Bilag. 1 – Søgematrix Embase Ovid, Medline Ovid og Cochrane Central

Embase Ovid

#	Query	Results from 15 Feb 2026
1	achilles tendon rupture/	3,747
2	achilles tendo* rupture*.ti,ab.	2,876
3	achilles tendon/	15,222
4	achilles tendo*.ti,ab.	15,148
5	Tendo achilles.ti,ab.	369
6	1 or 2 or 3 or 4 or 5	21,221
7	conservative treatment/	132,106
8	conservative treatment.ti,ab.	60,660
9	Nonoperativ*.ti,ab.	20,150
10	nonsurgical invasive therapy/	1,342
11	Nonsurgical*.ti,ab.	27,092
12	exp exercise/	584,877
13	exercis*.ti,ab.	608,097
14	7 or 8 or 9 or 10 or 11 or 12 or 13	989,971
15	Tendon reconstruction/	7,614
16	Tendon reconstruction.ti,ab.	939
17	Tendo* repair.ti,ab.	5,009
18	surgery/	1,189,083
19	surgical*.ti,ab.	2,111,522
20	Operative treatment.ti,ab.	27,054
21	15 or 16 or 17 or 18 or 19 or 20	2,845,392
22	6 and 14 and 21	1,241

Medline Ovid

Query		Results from 15 Feb 2026
1	achilles tendo* rupture*.ti,ab.	2,440
2	achilles tendon/	10,495
3	achilles tendo*.ti,ab.	11,308
4	Tendo achilles.ti,ab.	271
5	1 or 2 or 3 or 4	14,588
6	conservative treatment/	6,285
7	conservative treatment.ti,ab.	40,050
8	Nonoperativ*.ti,ab.	16,865
9	Nonsurgical*.ti,ab.	22,298

10	exp exercise/	283,127
11	exercis*.ti,ab.	410,375
12	6 or 7 or 8 or 9 or 10 or 11	641,988
13	Tendon reconstruction.ti,ab.	875
14	Tendo* repair.ti,ab.	4,262
15	surgery/	41,993
16	surgical*.ti,ab.	1,416,367
17	Operative treatment.ti,ab.	17,194
18	13 or 14 or 15 or 16 or 17	1,457,733
19	5 and 12 and 18	681

Cochrane Central

ID	Search	**Results from 15 Feb 2026**
#1	(achilles NEXT tendo* NEXT rupture*):ti,ab	317
#2	MeSH descriptor: [Achilles Tendon] this term only	480
#3	(achilles NEXT tendo*):ti,ab	1114
#4	(Tendo NEXT achilles):ti,ab	34
#5	#1 OR #2 OR #3 OR #4	1273
#6	MeSH descriptor: [Conservative Treatment] this term only	409
#7	(conservative NEXT treatment):ti,ab	5192
#8	Nonoperativ*:ti,ab	2087
#9	Nonsurgical*:ti,ab	6274
#10	MeSH descriptor: [Exercise] explode all trees	42079
#11	exercis*:ti,ab	146658
#12	#6 OR #7 OR #8 OR #9 OR #10 OR #11	173151
#13	(Tendon NEXT reconstruction):ti,ab	42
#14	(Tendo* NEXT repair):ti,ab	349
#15	MeSH descriptor: [General Surgery] this term only	528
#16	surgical*:ti,ab	123757
#17	(Operative NEXT treatment):ti,ab	1608
#18	#13 OR #14 OR #15 OR #16 OR #17	125244
#19	#5 AND #12 AND #18	139

Bilag 2. ROBIS- Yang et al

Phase 1: Assessing relevance (Optional)

ROBIS is designed to assess the risk of bias in reviews with questions relating to interventions, aetiology, diagnosis and prognosis. State your overview/guideline question (target question) and the question being addressed in the review being assessed:

Intervention reviews:

Category	**Target question (e.g. overview or guideline)**	**Review being assessed**

Patients/Population(s):	Akut akillessene ruptur	AATR (acute achilles tendon rupture)
Intervention(s):	Konservativ behandling	Surgical treatment (no restrictions)
Comparator(s):	Operativ behandling	Conservative treatment (no restrictions)
Outcome(s):	Re-ruptur rate Achilles tendon total rupture score (ATRS)	Re-rupture rate, Achilles tendon total rupture score (ATRS), return to sport, infection rates, nerve injury, deep venous thrombosis (DVT), pulmonary embolism (PE).

Does the question addressed by the review match the target question?
YES/NO/UNCLEAR

Phase 2: Identifying concerns with the review process

DOMAIN 1: STUDY ELIGIBILITY CRITERIA

Describe the study eligibility criteria, any restrictions on eligibility and whether there was evidence that objectives and eligibility criteria were pre-specified:

1.1	Did the review adhere to pre-defined objectives and eligibility criteria?	Y/PY/**PN**/N/NI
1.2	Were the eligibility criteria appropriate for the review question?	**Y**/PY/PN/N/NI
1.3	Were eligibility criteria unambiguous?	Y/PY/PN/**N**/NI
1.4	Were any restrictions in eligibility criteria based on study characteristics appropriate (e.g. date, sample size, study quality, outcomes measured)?	**Y**/PY/PN/N/NI
1.5	Were any restrictions in eligibility criteria based on sources of information appropriate (e.g. publication status or format, language, availability of data)?	**Y**/PY/PN/N/NI

Concerns regarding specification of study eligibility criteria LOW/**HIGH**/UNCLEAR

Rationale for concern: No predefined protocol or registration-number was found. It has not been mentioned in SR, not in reference list, and not found by search in Prospero. It is therefor uncertain if eligibility criteria was predefined.

DOMAIN 2: IDENTIFICATION AND SELECTION OF STUDIES

Describe methods of study identification and selection (e.g. number of reviewers involved):

2.1	Did the search include an appropriate range of databases/electronic sources for published and unpublished reports?	Y/PY/PN/**N**/NI
2.2	Were methods additional to database searching used to identify relevant reports?	Y/PY/PN/**N**/NI
2.3	Were the terms and structure of the search strategy likely to retrieve as many eligible studies as possible?	**Y**/PY/PN/N/NI
2.4	Were restrictions based on date, publication format, or language appropriate?	**Y**/PY/PN/N/NI
2.5	Were efforts made to minimise error in selection of studies?	**Y**/PY/PN/N/NI

Concerns regarding methods used to identify and/or select studies **LOW**/HIGH/UNCLEAR

Rationale for concern: There was no search for unpublished reports. No methods for searching in other sources. The literature search did include many relevant databases, with a wide search including relevant synonyms.

DOMAIN 3: DATA COLLECTION AND STUDY APPRAISAL	
Describe methods of data collection, what data were extracted from studies or collected through other means, how risk of bias was assessed (e.g. number of reviewers involved) and the tool used to assess risk of bias:8	
3.1 Were efforts made to minimise error in data collection?	Y/PY/**PN**/N/NI
3.2 Were sufficient study characteristics available for both review authors and readers to be able to interpret the results?	**Y**/PY/PN/N/NI
3.3 Were all relevant study results collected for use in the synthesis?	**Y**/PY/PN/N/NI
3.4 Was risk of bias (or methodological quality) formally assessed using appropriate criteria?	Y/PY/PN/**N**/NI
3.5 Were efforts made to minimise error in risk of bias assessment?	Y/PY/PN/**N**/NI
Concerns regarding methods used to collect data and appraise studies	LOW/**HIGH**/UNCLEAR
Rationale for concern: Methods for minimizing errors in data collection not mentioned. Risk of bias has not been assessed.	

DOMAIN 4: SYNTHESIS AND FINDINGS	
The review performed a meta-analysis using a fixed-effects model when $I^2 \leq 50\%$ and a random-effects model otherwise. Study results were pooled across RCTs and cohort studies in the same forest plots. No sensitivity analyses were conducted to assess robustness, and heterogeneity was reported using I^2 statistics. Funnel plots were presented to assess small-study effects.	
4.1 Did the synthesis include all studies that it should?	**Y**/PY/PN/N/NI
4.2 Were all pre-defined analyses reported or departures explained?	Y/PY/**PN**/N/NI
4.3 Was the synthesis appropriate given the nature and similarity in the research questions, study designs and outcomes across included studies?	Y/PY/PN/**N**/NI
4.4 Was between-study variation (heterogeneity) minimal or addressed in the synthesis?	**Y**/PY/PN/N/NI
4.5 Were the findings robust, e.g. as demonstrated through funnel plot or sensitivity analyses?	Y/PY/**PN**/N/NI
4.6 Were biases in primary studies minimal or addressed in the synthesis?	**Y**/PY/PN/N/NI
Concerns regarding the synthesis and findings	LOW/**HIGH**/UNCLEAR
Rationale for concern: The review selected models based only on I^2, without considering clinical or methodological heterogeneity. Forest plots combine RCTs and cohort studies, which may have led to inappropriate synthesis and could have influenced the pooled estimates. No sensitivity analysis was performed for any outcomes, as they did not have enough studies. Funnel plots for the outcome re-rupture rate did not indicate publication bias. Only three studies were included in the meta-analysis for ATRS, which limits the robustness of the pooled estimate. With such a small number of studies, the assessment of heterogeneity and publication bias is unreliable, and the influence of individual studies on the overall result may be substantial.	

Y=YES, PY=PROBABLY YES, PN=PROBABLY NO, N=NO, NI=NO INFORMATION

Phase 3: Judging risk of bias

Summarize the concerns identified during the Phase 2 assessment:

Domain	Concern	Rationale for concern
1. Concerns regarding specification of study eligibility criteria	High	No predefined protocol was found, it is therefor uncertain if eligibility criteria was predefined.
2. Concerns regarding methods used to identify and/or select studies	Low	There was no search for unpublished reports. No methods for searching in other sources. The literature search did include many relevant databases, with a wide search including relevant synonyms.
3. Concerns regarding methods used to collect data and appraise studies	High	Methods for minimizing errors in data collection not mentioned. Risk of bias has not been assessed.
4. Concerns regarding the synthesis and findings	High	The review selected models based only on I^2, without considering clinical or methodological heterogeneity. Forest plots combine RCTs and cohort studies, which may have led to inappropriate synthesis and could have influenced the pooled estimates. No sensitivity analysis was performed, because they did not have enough studies. Funnel plots did not indicate publication bias.

RISK OF BIAS IN THE REVIEW	
Describe whether conclusions were supported by the evidence:	
A. Did the interpretation of findings address all of the concerns identified in Domains 1 to 4?	Y/PY/PN/**N**/NI
B. Was the relevance of identified studies to the review's research question appropriately considered?	**Y**/PY/PN/N/NI
C. Did the reviewers avoid emphasizing results on the basis of their statistical significance?	**Y**/PY/PN/N/NI
Risk of bias in the review	RISK: LOW/**HIGH**/UNCLEAR
Rationale for risk: Results was emphasized only on the basis of p-value, with no predefined thresholds for clinical relevance reported.	

Y=YES, PY=PROBABLY YES, PN=PROBABLY NO, N=NO, NI=NO INFORMATION

Bilag 3: GRADE

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	operative treament	conservative treatment	Relative (95% CI)	Absolute (95% CI)		
Rerupture rate												
8[a]	randomised trials	not serious[b]	serious[c]	not serious[a]	serious[d]	none	79/2181 (3.6%)	127/1828 (6.9%)	**RR 0.45** (0.34 to 0.58)	**38 fewer per 1,000** (from 46 fewer to 29 fewer)	⨁⨁◯◯ Low[a,b,c,d]	CRITICAL
Reruptur rate												
13	non-randomised studies	not serious	serious[c]	not serious	serious[d]	none	79/2181 (3.6%)	127/1828 (6.9%)	**RR 0.45** (0.34 to 0.58)	**38 fewer per 1,000** (from 46 fewer to 29 fewer)	⨁◯◯◯ Very low[c,d]	CRITICAL
Return to sport												
3	randomised trials	not serious	serious[e]	not serious	serious[f]	all plausible residual confounding would reduce the demonstrated effect	144/269 (53.5%)	43/110 (39.1%)	**RR 1.32** (1.03 to 1.69)	**125 more per 1,000** (from 12 more to 270 more)	⨁⨁⨁◯ Moderate[e,f]	CRITICAL
Return to sport												
1	non-randomised studies	not serious	serious[e]	not serious	serious[f]	all plausible residual confounding would reduce the demonstrated effect	144/269 (53.5%)	43/110 (39.1%)	**RR 1.32** (1.03 to 1.69)	**125 more per 1,000** (from 12 more to 270 more)	⨁◯◯◯ Very low[e,f]	CRITICAL

CI: confidence interval; **RR:** risk ratio

Explanations

a. Indirectness: Not downgraded. The outcome is part of the core outcome set and directly compares the interventions of interest. The population, intervention, comparator, and outcome are directly applicable to the review question.
b. Risk of bias: risk of bias was assessed using the MINORS score. The results were converted into overall risk-of-bias judgments, with all RCTs and cohort studies classified as low risk of bias.
c. Inconsistency: Downgraded one level due to variability in effect estimates across studies. The use of a fixed-effect model may underestimate true heterogeneity. I^2 = 46%. with acceptable overlap of confidence intervals.
d. Imprecision: Most individual studies had confidence intervals crossing 1, reflecting uncertainty in the effect estimates, despite a positive pooled overall effect.
e. Inconsistency: Downgraded one level due to variability in effect estimates across studies. The use of a fixed-effect model may underestimate true heterogeneity. I^2 =0%. with acceptable overlap of confidence intervals.
f. Imprecision: Most individual studies had confidence intervals crossing 1 and analysis only included 4 studies, reflecting uncertainty in the effect estimates, despite a positive pooled overall effect.

Bilag 4. RoB 2 - *Myhrvold et al*

Revised Cochrane risk-of-bias tool for randomized trials (RoB 2)
TEMPLATE FOR COMPLETION

Edited by Julian PT Higgins, Jelena Savović, Matthew J Page, Jonathan AC Sterne
on behalf of the RoB2 Development Group

The development of the RoB 2 tool was supported by the MRC Network of Hubs for Trials Methodology Research (MR/L004933/2- N61), with the support of the host MRC ConDuCT-II Hub (Collaboration and innovation for Difficult and Complex randomised controlled Trials In Invasive procedures - MR/K025643/1), by MRC research grant MR/M025209/1, and by a grant from The Cochrane Collaboration.

Study details

Reference

Myhrvold et al (2022). Nonoperative or Surgical Treatment of Acute Achilles' Tendon Rupture

Study design

X Individually-randomized parallel-group trial
☐ Cluster-randomized parallel-group trial
☐ Individually randomized cross-over (or other matched) trial

For the purposes of this assessment, the interventions being compared are defined as

Experimental:	Operative treatment: * non-operative treatment (n=160) * mini-invasive surgery (n=160) Same protocol after surgery as nonoperative treatment.	Comparator:	Nonoperative treatment: (n=160) * Total 8 weeks. * 0-2 week in plaster of paris in equinos position, no weightbearing. * 3-8 week in brace with full weightbearing, in plantarflektion. * 3-4 week: 12 ° plantarflexion. Excersise: Isometric contraction, ROM for ankle. * 5-6 week: 8 ° plantarflexion. Excersise: exercise bike, heel rise in sitting position. * 7 week :4 ° plantarflexion * 8 week: neutral position * 9-24 weeks: Physiotherapy 3x week and daily home exercise.

	Specify which outcome is being assessed for risk of bias	Incidens of rerupure at 12 month follow-up
	Specify the numerical result being assessed. In case of multiple alternative analyses being presented, specify the numeric result (e.g. RR = 1.52 (95% CI 0.83 to 2.77) and/or a reference (e.g. to a table, figure or paragraph) that uniquely defines the result being assessed.	The risk of rerupture was 5.6 percentage points higher in the nonoperative group than in the open-repair group (95% CI, 1.9 to 10.2) and the minimally invasive surgery group (95% CI, 1.8 to 10.2). The change in the Achilles' tendon Total Rupture Score from baseline to the 12-month followup was −17.0 points (95% confidence interval [CI], −20.0 to −14.0) in the nonoperative group, −16.0 points (95% CI, −19.0 to −12.9) in the open-repair group, and −14.7 points (95% CI,−17.9 to −11.6) in the minimally invasive surgery group (P = 0.57)

Is the review team's aim for this result…?

√ to assess the effect of *assignment to intervention* (the 'intention-to-treat' effect)

☐ to assess the effect of *adhering to intervention* (the 'per-protocol' effect)

If the aim is to assess the effect of *adhering to intervention*, select the deviations from intended intervention that should be addressed (at least one must be checked):

☐ occurrence of non-protocol interventions

☐ failures in implementing the intervention that could have affected the outcome

☐ non-adherence to their assigned intervention by trial participants

Which of the following sources were <u>obtained</u> to help inform the risk-of-bias assessment? (tick as many as apply)

√ Journal article(s) with results of the trial

√ Trial protocol

☐ Statistical analysis plan (SAP)

√ Non-commercial trial registry record (e.g. ClinicalTrials.gov record)

☐ Company-owned trial registry record (e.g. GSK Clinical Study Register record)

☐ "Grey literature" (e.g. unpublished thesis)

☐ Conference abstract(s) about the trial

☐ Regulatory document (e.g. Clinical Study Report, Drug Approval Package)

	☐	Research ethics application
	☐	Grant database summary (e.g. NIH RePORTER or Research Councils UK Gateway to Research)
	☐	Personal communication with trialist
	☐	Personal communication with the sponsor

Risk of bias assessment
Responses underlined in green are potential markers for low risk of bias, and responses in red are potential markers for a risk of bias.
Where questions relate only to sign posts to other questions, no formatting is used.

Domain 1: Risk of bias arising from the randomization process

Signalling questions	Comments	Response options
1.1 Was the allocation sequence random?	"Eligible patients were randomly assigned, in a 1:1:1 ratio. Randomization was stratified according to trial center, with random block sizes of 6, 9, and 12. They used Random Allocation Software, version 1.0 (Microsoft), to perform randomization22."	**Y**
1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		**Y**
1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?	"The characteristics of the three groups at baseline were similar across the trial groups". Based on Table 1 (baseline characteristics), the trial groups appear comparable at baseline. Relevant baseline characteristics and outcome-related scores are reported, and the distribution of participants across groups is similar, indicating no evident baseline imbalances.	**N**
Risk-of-bias judgement	Randomization was performed using computer-generated sequences with concealed allocation. Baseline characteristics were balanced across groups.	**Low**
Optional: What is the predicted direction of bias arising from the randomization process?		**Unpredictable**

Domain 2: Risk of bias due to deviations from the intended interventions (*effect of assignment to intervention*)

Signalling questions	Comments	Response options

2.1. Were participants aware of their assigned intervention during the trial?	Participants and surgeons were aware of assigned group, as expected in a trial comparing operative and conservative treatment.	**Y**
2.2. Were carers and people delivering the interventions aware of participants assigned intervention during the trial?		**Y**
2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the trial context?	Rehabilitation was standardized for all three groups. All groups had almost the same amount of people that finished the trial with at least one follow-up. There was no indication that participants or providers altered care because of the trial context. Therefore, deviations from the intended interventions due to the trial context were unlikely.	**PN**
2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?		NA
2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?		NA
2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	"The primary efficacy analyses were performed according to the intention-to-treat principle and included the full analysis population, which included all the patients who underwent randomization"	**Y**
2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?		NA
Risk-of-bias judgement	Participants and surgeons were aware of group assignment, but rehabilitation was standardized across all groups. Analysis was conducted by intention-to-treat. Deviations from intended interventions were unlikely to bias the results.	**Low**
Optional: What is the predicted direction of bias due to deviations from intended interventions?		Unpredictable

Domain 3: Missing outcome data

Signalling questions	Comments	Response options
3.1 Were data for this outcome available for all, or nearly all, participants randomized?	A total of 554 participants were randomized, of whom 526 were included in the final analysis, representing approximately 5% loss to follow-up. The dropouts were roughly evenly distributed across the intervention groups,	**Y**

	and there was no evidence that missingness was related to the outcome. Therefore, outcome data were available for nearly all participants.	
3.2 If N/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data?	"Results were similar in the various sensitivity analyses in which missing data were handled by different imputation techniques and questionnaire scores were reinverted (owing to the likelihood that patients inverted the scale when completing the questionnaires.	**Y**
3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?		NA
3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA
Risk-of-bias judgement	Outcome data were available for 95% of participants, with balanced dropout across groups. Sensitivity analyses showed consistent results, indicating missing data are unlikely to have biased the findings.	**Low**
Optional: What is the predicted direction of bias due to missing outcome data?		Unpredictable

Domain 4: Risk of bias in measurement of the outcome

Signalling questions	Comments	Response options
4.1 Was the method of measuring the outcome inappropriate?	Re-rupture rate is a direct and relevant outcome. Measured clinically at 12-month follow-up. For re-ruptures, the pairwise risk difference between the treatment groups and their 95% confidence intervals (unadjusted for multiplicity) were calculated with the use of the Newcombe hybrid score.	**N**
4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	No — measurement or ascertainment of the outcome is unlikely to have differed between groups.	**N**
4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants?		**PY**
4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	re-rupture is a clear, objective, binary clinical event, so even if assessors knew the treatment, their judgement is very unlikely to be influenced by that knowledge.	**PN**
4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?		**PN**
Risk-of-bias judgement	Because the outcome was objective and unlikely to be influenced by assessor awareness, measurement of the outcome is judged to be at low risk of bias.	**Low**
Optional: What is the predicted direction of bias in measurement of the outcome?		Unpredictable

Domain 5: Risk of bias in selection of the reported result

Signalling questions	Comments	Response options
5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was	A detailed trial protocol was published before the start of the study, specifying outcomes and planned analysis methods. The data were analyzed according to a pre-specified plan.	**Y**

finalized before unblinded outcome data were available for analysis?		
Is the numerical result being assessed likely to have been selected, on the basis of the results, from...		
5.2. ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	The study reports rerupture at 12 months. The diagnosis is done clinically without any need of imaging techniques.	**N**
5.3 ... multiple eligible analyses of the data?	A detailed trial protocol was published before the study start, specifying outcomes and planned analyses. The primary analysis for rerupture used logistic regression adjusted for study center, with a pre-specified contingency plan (Newcombe Hybrid Score) if event numbers were very low. Only one analysis for rerupture is reported, and the analysis plan was pre-specified.	**N**
Risk-of-bias judgement	Because the analysis followed a pre-specified statistical plan and no selective reporting was possible within this outcome domain, the risk of bias in selection of the reported result is judged to be low.	**Low**
Optional: What is the predicted direction of bias due to selection of the reported result?		Unpredictable

Overall risk of bias

Risk-of-bias judgement	Across all domains, the trial shows strong methodological precision. Randomization was adequately generated and concealed, deviations from intended interventions were minimal and unlikely to bias the effect, missing data were low and balanced, the outcome was objective and robust to assessor awareness, and analyses followed a pre-specified statistical plan without room for selective reporting.	**Low**
Optional: What is the overall predicted direction of bias for this outcome?		Unpredictable