

Reviewer #1:

Scientific Quality: Grade E (Do not publish)

Language Quality: Grade B (Minor language polishing)

Conclusion: Rejection

Specific Comments to Authors: Specific Comments to Authors 1. The title of this article is : “Preoperative motivation and psychological factors may influence return to sport and work after lateral ankle sprain: a systematic review and meta-analysis”, The content of the study on preoperative motivation is lacking, the conclusion lacks credibility, and the content of the article does not match the title. (Only one included study was found to be associated with preoperative motivation—Bouveau V, Housset V, Chasset F, Bauer T, Hardy A. Return to sports: Rate and time after arthroscopic surgery for chronic lateral ankle instability. *Orthop Traumatol Surg Res* 2022;108(7):103398. [doi: 10.1016/j.otsr.2022.103398] [published Online

First: 20220906] [PMID: 36084915]) 2. A large amount of research content and research work are related to the research characteristics and risk of bias of the included articles, and Lack of correlation with the preoperative motivation mentioned in the title of the article. 3. Some of the language logic and grammatical mistake of the article. (eg: ① Two authors independently and individually screened the identified studies for relevance based on their title and abstract using Rayyan QCRI 16 as data management software. ② This variability can introduce potential limitations in the interpretation and generalisability of the results.)

Response to Reviewer #1:

We appreciate your thorough review of our article. We value your feedback and have carefully considered your comments. Here is our response to your specific points:

1. We acknowledge your concern regarding the study's alignment with the title. We understand that the content related to preoperative motivation is limited, primarily due to the scarcity of available studies in this specific area. We have revised the title to better reflect the scope of the included studies and their findings. **“Unveiling biases: Exploring influences on return to sport and work after lateral ankle sprain - a systematic review and meta-analysis”**

2. We agree with your observation that a substantial portion of the research content focuses on the characteristics of the included articles and their risk of bias. We have revised the title to better reflect the scope of the included studies and their findings. **“Unveiling biases: Exploring influences on return to sport and work after lateral ankle sprain - a systematic review and meta-analysis”**

3. Thank you for pointing out specific instances of language logic and grammatical errors. A second native speaker has diligently reviewed our text to ensure the clarity and accuracy of our writing.

Regarding the specific comments you've raised about the study:

- We acknowledge that the study by Bouveau et al. is the primary source of preoperative motivation content in our review. We will revisit our discussion on this study to accurately represent its findings and implications.

- We recognize the need to establish a stronger correlation between the research characteristics and risk of bias assessment with the preoperative motivation aspect highlighted in the title. We will enhance the relevance of these sections to address this concern.

In response to your recommendation for minor language polishing:

- “Two authors independently and individually screened the identified studies for relevance based on their title and abstract using Rayyan QCRI” → **Two authors independently screened the identified studies for relevance based on titles and abstract using Rayyan QCRI**

- We appreciate your comment on the sentence "This variability can introduce potential limitations in the interpretation and generalisability of the results." → **The different ways that RTS or RTW was defined can cause potential limitations in the interpretation of the results**

We are committed to addressing these issues and improving the overall quality of our article. We understand the importance of ensuring accuracy, coherence, and credibility.

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: The objective of this systematic review and meta-analysis is to determine factors that may influence return to work (RTW) and return to sports (RTS) after lateral ankle sprain. The quality and importance of this manuscript are good. The new findings of this study is that preoperative motivation and psychological factors may influence return to sport and work after lateral ankle sprain. Future studies should aim to assess the weight of psychological factors in return to sports and work. In my opinion the conclusions appropriately summarize the data that this study provided. The limitations of the study and its findings is that considerable number of literatures with follow-up of only 1 month were included. This affects the reliability of the results.

Response to Reviewer #2:

We sincerely appreciate your review of our systematic review and meta-analysis. Your positive evaluation of the manuscript's quality and importance is greatly valued. We also appreciate your constructive feedback and observations. Here is our response:

We are pleased that you found our conclusions to be appropriate in summarising the data presented in the study. We have strived to ensure that our conclusions accurately reflect the findings of our analysis.

We acknowledge your concern about the follow-up period of only one month. This is a valid point, and it does have implications for the reliability of the results, particularly in assessing long-term outcomes. We will make sure to emphasise this limitation in our manuscript to provide transparency about the temporal scope of the included studies and its potential impact

on the findings. → “Other limitations were variations in terms of methodology, small sample size, small number of patients and short follow-up time.”

Reviewer #3:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Rejection

Specific Comments to Authors: 1. The title is misleading, as the study is not mainly evaluating the "motivation and psychological factors". Please clarify 2. Which part of the results were stating the significance of "preoperative and psychological factors"? Please clarify 3. How the authors determine that the delay of RTW were due to the psychological factors and not the proprioceptive disturbance?

Response to Reviewer #3:

We sincerely appreciate your valuable feedback. Your comments are insightful, and we are committed to addressing each of your concerns to improve the clarity and accuracy of our study. Here are our responses to your points:

1. We acknowledge your concern regarding the study's alignment with the title. We understand that the content related to preoperative motivation is limited, primarily due to the scarcity of available studies in this specific area. We have revised the title to better reflect the scope of the included studies and their findings. **“Unveiling biases: Exploring influences on return to sport and work after lateral ankle sprain - a systematic review and meta-analysis”**

2. **Preoperative Factors:** We discussed the study by Bouveau et al. (Orthop Traumatol Surg Res 2022) as a primary source of evidence for the impact of preoperative factors, including preoperative motivation, on RTW and RTS outcomes. While this study was one of the few available on this topic, it provided valuable insights into the role of preoperative factors in post-surgical RTW and RTS rates.

“In a single study, it was found that individuals with CAI who had a higher BMI (median 24, range 20-37) were more likely ($P=0.04$) to refrain from resuming sports or to return to sports at a lower level, in contrast to those with a similar or lower BMI (median 23, range 17-38) who were more inclined to resume their sports activities at the same or higher level. In this study higher preoperative motivation emerged as the sole factor significantly and independently ($P=0.001$) associated with both rate of and time to return to sports following ligament repair or ligament reconstruction. Categorized as evidence level 3.”

Psychological Factors: The discussion also addressed the broader concept of psychological factors, encompassing aspects such as patient psychology, motivation, fear avoidance, and psychological readiness for resuming work and sports activities. We examined findings that explored the association between psychological factors and RTW and RTS outcomes.

“Patients with work-related injuries were observed to be at a greater risk for experiencing persistent pain. This finding suggests that occupational factors may have a significant impact on pain outcomes and delayed return to work after an ankle sprain. Our results show that patient satisfaction after Modified Bröstrom surgery was very high (88%), even among athletes who were unable to return to pre-injury levels. A large proportion of those athletes

(46%) did not return to their preinjury activity, but only 37% reported ankle-related reasons for not returning.”

3. We acknowledged in our manuscript that the causal relationship between psychological factors and RTW delays is not always straightforward to establish conclusively. We emphasised the need for further research in this area to better understand the complex interplay of factors affecting RTW, including psychological, biomechanical, and sociodemographic factors.

In Bouveau et al. proprioceptive exercises was started at week 3, no proprioceptive disturbance was reported. The study did report the following:

“As shown in Table 3, by univariate analysis; factors significantly associated with this outcome were a higher preoperative AOFAS score (median, 76.5 [range, 41–90] vs. 59.5 [range, 30–80]; $p = 0.004$), very strong preoperative motivation (86% vs. 28% of patients; OR, 16.47; 95%CI, 3.33–81.2; $p = 0.0003$) and a lower body mass index (median, 22.9 [range, 17.3–38.1] vs. 24.4 [range, 19.8–37.2]; $p = 0.15$). By multivariate analysis, two factors remained independently and significantly associated with RTS at the same or a higher level within 12 months, namely, a lower body mass index ($p = 0.04$) and very strong motivation before surgery ($p = 0.001$).”

Table 3
Factors associated with return to sports at the same or a higher level 12 months after surgery.

Factors	Sport resumed at same or higher level	Sport not resumed or resumed at lower level	Odds ratio (95%CI)	p value Univariate analysis	p value Multivariate analysis ^a
Age, years, median (range)	34.3 (23–54.2)	31.3 (15.6–53.1)	–	0.21	–
Females, n (%)	9 (41%)	8 (44%)	1.15 (0.32–4.07)	0.82	–
BMI, median (range)	22.9 (17.3–38.1)	24.4 (19.8–37.2)	–	0.15	0.04
Time from first sprain to surgery, months, median (range)	182.2 (2.8–516.9)	113.7 (9.3–363.5)	–	0.09	0.07
AOFAS score before surgery, median (range)	76.5 (41–90)	59.5 (30–80)	–	0.004	0.1
Ligament reconstruction ^b , n (%)	10 (45%)	11 (61%)	0.53 (0.15–1.88)	0.32	–
Physically active occupation ^c , n (%)	11 (50%)	10 (56%)	0.8 (0.23–2.70)	0.73	–
Non-contact sports ^d , n (%)	11 (50%)	8 (47%)	1.37 (0.37–5.03)	0.63	–
Work-related injury, n (%)	4 (18%)	5 (28%)	0.58 (0.13–2.58)	0.70	–
Competition level, n (%)	9 (41%)	4 (22%)	2.42 (0.60–9.81)	0.31	–
≥ 10 sprains, n (%)	12 (54%)	9 (50%)	1.2 (0.34–4.18)	0.77	–
Very strong motivation to resume sports (n, %)	19 (86%)	5 (28%)	16.47 (3.33–81.2)	0.0003	0.001

95%CI, 95% confidence interval; BMI, body mass index; AOFAS, American Orthopedic Foot & Ankle Society.

^a Variables yielding p values below 0.2 by univariate analysis were entered in the multivariate model. Variables for which the between-group difference was statistically significant are in bold type.

^b As opposed to ligament repair.

^c As opposed to physically inactive occupation.

^d As opposed to pivoting-contact sports.

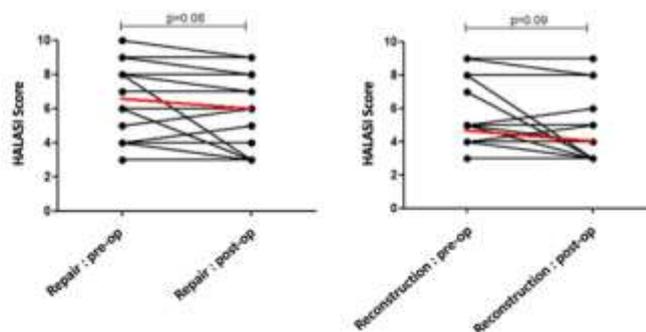


Fig. 4. Changes in the Halasi activity score from the baseline to the postoperative assessments in the groups treated by ligament re-tensioning and arthroscopic ligament reconstruction.

We updated our discussion, recognizing that while some studies suggested a relationship between psychological factors and RTW delays, other factors like proprioceptive disturbance could also play a role. We avoided making definitive claims about causality and instead presented the data within the context of the available research. → “While certain studies have indicated a potential connection between psychological factors and delays in RTW, it is

important to recognize that additional variables, such as proprioceptive disturbance, may also contribute to these delays. “

Peer to peer review Editorial Board

Answer to reviewer Editorial Board Yi Zhang

Dear authors, thank you for your submission. Based on the report from the reviewer, the manuscript cannot be considered for publication in the World Journal of Meta-analysis. Two reviewers have indicated the inconsistency between title and content of manuscript

“Dear dr. Yi Zhang, thank you for your review. We had changed the title in the second review, but failed to change it properly on the website. The title of the manuscript has been changed to “ *Exploring influences and risk of bias of studies on return to sport and work after lateral ankle sprain: A systematic review and meta-analysis*” . “

Answer to reviewer Editorial Board Jing Sun

Suggestions: major revision The paper aims to identify influential factors impacting sports and work after a lateral ankle sprain. Nevertheless, the introduction falls short in providing detailed descriptions of the latest research updates on these factors, focusing primarily on the prevalence (paragraph 1) and negative effects of lateral ankle sprain (paragraph 2). Therefore, the most crucial content is missing from the research background. In the methods section, there was an absence of information regarding the time frame for literature search and the expected outcomes for this study, necessitating clarification. Furthermore, there was no analysis conducted for publication bias, a critical aspect in ensuring a thorough comprehension of the research domain and addressing concerns such as information selectivity or reporting bias in the results. Moreover, the discussion section lacks a clear logic that aligns with the results. In the results section, several influential factors are elucidated, including various treatment methods, surgical approaches, and immobilization durations. However, corresponding explanations for these findings are lacking. A recommended enhancement is to commence the discussion with an overall summary of the findings, followed by a thorough exploration of the identified influential factors and potential explanations.

Dear dr. Jing Sun, we thank you for your thorough review. We have added research updated on the factors affecting return to sport and return to work in our introduction:

“The journey towards optimal recovery, particularly the return to sport and work following an ankle sprain, has been a focal point of extensive research in recent years.

Authors typically advocate for non-surgical treatments, such as immobilization, bandages, tape, braces, and balance training, as primary options for managing lateral ankle sprains.

As the understanding of the multifaceted nature of ankle sprains has evolved, so too has the emphasis on elucidating the diverse factors that influence the rehabilitation process. This meta-analysis aims to synthesize the latest research findings pertaining to the intricate interplay of physical, psychological, and biomechanical elements that contribute to the return to sport (RTS) and return to work (RTW) after LAS. In this study, the null hypothesis (H0) posits that there is no significant influence of specific interventions, rehabilitation strategies, or individual factors on the return to sport and work after a lateral ankle sprain. While the alternative hypothesis (H1) proposes that certain interventions, rehabilitation strategies, or individual factors exert a significant influence on the rate and success of return to sport and work following a lateral ankle sprain.”

In the methods the timeframe of literature search is stated as:

In April 2023 a search was conducted in Embase and PubMed to identify all relevant studies published until May 2023. The search consisted of the search entries (1) Ankle sprain, (2) return to work and return to sports, and (3) treatments and their corresponding synonyms (Supplementary material).

We have also conducted thorough risk of bias analysis. And the tables of risk of bias were provided as table file, we have now clearly referred to the tables in the text.

In the methods it is stated as:

"A comprehensive quality assessment was conducted by scoring the risk of bias of each of the included studies using established tools and scales depending on each study design. A risk of bias assessment for study quality, quality of evidence was assessed per outcome. The quality of summarised evidence in the quantitative analysis was assessed using the GRADEpro GDT tool (GP)[20]. Quality of evidence was scored as 'high', 'substantial', 'moderate', 'low' or 'very low'. In case < 3 studied the same outcome and a meta-analysis could not be performed, outcomes were included in the qualitative assessment. The quality of these outcomes was scored using a best evidence synthesis[21] (Table 1).

Additionally, for the cohort studies and clinical trials the ROBINS-I (Risk of Bias in Non-randomised Studies- of Interventions)[18] was used to assess the risk of bias in non-randomised therapy studies. The risk was scored as 'low', 'moderate', 'serious', or 'critical risk'. The lowest scored category was decisive for the overall risk of bias. (Table 3)

For RCTs, the Cochrane Risk of Bias Tool (RoB 2)[19] was used to assess the risk of bias. The risk of bias for the RCTs was scored as 'low', 'high' or 'unclear' per key domain. Overall low risk of bias was only assigned to studies that scored low risk of bias for all key domains. In case one or more key domains were scored as high risk of bias, the overall risk of bias was scored as being high. All other scenarios were scored 'unclear' for the overall risk of bias. (Table 4)"

In the discussion we have now provided a clear corresponding explanations for our findings in the discussion. We have also applied your advice of starting the discussion with an overall summary of the findings. These are the corrections we made in the discussion:

"This meta-analysis seeks to consolidate recent research findings on the complex interactions among physical, psychological, and biomechanical factors influencing the process of RTS and RTW following LAS. Preoperative motivation, psychological factors, mobilisation and weight bearing were factors associated with a faster return to sport or work. Absent ligament structures and associated injuries were factors that negatively influenced return to sport or work."

"The high failure rate observed in ankle sprain treatments could also be attributed to neglected associated injuries, such as syndesmosis or cartilage injuries. Another contributing factor might be inadequate treatment that does not align with the specific injury grades and healing phases[1]."