Appendix 1: Search terms used and number of hits

APPENDIX

MEDLINE-PubMed

("Tendon Injuries"[Mesh] OR ((Tendin*[tw] OR Tendon*[tw] OR tendino*[tw] OR "Rotator Cuff"[Mesh] OR rotator cuff[tw] OR "Patellar Ligament"[Mesh] OR patellar ligament*[tw]) AND (injur*[tw] OR ruptur*[tw] OR lesion*[tw])) AND (("Mesenchymal Stem Cell Transplantation"[Mesh] OR "Mesenchymal Stromal Cells"[Mesh] OR ((mesenchym*[tw] OR stem cell*[tw] OR autologous[tw] OR bone marrow[tw]) AND (inject*[tw] OR percutaneous*[tw]))))

429 Hits. Previous review by Pas et al. 339 Hits.

Embase:

('mesenchymal stem cell transplantation'/exp OR 'mesenchymal stroma cell'/exp OR ((mesenchym*:ab,ti OR stem AND cell*:ab,ti OR autologous:ab,ti OR bone AND marrow:ab,ti) AND (inject*:ab,ti OR percutaneous*:ab,ti))) AND ('tendon injury'/exp OR ((tendin*:ab,ti OR tendon*:ab,ti OR tendino*:ab,ti OR 'rotator cuff'/exp OR rotator AND cuff:ab,ti OR 'patella ligament'/exp OR patellar AND ligament*:ab,ti) AND (injur*:ab,ti OR ruptur*:ab,ti OR lesion*:ab,ti)))

142 Hits. Previous review by Pas et al. 100 Hits.

EBSCO (sportdiscus en Cinahl)

S Query

1 TI Tendin* OR Tendon* OR tendino* OR Rotator Cuff* OR rotator cuff OR patellar ligament

2 TI injur* OR ruptur* OR lesion*

3 S1 AND S2

4 AB Tendin* OR Tendon* OR tendino* OR "Rotator Cuff* OR rotator cuff OR patellar ligament*

---

5 AB injur* OR ruptur* OR lesion*

6 S4 AND S5

7 S3 OR S6

8 TI mesenchym* OR stem cell* OR autologous OR bone marrow

9 TI inject* OR percutaneous*

10 S8 AND S9

11 AB mesenchym* OR stem cell* OR autologous OR bone marrow

12 AB inject* OR percutaneous*

13 S11 AND S12

14 #10 OR #13

15 #7 AND #14

Sportdiscus: 19 Hits. Previous review by Pas et al: 19 Hits.

CINAHL: 44 Hits. Previous review by Pas et al 44 Hits.

CENTRAL (Cochrane library)

(tendon injuries OR (tendin* OR Tendon* OR tendino* OR rotator Cuff OR patellar ligament) AND (injur* OR ruptur* OR lesion*)) AND (mesenchymal stem cell transplantation OR mesenchymal stromal cells OR ((mesenchym* OR stem cell* OR autologous OR bone marrow) AND (inject* OR percutaneous*)))

17 Hits. Previous review by Pas et al. 13 Hits.

PEDro:

"stem cell" AND "tendon"

22 Hits. Previous review by Pas et al. 22 Hits.

Web of Science

((Tendin* OR Tendon* OR tendino* OR Rotator Cuff* OR rotator cuff OR patellar ligament) AND (injur* OR ruptur* OR lesion*)) AND ((mesenchym* OR stem cell* OR autologous OR bone marrow) AND (inject* OR percutaneous*))

298 Hits. Previous review by Pas et al. 219 Hits.

British library inside conferences

(tend* AND injur*) AND (mesenchymal OR stem cell)

223 Hits. Previous review by Pas et al. 188 Hits.

BIOSIS

Stem cell AND tendon 72 Hits. Previous review by Pas et al. 72 Hits.

Open Grey

Stem cell AND tendon 2 Hits. Previous review by Pas et al. 2 Hits/

www.trialregisters.nl

stem cell AND tendon 0 Hits. Previous review by Pas et al. 0 Hits

www.controlled-trials.com

stem cell AND tendon 8 Hits . Previous review by Pas et al. 8 Hits

apps.who.int/trialsearch:

stem cell AND tendon 2 Hits. Previous review by Pas et al. 2 Hits.

https://www.clinicaltrialsregister.eu/

stem cell AND tendon 1 Hit. previous review by Pas et al. 4 Hits.

https://clinicaltrials.gov

stem cell AND tendon 18 Hits. Previous review by Pas et al. 11 Hits

Appendix 2: Risk of bias judgments

Stem cell therapy for achilles tendon disorders

Usuelli *et al.* examined the efficacy of stromal vascular fraction (allo-ASC) versus PRP injection in patients with Achilles tendinopathy based on PROMs, MRI and ultrasound.(49) Risk of Bias assessment of this study is presented in Table 2A. All PROMs (VAS, VISA-A, American Orthopaedic Foot and Ankle Society (AOFAS) score and Short Form (SF) Health Survey-36) were at high risk of bias (overall judgment). Only one domain (bias due to missing outcome data) was at low risk of bias. Similar to the PROMs, MRI and ultrasound outcomes were at high risk of bias for the overall judgment.

One study described the outcomes of Achilles tendon repair with BMAC augmentation in 27 patients.(46) This study received all stars following our appraisal, except for one item: bias could have occurred due to a lack of blinding during the outcome assessment.

Stem cell therapy for (partial) rotator cuff tears

One non-randomized controlled trial investigated the effects of a BMAC injection versus surgical repair on MRI and ultrasound images.(20) We judged MRI and ultrasound reporting to be at moderate risk of bias for the overall judgment.

The trial by Kim YS et al. investigated the efficacy of allogenic adipose derived stem cells (allo-ASC) injection versus arthroscopic rotator cuff repair on PROMs, and MRI evaluation of tendon healing.(24) We found all PROMs to be at a moderate risk of bias for the overall judgment. The domains bias due to

confounding, and bias in measurement outcomes were scored as moderate risk of bias, the other domains were scored as low risk. We found MRI results to be at low risk of bias for the overall judgment. All separate domains of bias were scored low risk.

Another trial investigated the efficacy of BMAC combined with platelet rich plasma (BMAC-PRP) versus rotator cuff exercise training on PROMs and ultrasound evaluation of tendon healing.(23) We judged all PROMs to be at high risk of bias. Bias in measurement outcomes was scored high risk, bias due to confounding, and bias in the selection process of the reported results were scored as at moderate risk, and all other domains of bias were scored as at low risk o bias. For tendon healing as assessed with ultrasound, the overall risk of bias was judged as moderate risk. The domains bias in measurement outcomes and bias in the selection process of the reported results were scored as moderate risk. All other domains of bias were judged as low risk.

The case-series performed by Ellera Gomez et al. investigated the effects of BMAC injection on tendon healing with PROMs and using MRI evaluation .(17) The study received two out of six stars following our appraisal.

Stem cell therapy for patellar tendinopathy

One case-series by Pascual-Garrido et al. investigated the effects of BMAC injection on various PROMs and MRI evaluation of tendon healing. (40) The study received two out of six stars following our appraisal. The stars awarded were for the described inclusion criteria, and the ascertainment of exposure to the intervention.

Stem cell therapy for origin tendinopathy of elbow extensors

One case-series by Lee et al. investigated the efficacy of allo-ASC injection on PROMs i.e. VAS pain score, Mayo Elbow Performance Index (MEPI) score and ultrasound evaluation of tendon healing.(27) The study received all stars following our appraisal, except two items: bias could have occurred due to the recruitment procedure, and the lack of blinding during the outcome assessment.

Appendix 3: Criteria; ROBINS-I Tool (2016) (Risk Of Bias In Non-randomized Studies of Interventions).

Kim SJ et al. 2018 (non-RCT)

Outcomes; Primary outcome: (PROMs): VAS, MMT, ASAS. **Secondary outcome**: Ultrasound evaluation of the rotator cuff tendon.
Intervention group: Bone marrow aspirate concentration (BMAC)-platelet rich plasma (PRP) injection vs. **Control group**: rotator cuff exercise alone

RoB Domain Signalling Question	**Judgement per measurement outcome**				**Support for judgements**
	VAS	MMT	ASES	Ultrasound	
Bias due to confounding					
Q1.1	Y	Y	Y	N	The outcome accessor of the ultrasound was blinded
Q1.2	N	N	N	NA	Standardizes measured after three weeks and three months
Q1.3	N	N	N	N	No dis-continuation was present
Q1.4	Y	Y	Y	Y	Appropriate analysis was applied
Q1.5	Y	Y	Y	Y	Baseline parameters were available
Q1.6	N	N	N	N	Authors did not control for any post-intervention variables that could have been affected by the intervention received
Q1.7	Y	Y	Y	Y	Appropriate analysis was applied, controlling for all the important confounding domains and for any time-varying confounding
Q1.8	Y	Y	Y	Y	
Risk of bias domain judgement	Moderate	Moderate	Moderate	Low	

Bias in classification of interventions					
Q2.1	N	N	N	N	Selection of participants was identified before intervention started
Q2.2	NA	NA	NA	NA	NA
Q2.3	NA	NA	NA	NA	NA
Q2.4	Y	Y	Y	Y	Start and follow up was the same for all participants
Q2.5	N	N	N	N	No adjustments techniques are used to correct for the presence of selection bias
Risk of bias domain judgement	Low	Low	Low	Low	
Bias due to missing outcome data					
Q3.1	Y	Y	Y	Y	Classification group clearly defined.
Q3.2	Y	Y	Y	Y	Information used to define intervention groups recorded at the start of the study
Q3.3	N	N	N	N	Classification of intervention could not have affected the outcome
Risk of bias domain judgement	Low	Low	Low	Low	
Bias due to deviations from intended interventions					
Q4.1	N	N	N	N	Deviations from intended intervention was conform usual practice results
Q4.2	NA	NA	NA	NA	NA
Q4.3	NI	NI	Ni	NI	No information
Q4.4	Y	Y	Y	Y	Intervention implanted successfully for all participants.
Q4.5	Y	Y	Y	Y	All participants adhere to the assigned intervention
Q4.6	NA	NA	NA	NA	NA
Risk of bias domain judgement	Low	Low	Low	Low	
Bias due to missing data					

Q5.1	Y	Y	Y	Y	Outcome data available for nearly all participants.
Q5.2	N	N	N	N	No participants excluded due to missing data
Q5.3	NA	NA	NA	NA	NA
Q5.4	NA	NA	NA	NA	NA
Q5.5	NA	NA	NA	NA	NA
Risk of bias domain judgement	Low	Low	Low	Low	
Bias in measurement outcomes					
Q6.1	Y	Y	Y	NI	Patients are not blinded in VAS score, ASES score and MMT score, and for imaging this is not clearly described
Q6.2	Y	Y	Y	NI	The patient was not blinded. There is insufficient description of assessor blinding to judge if this could have influenced outcome assessment in addition to the absence of patient-blinding.
Q6.3	Y	Y	Y	Y	There is no information indicative for a different outcome assessment across groups.
Q6.4	PY	PY	PY	NI	Probably some systematic errors in measurement of the outcomes related to intervention received. This is not clearly described for Ultrasound, other outcome measurement this is probably happened.
Risk of bias domain judgement	Serious	Serious	Serious	Moderate	
Bias in selection of the reported result					
Q7.1	PN	PN	PN	PN	Probably not, as for our knowledge the measurement outcomes are reported.
Q7.2	N	N	N	N	No, the analysist does pre-specify the method of analysis of the intervention outcome measurement.
Q7.3	PY	PY	PY	PY	
Risk of bias domain judgement	Moderate	Moderate	Moderate	Moderate	

Overall Risk of Bias judgement	HIGH	HIGH	HIGH	MODERATE

Kim YS et al. 2017 (non-RCT)
Outcomes; Primary outcome: PROMs: VAS, ROM, UCLA, Constant score. **Secondary outcome:** MRI evaluation for rotator cuff repair.
Intervention group: Injection of adipose-derived MSCs loaded in fibrin glue with arthroscopy vs. **Control group:** Arthroscopy alone.

RoB Domain Signalling Question	**Judgement per measurement outcome**					**Support for judgements**
	VAS	ROM	UCLA	Constant	MRI	
Bias due to confounding						
Q1.1	Y	Y	Y	Y	Y	PROMs: Yes, because it is non randomized, and MRI no because this can't be infected due to non-randomization bias.
Q1.2	N	N	N	N	N	Measured in a standardized manner
Q1.3	N	N	N	N	N	There were none intervention switches likely to be related to the facto that are prognostic for the outcome.
Q1.4	PN	PN	PN	PN	PN	Likely that the authors use an appropriate analysis that controlled for the important confounding domains.
Q1.5	NA	NA	NA	NA	NA	NA
Q1.6	N	N	N	N	N	The after trajectory was the same in both control and intervention gro
Q1.7	PN	PN	PN	PN	PN	Not clearly enough described what kind of analysis was applied.

Q1.8	NA	NA	NA	NA	NA	NA
Risk of bias domain judgement	Moderate	Moderate	Moderate	Moderate	Low	
Bias in classification of interventions						
Q2.1	Y	Y	Y	Y	Y	Selection of participants was identified before intervention started
Q2.2	NA	NA	NA	NA	NA	NA
Q2.3	NA	NA	NA	NA	NA	NA
Q2.4	Y	Y	Y	Y	Y	Start and follow up was the same for all participants
Q2.5	N	N	N	N	N	No adjustments techniques are used to correct for the presence of selection bias
Risk of bias domain judgement	Low	Low	Low	Low	Low	
Bias due to missing outcome data						
Q3.1	Y	Y	Y	Y	Y	Classification group clearly defined (already before intervention start
Q3.2	N	N	N	N	N	Information used to define intervention groups recorded at the start o study
Q3.3	N	N	N	N	N	Classification of intervention could not have affected the outcome
Risk of bias domain	Low	Low	Low	Low	Low	

judgement						
Bias due to deviations from intended interventions						
Q4.1	N	N	N	N	N	Deviations from intended intervention was conform usual practice res
Q4.2	NA	NA	NA	NA	NA	NA
Q4.3	NA	NA	NA	NA	NA	NA
Q4.4	NA	NA	NA	NA	NA	NA
Q4.5	NA	NA	NA	NA	NA	NA
Q4.6	Y	Y	Y	Y	Y	There is an appropriate analysis used to estimate the effect of starting adhering to the intervention
Risk of bias domain judgement	Low	Low	Low	Low	Low	
Bias due to missing data						
Q5.1	Y	Y	Y	Y	Y	Outcome data available for nearly all participants.
Q5.2	N	N	N	N	N	No participants excluded due to missing data
Q5.3	N	N	N	N	N	Not clearly described if participants are excluded due to missing data other variables needed for the analysis.
Q5.4	NA	NA	NA	NA	NA	NA

Q5.5	NA	NA	NA	NA	NA	NA
Risk of bias domain judgement	Low	Low	Low	Low	Low	
Bias in measurement outcomes						
Q6.1	Y	Y	Y	Y	N	Yes, not clear if imaging outcome assessor was blinded or not. For M this is not an issue, because it can't have infected the outcome.
Q6.2	PY	PY	PY	PY	PY	Not clearly described if the outcome assessors were aware of the intervention received by the participants. But probably yes, because t the most likely due to the study method
Q6.3	Y	Y	Y	Y	Y	The methods of outcome assessment are comparable across intervent of the groups.
Q6.4	N	N	N	N	N	No systematic errors in measurement of the outcome related to intervention received by the participants.
Risk of bias domain judgement	Moderate	Moderate	Moderate	Moderate	Low	
Bias in selection of the reported result						
Q7.1	PN	PN	PN	PN	PN	Probably not because the measurement outcomes are well described i method.
Q7.2	N	N	N	N	N	The analyses method of intervention outcome is well described.
Q7.3	N	N	N	N	N	Different subgroups are not clearly described
Risk of bias domain judgement	Low	Low	Low	Low	Low	

Overall Risk of Bias judgement	MODERATE	MODERATE	MODERATE	MODERATE	LOW

Hernigou et al. 2015 (non-RCT)
Outcomes: Primary outcome: PROMS (not measured) **Secondary outcome**: MRI and Ultrasound evaluation for rotator cuff repair
Intervention group: iliac crest bone marrow-derived mesenchymal stem cells (MSCs) injection vs **Control group**: No arthroscopy alone without MSCs injection.

RoB Domain Signalling Question	**Judgement per measurement outcome**		**Support for judgements**
	MRI	Ultrasound	
Bias due to confounding			
Q1.1	PN	PN	Not clear if outcome accessor was blinded
Q1.2	N	N	Measured in a standardized manner
Q1.3	NA	NA	NA
Q1.4	Y	Y	Appropriate analysis was applied
Q1.5	Y	Y	All the baseline parameters were available
Q1.6	N	N	No, the after trajectory was the same in both control and intervention group
Q1.7	Y	Y	Appropriate analysis was applied, controlling for all the important confounding domains and for any time-varyi confounding
Q1.8	Y	Y	

Risk of bias domain judgement	Low	Low	
Bias in classification of interventions			
Q2.1	NI	NI	Selection of participants was identified before intervention started
Q2.2	NA	NA	NA
Q2.3	NA	NA	NA
Q2.4	Y	Y	Start and follow up was the same for all participants
Q2.5	N	N	No adjustments techniques are used to correct for the presence of selection bias
Risk of bias domain judgement	Moderate	Moderate	
Bias due to missing outcome data			
Q3.1	Y	Y	Classification group clearly defined (already before intervention started)
Q3.2	Y	Y	Information used to define intervention groups recorded at the start of the study
Q3.3	N	N	Classification of intervention could not have affected the outcome
Risk of bias domain judgement	Low	Low	
Bias due to deviations from intended interventions			
Q4.1	N	N	Deviations from intended intervention was conform usual practice results
Q4.2	NA	NA	NA
Q4.3	Y	Y	No information
Q4.4	Y	Y	Intervention implanted successfully for all participants included.
Q4.5	Y	Y	All participants adhere to the assigned intervention
Q4.6	NA	NA	NA

Risk of bias domain judgement	Low	Low	
Bias due to missing data			
Q5.1	Y	Y	Outcome data available for nearly all participants.
Q5.2	N	N	No participants excluded due to missing data
Q5.3	NI	NI	Not clearly described if participants are excluded due to missing data on other variables needed for the analysis
Q5.4	NA	NA	NA
Q5.5	NA	NA	NA
Risk of bias domain judgement	Low	Low	
Bias in measurement outcomes			
Q6.1	Y	Y	Yes, not clear if imaging outcome assessor was blinded or not. For MRI, this is not an issue, because it can't ha infected the outcome.
Q6.2	NI	NI	Not clearly described if the outcome assessors were aware of the intervention received by the participants.
Q6.3	Y	Y	The methods of outcome assessment are comparable across interventions of the groups.
Q6.4	NI	NI	Not clearly described, how systematic errors in measurement of the outcome related to intervention received by the participants.
Risk of bias domain judgement	Moderate	Moderate	
Bias in selection of the reported result			
Q7.1	N	N	The measurement outcomes are reported for both outcomes
Q7.2	N	N	No, the analysist does pre-specify the method of analysis of the intervention outcome measurement.
Q7.3	N	N	Different subgroups are not clearly described
Risk of bias domain judgement	Low	Low	
Overall Risk of Bias judgement	MODERATE	MODERATE	

Appendix 4: Criteria Cochrane Risk of bias tool

Usuelli et al. 2018 (RCT)
Outcomes: Primary outcome: PROMs; VAS, VISA-A, AOFAS, SF-36 scores. **Secondary outcome**: MRI and Ultrasound evaluation for Achilles tendon repair.
Intervention group: Stromal vascular fraction injection vs. **Control group:** Platelet-rich plasma (PRP) injection.

RoB Domain Signalling Question	**Judgement per follow-up outcome assessment**						**Support for judgements**
	VAS	VISA-A	AOFAS	SF-36	MRI	Ultrasound	
Bias arising from the randomization process							
Q1.1	Y	Y	Y	Y	Y	Y	The allocation sequence was random due to envelops
Q1.2	Y	T	Y	Y	Y	Y	The allocation sequence was concealed until participants were enrolled and assigned to interventions.
Q1.3	PY	PY	PY	PY	PY	PY	The baseline differences between intervention groups suggest a problem with the randomization process because there are mor in the control group
Risk of bias domain judgement	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	
Bias due deviations from intended interventions							
Q2.1	Y	Y	Y	Y	Y	Y	Participants were aware of the treatment they received.
Q2.2	Y	Y	Y	Y	Y	Y	Treatment providers knew the interventions to be performed.
Q2.3	Y	Y	Y	Y	Y	Y	Important co interventions were balanced across the interventic groups
Q2.4	PN	PN	PN	PN	PN	PN	There are no clues for failures in implementing the interventior

							maybe affected the outcome
Q2.5	Y	Y	Y	Y	Y	Y	Controlling for blinding is not possible in this study
Q2.6	NA	NA	NA	NA	NA	NA	NA
Risk of bias domain judgement	High	High	High	High	High	High	
Bias due to missing outcome data							
Q3.1	Y	Y	Y	Y	Y	Y	Data was available for all participants randomized
Q3.2	NA	NA	NA	NA	NA	NA	NA
Q3.3	NA	NA	NA	NA	NA	NA	NA
Q3.4	N	N	N	N	N	N	There is no missing data
Q3.5	NA	NA	NA	NA	NA	NA	NA
Risk of bias domain judgement	Low	Low	Low	Low	Low	Low	
Bias in measurement of the outcome							
Q4.1	N	N	N	N	N	N	The method of measuring the outcome was appropriate
Q4.2	N	N	N	N	N	N	Measurement of the outcome not differ between the interventio control group
Q4.3	N	N	N	N	N	N	Outcome assessors were not aware of the intervention received study participants
Q4.4	Y	Y	Y	Y	N	N	Assessment of the outcome could not have been influenced by knowledge of intervention received in the MRI and Ultrasound group, but could have been affected by the PROMs outcome
Q4.5	Y	Y	Y	Y	NA	NA	Outcome was a functional PROM, and assessors (patients) wer blinded.
Risk of bias domain judgement	Some concerns	Some concerns	Some concerns	Some concerns	Low	Low	
Bias in selection of the reported result							
Q5.1	NI	NI	NI	NI	NI	NI	No pre-specified analysis plan available.
Q5.2	N	N	N	N	N	N	Only one way in which the outcome domain could have been measured.

Q5.3	N	N	N	N	N	N	Other statistical analyses could not have been performed.
Risk of bias domain judgement	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	
OVERALL RISK OF BIAS JUDGEMENT	**SOME CONCERNS**	**SOME CONCERNS**	**SOME CONCERNS**	**SOME CONCERNS**	**SOME CONCERNS**	**SOME CONCERNS**	

Appendix 5: Modified Newcastle Ottawa Scale

Selection procedure and intervention (selection and performance bias): Recruitment procedure: Studies describing how and where participants were recruited, were awarded a star. Inclusion criteria: One star was awarded when in- and exclusion criteria were described and methods of making the diagnosis were provided. Ascertainment of treatment exposure: Studies that clearly described how their intervention was performed, were awarded a star.

Outcome (detection and attrition bias): Blinded Outcome assessment: One star was awarded when a blinded investigator assessed the outcome, or when the outcome was patient-reported. Follow-up adequacy: One star was awarded when ≤ 10% of the subjects were lost to follow-up. Intention-to-treat analysis: Studies analyzing their data based on the intention-to-treat principle were awarded a star.

Table 2C: Quality appraisal for case series. Risk of bias judgments apply to all study outcomes listed in the 'outcome column' unless otherwise specified in the table

	Outcome	Recruitment procedure	Inclusion criteria	Ascertainment of exposure	Blinded outcome assessment	Follow-up adequacy	Intention-to-treat analysis	Total stars rewarded
Stein et al. 2015 Case- serie	**Primary outcome**: VAS, VISA-A, AOFAS, SF-36 scores	**X**	**X**	**X**		**X**	**X**	**5/6**
	Secondary outcome: MRI, Ultrasound							
Lee et al. 2015 Case-serie	**Primary outcome:** VAS, MEPI			**X**		**X**	**X**	**4/6**

	Secondary outcome: Ultrasound							
Pascual-Garrido et al. 2014 Case-serie	**Primary outcome:** Lysholm, Tegner, IKDC, KOOS, SF-12 **Secondary outcome:** Ultrasound		**X**	**X**				**2/6**
Ellera-Gomez et al. 2012 Case-serie	**Primary outcome**: UCLA score **Secondary outcome**: MRI					**X**	**X**	**2/6**

Abbreviations; VAS, Visual Analogue Score; VISA-A, Victorian Institute of Sport Assessment-Achilles questionnaire; AOFAS, American Orthopaedic Foot and Ankle Society; SF-36, Short Form (36) Health Survey; MEPI, Mayo Elbow Performance Index; IKDC, international knee documentation committee; KOOS, knee injury ad osteoarthritis outcome score; SF-12, Short Form-12 (mental and physical); UCLA, University of California at Los Angeles Shoulder rating scale

Stein et al. 2015 Retrospective case- serie

Outcomes: Primary outcome: PROMs: Clinical and self-reported patient's outcomes: - Mean difference in calf circumference (cm), - Time to walking without boot (month's). Time to walking without boot (months' Time to walking without boot (months), Returned to sport or not, and valid outcome: ATRS. **No secondary outcomes.**

Item	★ **Star awarded**	**Support for judgment**
Selection and interventions (selection and performance bias)		
1 Recruitment procedure	Yes	Clearly described recruitment procedure
2 Inclusion criteria	Yes	Inclusion criteria were clearly described
3 Ascertainment of exposure	Yes	
Selection and interventions (selection and performance bias)		
4 Blinded outcome assessment	No	Non-blinded assessors
5 Follow-up adequacy	Yes	There were no participants lost to follow
6 Intention-to-treat analysis	No	No intention-to-treat analysis
Total stars rewarded	**4/6**	

Lee et al. 2015 Case-serie
Outcomes: Primary outcome: PROMS: VAS, MEPI. **Secondary outcome**: Structural Healing by Ultrasonography

Item	★ Star awarded	Support for judgment
Selection and interventions (selection and performance bias)		
1 Recruitment procedure	No	No information was provided on the recruitment procedure
2 Inclusion criteria	Yes	Inclusion criteria were clearly described
3 Ascertainment of exposure	Yes	Clear intervention procedures
Selection and interventions (selection and performance bias)		
4 Blinded outcome assessment	No	It is not reported if outcome assessment was blinded.
5 Follow-up adequacy	Yes	There were no participants lost to follow
6 Intention-to-treat analysis	Yes	There were no participants lost to follow
Total stars rewarded	**4/6**	

Pascual-Garrido et al. 2014 Case-serie
Outcomes: Primary outcome: PROMs: Lysholm, Tegner,IKDC, KOOS, and Short Form-12. **Secondary outcome:** Ultrasound for tendon healing.

Item	★ **Star awarded**	**Support for judgment**
Selection and interventions (selection and performance bias)		
1 Recruitment procedure	No	Unclear recruitment procedure
2 Inclusion criteria	Yes	Inclusion criteria were adequately described
3 Ascertainment of exposure	Yes	Adequately described procedure
Selection and interventions (selection and performance bias)		
4 Blinded outcome assessment	No	Non-blinded assessors
5 Follow-up adequacy	No	Unknown loss to follow up
6 Intention-to-treat analysis	No	No intention-to-treat analysis
Total stars rewarded	**2/6**	

Ellera-Gomez et al. 2012 Case-serie
Outcomes: Primary outcome: PROMs: UCLA score. **Secondary outcome**: MRI analysis for tendon healing

Item	★ Star awarded	Support for judgement
Selection and interventions (selection and performance bias)		
1 Recruitment procedure	No	It was not described how subjects were recruited
2 Inclusion criteria	No	It was very poorly described what type of rotator cuff inju were included in this study and how they were classified.
3 Ascertainment of exposure	No	Procedures are poorly described
Selection and interventions (selection and performance bias)		
4 Blinded outcome assessment	No	It is not reported if outcome assessment was blinded.
5 Follow-up adequacy	Yes	There were no participants lost to follow
6 Intention-to-treat analysis	Yes	There were no participants lost to follow
Total stars rewarded	**2/6**	