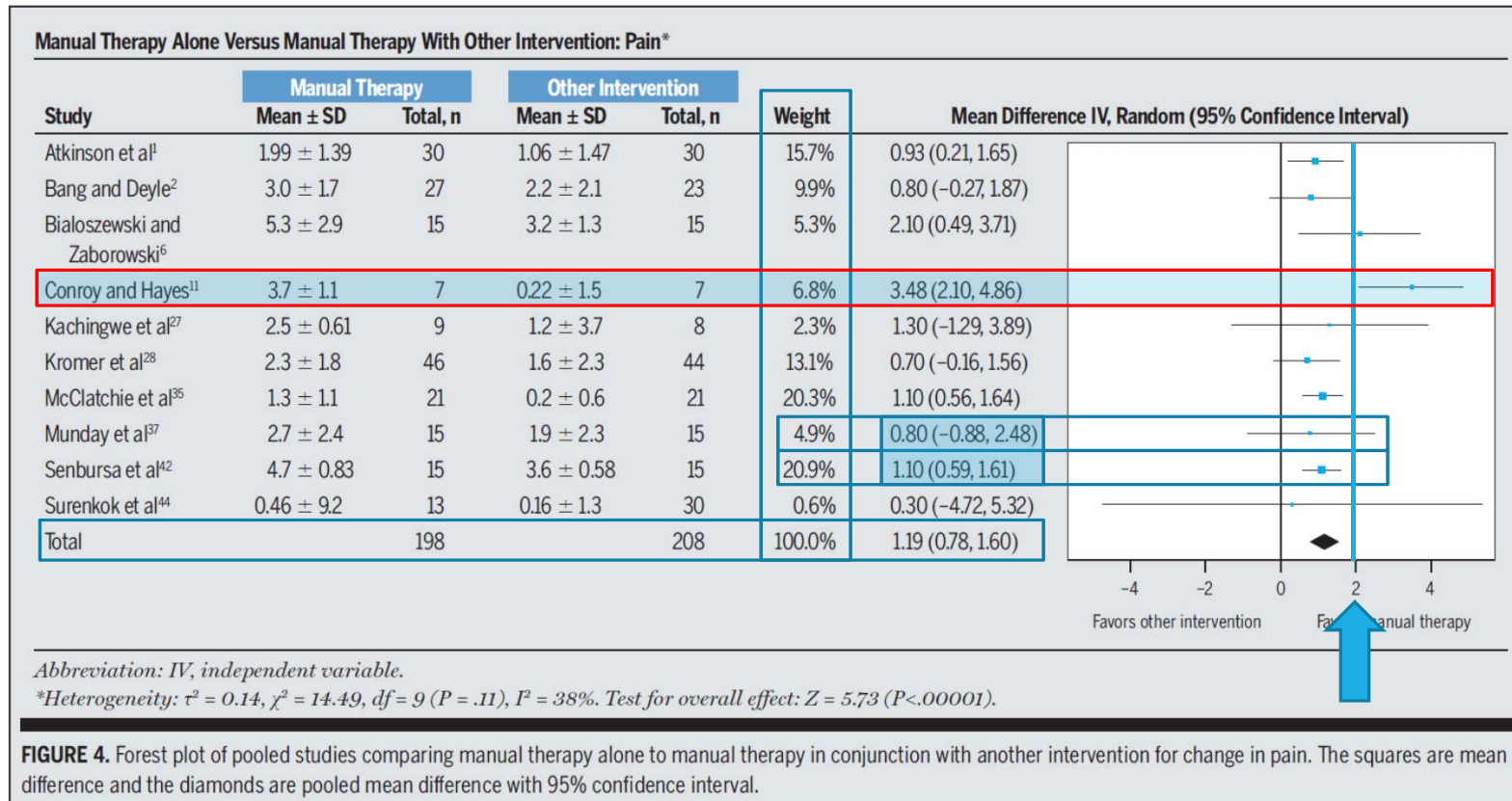
O efeito médio da terapia manual na intensidade da dor é de 1,19 ponto na VAS ou END. O menor efeito esperado é 0,78 e o maior, é 1,6

Desjardins-Charbonneau A, Roy JS, Dionne CE, Frémont P, MacDermid JC, Desmeules F. The efficacy of manual therapy for rotator cuff tendinopathy: a systematic review and meta-analysis. J Orthop Sports Phys Ther. 2015 May;45(5):330-50.

REVISÕES SISTEMÁTICAS

Reúne vários estudos sobre o mesmo tema

Incorpora uma busca sistemática em bases de dados e fora delas

Seleciona de maneira rigorosa e sistemática os artigos

Classifica os artigos por escala de qualidade

Sumariza os resultados

Possui menor viés de confirmação e memorização dos autores

É a melhor fonte de evidência científica de boa qualidade (menor risco de viés) disponível na literatura

ALÉM DOS EFEITOS MÉDIOS DE INTERVENÇÃO

RS de estudo de prevenção

RS de estudos de prognóstico

RS de estudos de etiologia

RS de estudos de diagnóstico

RS de efeitos de intervenção

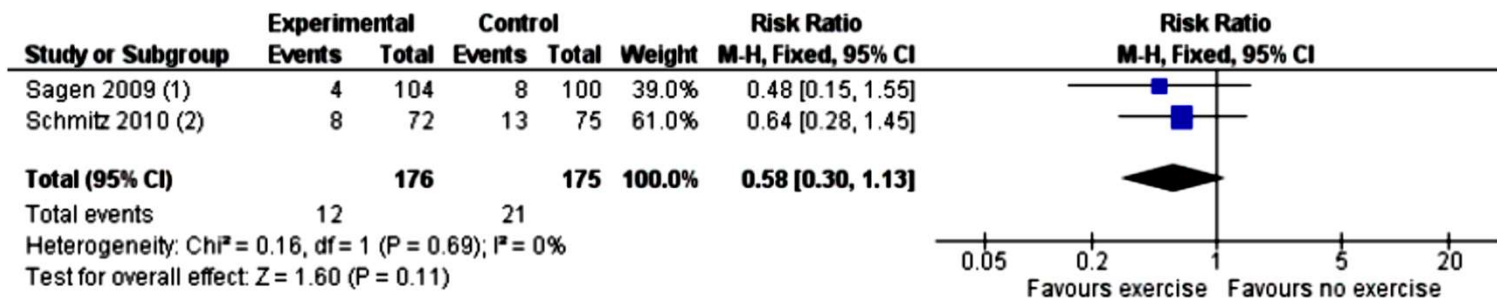RS de estudos de experiência

EXERCÍCIOS SÃO EFICIENTES PARA EVITAR O APARECIMENTO DO LINFENDEMA PÓS-MASTECTOMIA COMPARADOS A 'NÃO-EXERCÍCIO?

Os voluntários não tem linfedema no início do estudo (estudo de prevenção)

Figure 6. Forest plot of comparison: 3 Progressive resistance exercise vs no exercise, outcome: 3.1 Lymphoedema in studies with ≥6 month follow up < 24 months.

Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Sagen 2009 (1)	4	104	8	100	39.0%	0.48 [0.15, 1.55]
Schmitz 2010 (2)	8	72	13	75	61.0%	0.64 [0.28, 1.45]
Total (95% CI)		176		175	100.0%	0.58 [0.30, 1.13]
Total events	12		21			

Heterogeneity: Chi² = 0.16, df = 1 (P = 0.69); I² = 0%
Test for overall effect: Z = 1.60 (P = 0.11)

Risk Ratio M-H, Fixed, 95% CI — 0.05 0.2 1 5 20 — Favours exercise Favours no exercise

Footnotes
(1) 6 month follow up
(2) 12 month follow up

$$RR \quad \frac{a/_{a+b}}{c/_{c+d}}$$

	Desfecho	Não-Desfecho
Exposto	a	b
Não –Exposto	c	d

Progressive resistance exercise after breast cancer treatment

The meta-analysis of two non-inferiority studies (Sagen 2009; Schmitz 2010) indicated that weight training after breast cancer treatment did not increase lymphoedema risk (RR 0.58, 95% CI 0.30 to 1.13, P = 0.11; Figure 6 (Analysis 3.1)).

Stuiver MM, ten Tusscher MR, Agasi-Idenburg CS, Lucas C, Aaronson NK, Bossuyt PM. Conservative interventions for preventing clinically detectable upper-limb lymphoedema in patients who are at risk of developing lymphoedema after breast cancer therapy. Cochrane Database Syst Rev. 2015 Feb 13;(2):CD009765.

O CARREGAMENTO DE PESO PODE SER A CAUSA DE DOR NO OMBRO?

estudo de etiologia

Table 4 Summary of the strength of evidence of risk factors for shoulder pain

	Study references	Consistency of findings	Strength of association: (OR/RR) *	Median method score: %
Heavy physical load	MS ≥60%: 17,20,23,26,27,28,29	MS ≥60%: 3/7 = 43% positive	MS ≥60%: 1.7, 3.6, 5.4	Positive findings: 47
	MS <60%: 30,34,35,36,37,42,45,46	MS <60%: 4/7 = 57% positive	MS <60%: 2.0 to 2.3, 5.5, ?	No association: 60
Awkward postures	MS ≥60%: 17,19,20,26,29,44	MS ≥60%: 3/6 = 50% positive	MS ≥60%: 1.4, 1.6, 2.8→3.1	Positive findings: 56
	MS <60%: 30,31,33,37,41,45,46	MS <60%: 7/7 = 100% positive	MS <60%: 2.1, 5.1, 10.6, ?	No association: 71
Repetitive movements	MS ≥60%: 17,26,44	MS ≥60%: 3/3 = 100% positive	MS ≥60%: 1.6, 2.3, 46	Positive findings: 59
	MS <60%: 31,33,37,40,45	MS <60%: 3/5 = 60% positive	MS <60%: 7→10→1.5, ?	No association: 48
Same activity for a prolonged period of time	MS ≥60%: 24,25,27	MS ≥60%: 1/3 = 33% positive	MS ≥60%: 1.6	Positive findings: 53
	MS <60%: 32,33	MS <60%: 2/2 = 100% positive	MS <60%: 1.9, 18.8	No association: 65
Vibration	MS ≥60%: 18,23,	MS ≥60%: 2/2 = 100% positive	MS ≥60%: 1.04/y, 2.6	Positive findings: 57
	MS <60%: 36,37,39,45	MS <60%: 2/4 = 50% positive	MS <60%: ?	No association: 45
Duration of employment	MS ≥60%: 19,22,23,24	MS ≥60%: 3/4 = 75% positive	MS ≥60%: 1.4, 3.9→2.1, 2.3→3.2	Positive findings: 62
	MS <60%: 30,32,36,40,41,43	MS <60%: 3/6 = 50% positive	MS <60%: 1.9, ?	No association: 47
Psychological work demands	MS ≥60%: 17,20,21,22,24,25,26,27	MS ≥60%: 4/8 = 50% positive	MS ≥60%: 1.5, 1.5, 1.5, 1.7	Positive findings: 59
	MS <60%: 30,31,32,36,37,45	MS <60%: 4/6 = 67% positive	MS <60%: ?	No association: 68
Job control	MS ≥60%: 17,21,22,24,25,26,27	MS ≥60%: 4/7 = 57% positive	MS ≥60%: 1.6, 1.7, 1.9, 4.0	Positive findings: 68
	MS <60%: 31,32,37,38	MS <60%: 2/4 = 50% positive	MS <60%: ?	No association: 65
Social support	MS ≥60%: 17,20,21,24,25,26,27	MS ≥60%: 0/7 = 0% positive	MS ≥60%: —	Positive findings: 53
	MS <60%: 31,32,37,38,43	MS <60%: 3/5 = 60% positive	MS <60%: 1.6, ?	No association: 65
Job satisfaction / stimulation at work	MS ≥60%: 17, 21,25,26,27	MS ≥60%: 3/5 = 60% positive	MS ≥60%: 1.3, 1.5, 2.7	Positive findings: 59
	MS <60%: 30,31,35,36,37,38,43,45	MS <60%: 3/7 = 43% positive	MS <60%: 2.5, ?	No association: 53

*Some studies, particularly those with relatively poor method scores, did not present ORs or RRs. Other indicators of the strength of the association between exposures and shoulder pain (correlation coefficients, p values) are presented in table 3.
MS=method score (median method score was 60%).

Stuiver MM, ten Tusscher MR, Agasi-Idenburg CS, Lucas C, Aaronson NK, Bossuyt PM. Conservative interventions for preventing clinically detectable upper-limb lymphoedema in patients who are at risk of developing lymphoedema after breast cancer therapy. Cochrane Database Syst Rev. 2015 Feb 13;(2):CD009765.

DOES THIS PATIENT WITH SHOULDER PAIN HAVE ROTATOR CUFF DISEASE? THE RATIONAL CLINICAL EXAMINATION SYSTEMATIC REVIEW

Hermans J, Luime JJ, Meuffels DE, Reijman M, Simel DL, Bierma-Zeinstra SM.

Tornando a evidência mais palatável

https://www.youtube.com/watch?v=GMzO Al9xtCY
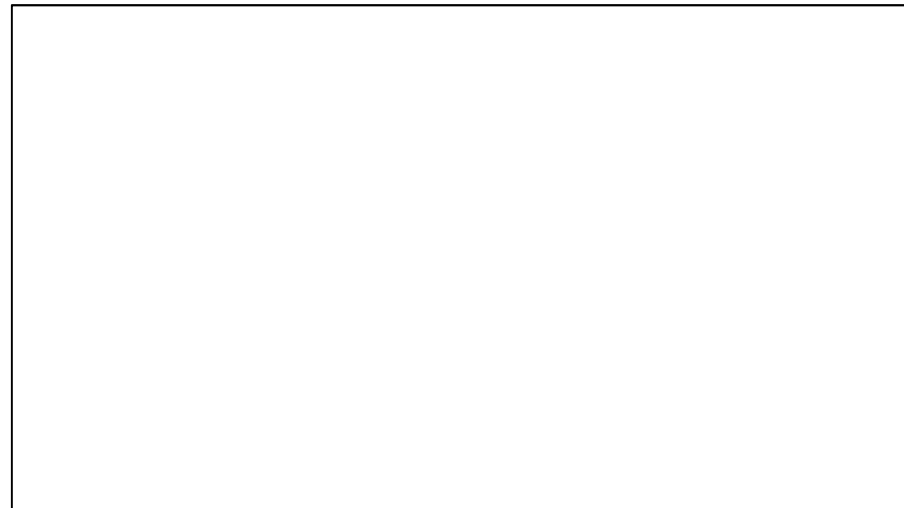
ONDE ENCONTRAR REVISÕES SISTEMÁTICAS

The Cochrane Library

Maior biblioteca de Revisões Sistemáticas mundial

SR em diferentes áreas das ciências da saúde

51 grupos de pesquisa

Critérios elevados na condução e preparo dos manuscritos

As Cochrane Reviews geralmente são a fonte mais valiosa de informação da atualidade

http://www.cochrane.org/index.htm

THE COCHRANE
COLLABORATION®

CRITÉRIOS DE QUALIDADE PARA REVISÕES SISTEMÁTICAS - RECOMENDAÇÕES PRISMA

Checklist of items to include when reporting a systematic review or meta-analysis

Section/Topic					
TITLE					
Title	1		Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I²) for each meta-analysis.
ABSTRACT					
Structured summary	2		Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).
			Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.
INTRODUCTION					
Rationale	3		**RESULTS**		
Objectives	4		Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.
METHODS			Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.
Protocol and registration	5		Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome-level assessment (see Item 12).
Eligibility criteria	6		Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group and (b) effect estimates and confidence intervals, ideally with a forest plot.
Information sources	7		Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.
			Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).
Search	8		Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).
Study selection	9		**DISCUSSION**		
			Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., health care providers, users, and policy makers).
Data collection process	10		Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review level (e.g., incomplete retrieval of identified research, reporting bias).
Data items	11		Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.
Risk of bias in individual studies	12		**FUNDING**		
Summary measures	13		Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.

CRITÉRIOS DE QUALIDADE PARA REVISÕES SISTEMÁTICAS ESCALA AMISTAD

1. Ficou claro os tipos de estudo que vão ser analisados?

2. Os estudos mais relevantes foram revisados?

3. A busca foi exaustiva

    a. Só em uma língua

    b. Databases diferentes (ex. lilacs)

    c. Artigos publicados em revistas não indexadas, como congresso

    d. Artigos publicados em congresso

4. A qualidade de cada artigo incluído foi analisada?
    olhar o risco de viés, p.ex., RCT's com escore PEDro maior que 6

QUAIS ESTUDOS? OS MAIS RELEVANTES?

Study eligibility criteria <mark>Randomised controlled trials evaluating the effectiveness of exercise, incorporating loaded exercise, in participants with rotator cuff tendinopathy.</mark>

Littlewood C, Malliaras P, Chance-Larsen K. Therapeutic exercise for rotator cuff tendinopathy: a systematic review of contextual factors and prescription parameters. Int J Rehabil Res. 2015 Jun;38(2):95-106

Interventions

Any exercise intervention which included loaded (against gravity or resistance) exercise as a component. Initial scoping searches highlighted that it would be unlikely that studies evaluating the effect of loaded exercise alone would be identified. Combined interventions, e.g. exercise and electrotherapy or exercise and manual therapy, which do not enable a judgement about the comparative efficacy of exercise were excluded.

Table 1
MEDLINE search strategy.

	Search term	Limited to
1	Shoulder pain or shoulder impingement$ or shoulder tend$ or shoulder burs$ or rotator cuff$ or subacromial impingement$ or subacromial burs$ or supraspinatus$ or impingement$ or contractile dysfunction or painful arc$	Title & abstract
2	Rotator cuff/shoulder pain/shoulder impingement syndrome	MeSH
3	1 or 2	
4	Exercis$ or eccentric$ or concentric$ or loaded$ or resistance$ or muscle$ or physiotherap$ or physical therap$ or rehabil$ or conservative management	Title & abstract
5	Exercise/resistance training/physical therapy modalities/physical therapy speciality/rehabilitation/muscle strength/exercise therapy	MeSH
6	4 or 5	
7	Randomized controlled$ or randomised controlled$ or controlled clinical trial or randomized or placebo or randomly or trial or groups	
8	Animals NOT humans	
9	3 and 6 and 7 not 8	

BUSCA EXAUSTIVA

Littlewood C, Malliaras P, Chance-Larsen K. Therapeutic exercise for rotator cuff tendinopathy: a systematic review of contextual factors and prescription parameters. Int J Rehabil Res. 2015 Jun;38(2):95-106

Data sources An electronic search of AMED, CiNAHL, Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, PEDro and SPORTDiscus was undertaken from their inception to November 2010 and ==supplemented by hand searching related articles and contact with topic experts.==

Participants and Methods

An electronic search of AMED, CiNAHL, Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, PEDro and SPORTDiscus was undertaken from their inception to June 2014. The Cochrane highly sensitive search to identify randomized trials was adopted (Lefebvre *et al.*, 2008). The search terms used for the MEDLINE search are displayed in Table 1.

The electronic search was complemented by hand searching the reference lists of the articles found and a recent review of systematic reviews (Littlewood *et al.*, 2013). This process was undertaken by one reviewer.

Dong W, Goost H, Lin XB, Burger C, Paul C, Wang ZL, Zhang TY, Jiang ZC, Welle K, Kabir K. Treatments for shoulder impingement syndrome: a PRISMA systematic review and network meta-analysis. Medicine (Baltimore). 2015 Mar;94(10):e510

Search Strategy

Medline, Embase, and the Cochrane Central Register of Controlled Trials (CENTRAL) were searched from the inception of each database to 15 April 2014. The Medline and Embase databases were searched together via www.embase.com (Elsevier, The Netherlands). The search was conducted using the keywords shoulder, subacrom*, supraspinat*, rotator cuff, and impingement, and it was limited to RCTs (List 1). Additionally, all of the available reviews related to SIS treatments were manually screened for any additional possibly relevant studies. No language limit was applied.

CRITÉRIOS MÍNIMOS PARA QUALIDADE DE RCT

1. Os grupos tratamento e controle são comparáveis?
2. Os *follow ups* foram completos ou quase completos?
3. Houve cegamento de pacientes ou avaliadores ou terapeutas
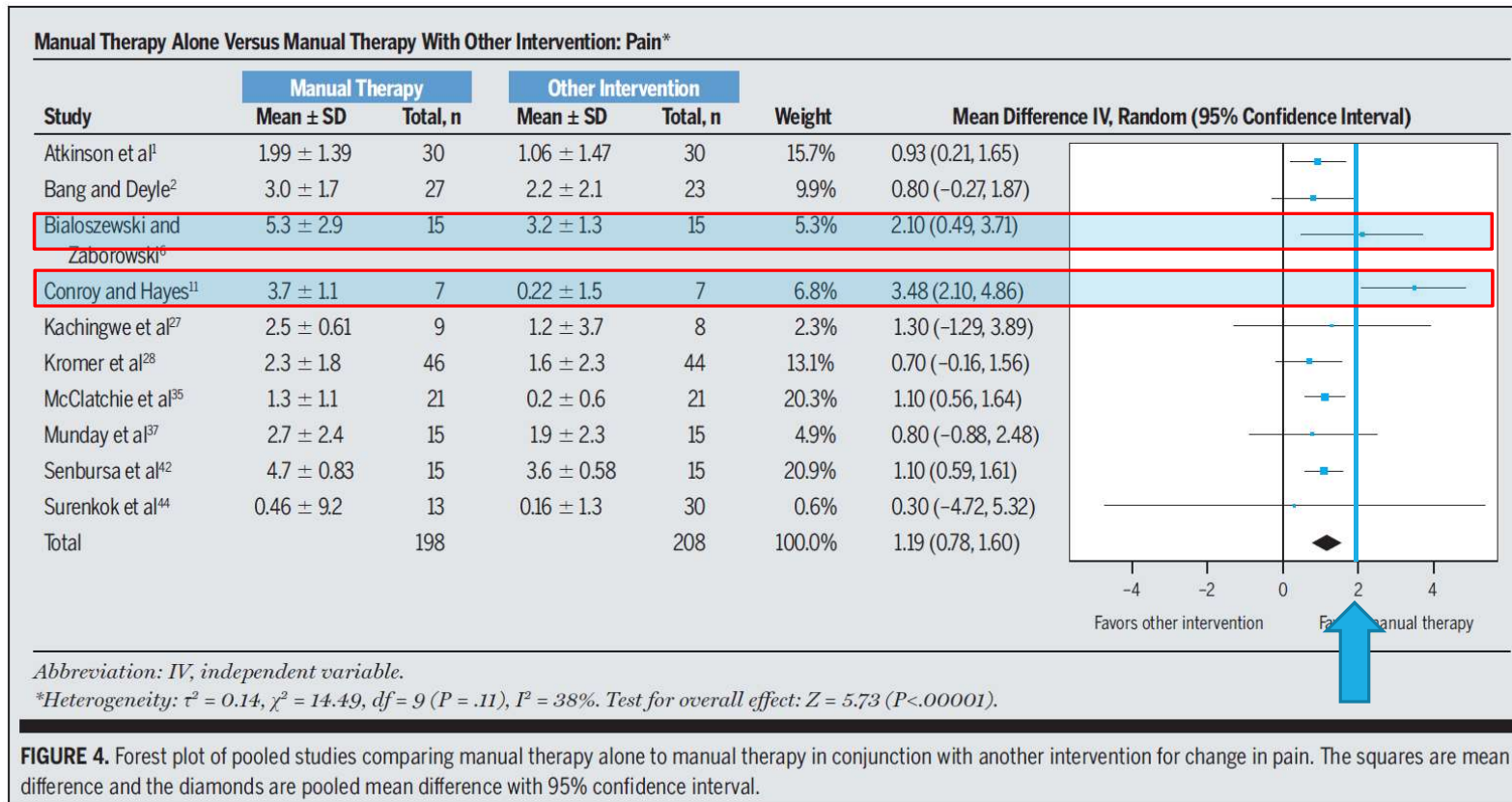4. A análise foi por intenção de tratamento?

Risk of bias assessment

The risk of bias of the included studies was undertaken independently by two reviewers (CL/SM) using the Cochrane Back Review Group (CBRG) risk of bias tool [19]. It has been recognised that this tool is also useful for the assessment of trials in other conditions [24]. The completed risk of bias tool is displayed in Table 2 and the guidelines upon which judgments were made are displayed in Table S1 [19].

Table 2
Completed risk of bias tool.

√ = yes − = no ? = unclear	Was the method of randomisation adequate?	Was the treatment allocation concealed?	Was the patient blinded to the intervention? (3a)	Was the care giver blinded to the intervention? (3c)	Was the outcome assessor blinded to the intervention? (3b)	Was the drop-out rate described and acceptable? (2)	Were all randomised participants analysed in the group to which they were allocated? (4)	Free of selective reporting?	Similarity of baseline characteristics? (1)	Co-interventions avoided or similar?	Compliance acceptable?	Timing of outcome assessments similar?	Total
Brox 1993 [25]	√	√	−	−	√	√	√	√	√	−	√	√	9
Brox 1999 [26]					−								8
Lombardi 2008 [28]	√	√	−	−	√	√	√	√	√	√	√	√	10
Ludewig 2003 [27]	√	√	−	−	−	√	√	√	√	√	?	√	8
Walther 2004 [29]	√	√	√	−	√	√	√	√	√	√	√	√	11

Littlewood C, Ashton J, Chance-Larsen K, May S, Sturrock B. Exercise for rotator cuff tendinopathy: a systematic review. Physiotherapy. 2012 Jun;98(2):101-9.

FOREST PLOT

FIGURE 4. Forest plot of pooled studies comparing manual therapy alone to manual therapy in conjunction with another intervention for change in pain. The squares are mean difference and the diamonds are pooled mean difference with 95% confidence interval.

Lembre-se de considerar que dor é um desfecho centrado no paciente.
Desfechos centrados no paciente são mais relevantes para a tomada de
decisão clínica que variáveis objetivas, como força isométrica ou ADM

Desjardins-Charbonneau A, Roy JS, Dionne CE, Frémont P, MacDermid JC, Desmeules F. The efficacy of manual therapy for rotator cuff tendinopathy: a systematic review and meta-analysis. J Orthop Sports Phys Ther. 2015 May;45(5):330-50.

CRITÉRIOS MÍNIMOS PARA QUALIDADE DE RCT

1. Os grupos tratamento e controle são comparáveis?
2. Os *follow ups* foram completos ou quase completos?
3. Houve cegamento de pacientes ou avaliadores ou terapeutas
4. A análise foi por intenção de tratamento?

Desjardins-Charbonneau A, Roy JS, Dionne CE, Frémont P, MacDermid JC, Desmeules F. The efficacy of manual therapy for rotator cuff tendinopathy: a systematic review and meta-analysis. J Orthop Sports Phys Ther. 2015 May;45(5):330-50.