

OPEN PEER REVIEW

Open Peer Review (OPR)

As a new feature for progressing towards transparency, we decided to open a new window for all of our editors as well as authors titled "**Open Peer Review**". We hope by this new facility, our reviewers will be more motivated and authors will be more satisfied with the review process. We believe that publishing our peer review reports could make a transparent and clear environment for all our efforts within a journal, but not all reviewers tend to publish their comments.

What is "Open Peer Review" process?

An "Open Peer Review" process is making the details of all review process (including reviewers, associate editors, and EICs comments) as "Public" as it is agreed by EIC, Authors, and reviewers.

Advantages of "Open Peer Review" process

- More transparency, constructiveness and tactful comments of the peer review process: leads to an increase in the quality of reviews
- More motivations for all involved roles in the review process
- Authors' satisfactions from the review process: Increases honesty between authors and reviewers
- Education of both authors and new students
- Prevents reviewers from following their individual agendas and leading to the detection of reviewers' conflicts of interests

You can find out more at:

<https://brieflands.com/briefland/knowledgebase/category/tree.html#opr.html>



International Journal of Sport Studies for Health

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Peer Review Report for "Effect of 8-Weeks PNF Stretching on Muscle Strength and Neuromuscular Activity of the Hamstring Muscles in Team Sports Players"

Author(s): Ben Khaled Abboud Latouf, Jamel Halouani, Majdi Mohamed Salah Khalil, Hamdi Chtourou

Review Timeline:

| | |
|------------------|-------------|
| ▶ Submit Date: | 4 Aug 2023 |
| ▶ Revised Date: | 20 Aug 2023 |
| ▶ Accepted Date: | 23 Aug 2023 |

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

Leila Youzbashi: Reviewer | **Revision (0)**

11 Aug 2023

First of all, the reviewer would like to thank the authors for their efforts in preparing this manuscript. However, some corrections and modifications should be made to improve its quality.

Title:

The title of the manuscript, "Effect of 8-weeks PNF stretching on muscle strength and neuromuscular activity of hamstring muscle in team sports players," does not accurately reflect the content of the paper. The study actually investigated the effects of PNF stretching on both muscle strength and neuromuscular activity of the hamstring muscle in team sports players. The title should be revised to reflect this more accurately.

*Abstract:

The abstract should explain the difference between individual sport and team sport players

in terms of hamstring injury. Why did the authors choose to focus on team sport players? The number of samples is small (only 20 participants). The authors should justify this small sample size and discuss the implications for the generalizability of the results.

Line 16: the abstract states that the authors measured "medial posterior thigh muscle (medial and lateral)?" This is confusing. Do the authors mean that they measured both the medial and lateral hamstring muscles, or just one of them? The abstract should be clarified. The abstract should state the exact significant P values for the results.

The authors should use keywords for their manuscript that are not already present in the title. They can find appropriate keywords by using the Medical Subject Headings (MeSH) database: <https://meshb.nlm.nih.gov>

***Introduction:**

The introduction should discuss why the authors chose to focus on team sports players. What is the difference between individual sport and team sport players in terms of hamstring injury?

The introduction should also discuss why the authors chose to use PNF stretching to improve hamstring strength and neuromuscular activity. What is the evidence that PNF stretching is effective for this purpose?

***Methods:**

The methods section should explain the differences between football, handball, and basketball in terms of the amount of use of the lower extremity. Do these differences have any implications for the results of the study?

The authors should clarify whether the players did any strength training on other days of the week. If so, how did this affect the results of the study?

The authors should cite the reference for the PNF protocol that they used.

The authors should specify how many repetitions and sets of each exercise the subjects performed.

The authors should add photos of the exercises that were performed.

The sentence "sandpaper and cleansed with alcohol" contains some grammatical errors. The authors should revise this sentence.

The abstract stated that the authors measured "posterior thigh muscle strength (medial and lateral)?" However, the methods section only mentions that the authors measured quadriceps strength. The authors should clarify whether they actually measured hamstring strength, and if so, how they did it.

The sentence "The subjects were in a sitting position with the hip and knee flexed 90° and were required to extend the knee with maximum force" is not for measuring posterior thigh muscle force. The authors should revise this sentence to reflect the correct method for measuring posterior thigh muscle force.

The methods section should be reviewed and adjusted more carefully.

The authors should mention that the measurements were taken pre and post the implementation of the protocol.

***Results:**

The authors did not measure hamstring strength. This is a major error that invalidates the results of the study.

The discussion section should be rewritten to take into account the fact that the authors did not measure hamstring strength.

*Discussion:

The discussion section should be revised to take into account the errors in the methods section.

The discussion section should also discuss the implications of the study's findings for future research.

*References:

The authors should cite more recent references. Most of the references in the paper are more than 5 years old.

 **abolfazl ziraki**: Reviewer | Revision (0)

11 Aug 2023

Dear Researchers,

First of all, the reviewer would like to thank the authors for their efforts in preparing this manuscript. However, some corrections and modifications should be made to improve its quality.

1- Title:

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2-Abstract:

The abstract should explain the difference between individual sport and team sport players in terms of hamstring injury. Why did the authors choose to focus on team sport players? The number of samples is small (only 20 participants). The authors should justify this small sample size and discuss the implications for the generalizability of the results.

Line 16: the abstract states that the authors measured "medial posterior thigh muscle (medial and lateral)?" This is confusing. Do the authors mean that they measured both the medial and lateral hamstring muscles, or just one of them? The abstract should be clarified. The abstract should state the exact significant P values for the results.

The authors should use keywords for their manuscript that are not already present in the title. They can find appropriate keywords by using the Medical Subject Headings (MeSH) database: <https://meshb.nlm.nih.gov>

3-Introduction:

The introduction should discuss why the authors chose to focus on team sports players. What is the difference between individual sport and team sport players in terms of hamstring injury?

The introduction should also discuss why the authors chose to use PNF stretching to improve hamstring strength and neuromuscular activity. What is the evidence that PNF stretching is effective for this purpose?

4-Methods:

The methods section should explain the differences between football, handball, and basketball in terms of the amount of use of the lower extremity. Do these differences have any implications for the results of the study?

The authors should clarify whether the players did any strength training on other days of the week. If so, how did this affect the results of the study?

The authors should cite the reference for the PNF protocol that they used.

The authors should specify how many repetitions and sets of each exercise the subjects performed.

The authors should add photos of the exercises that were performed.

The sentence "sandpaperand cleansed with alcohol" contains some grammatical errors. The authors should revise this sentence.

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The methods section should be reviewed and adjusted more carefully.

The authors should mention that the measurements were taken pre and post the implementation of the protocol.

5-Results:

The authors did not measure hamstring strength. This is a major error that invalidates the results of the study.

The discussion section should be rewritten to take into account the fact that the authors did not measure hamstring strength.

6-Discussion:

The discussion section should be revised to take into account the errors in the methods section.

The discussion section should also discuss the implications of the study's findings for future research.

7-References:

The authors should cite more recent references. Most of the references in the paper are

more than 5 years old.

 **Alireza Aminae:** Associate Editor | **Revision (0)**

11 Aug 2023


Dear Researchers,

According to the reviewers' comments and suggestions, I would like to highlight the following points for your consideration. Please pay attention to these points as well as other suggestions from the reviewers.

It is not clear why you chose to restrict the research population to team sports. The results of this study could be useful to all athletes who suffer from hamstring injuries, so please provide your justification for this decision.

All of the variables used in this study should be explained in more detail in the introduction. It is unclear whether you were measuring the strength of the antagonist muscle (quadriceps) or the strength of the hamstring muscle (as stated in your objective).

In the methods section, please provide more explanation about the research participants. Please indicate the method of sampling and explain why you chose a small number of participants. You should also explain if all of the participants had the same degree of hamstring injury, whether they were fully recovered or partially recovered from their previous rehabilitation, and whether they had the same previous rehabilitation protocol before PNF. Thank you for your valuable work. I look forward to seeing the revised version of your paper.

 **Morteza Taheri:** EIC | **Revision (0)**

12 Aug 2023

Dear Researchers,

We have carefully reviewed your manuscript and found it to be well-written and informative. However, we have a few minor suggestions that we believe would improve the quality of the paper.

First, we would like you to clarify the difference between individual sport and team sport players in terms of hamstring injury. Why did you choose to focus on team sport players?

Second, we would like you to justify the small sample size of 6 participants. How does this sample size affect the generalizability of your results?

Third, we would like you to state the exact significant P values for your results in the abstract.

Finally, we would like you to use keywords for your manuscript that are not already present in the title. You can find appropriate keywords by using the Medical Subject Headings (MeSH) database: <https://meshb.nlm.nih.gov>

We believe that these minor revisions besides the valuable comments of the reviewers would make your manuscript even stronger and more persuasive. We look forward to receiving your revised manuscript soon.

Sincerely,

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Point-by-point response to the reviewers

We thank the reviewers and the editor for their thorough review of our work and for the very constructive and helpful comments. We have taken the comments into consideration and have provided specific responses for each reviewer. Our responses appear in red typeface. We hope that this version has been improved and that is now suitable for publication in your journal. Furthermore, we are ready to make any further changes that would be deemed necessary for any deeper improvement.

Reviewer(s)' Comments to Author:

Reviewer 1:

We would like to thank so much the reviewers for their comments that have been so helpful in improving the manuscript's quality.

The title of the manuscript, "Effect of 8-weeks PNF stretching on muscle strength and neuromuscular activity of hamstring muscle in team sports players," does not accurately reflect the content of the paper. The study actually investigated the effects of PNF stretching on both muscle strength and neuromuscular activity of the hamstring muscle in team sports players. The title should be revised to reflect this more accurately. Thank you for your comment. Please see changes made in the title.

The abstract should explain the difference between individual sport and team sport players in terms of hamstring injury.

Thank you for your comment, this information was added.

“Hamstring injuries can occur in a variety of sports and movements. A higher number occur in sports where the hamstrings are stretched eccentrically at high speed such as team sports (e.g., football and handball).”

Please see changes made in the text.

Why did the authors choose to focus on team sport players?

Thank you for your comment.

“The occurrence of sports injuries among players is one of the most important obstacles facing players and coaches and may reduce the player or team performance due to the

detraining phases (i.e., reduced training or a rest period). Due to the higher number of competition per year in the team sports compared to individual sports, we suggest that the results will be helpful for coaches and players.

Please see changes made in the text.

The number of samples is small (only 20 participants). The authors should justify this small sample size and discuss the implications for the generalizability of the results.

It's a good point and we agree. Please see changes made in the discussion part "Concerning the limitations, the small sample size could qualify this investigation as a pilot study and that the results could not be generalized. But, as the responses of all participants was the same for all parameters, the results of this study could be helpful for coaches and players."

Please see changes made in the text.

Line 16: the abstract states that the authors measured "medial posterior thigh muscle (medial and lateral)?" This is confusing. Do the authors mean that they measured both the medial and lateral hamstring muscles, or just one of them? The abstract should be clarified.

Thank you for your comment. Yes, we have measured both the medial and lateral hamstring muscles. We added some modification. Please see changes made.

The abstract should state the exact significant P values for the results.

Thank you for your comment. Please see changes made in the text.

The authors should use keywords for their manuscript that are not already present in the title. They can find appropriate keywords by using the Medical Subject Headings (MeSH) database: <https://meshb.nlm.nih.gov/>

Thank you for your comment. This has been done. Please see changes made in the abstract session.

The introduction should discuss why the authors chose to focus on team sports players. What is the difference between individual sport and team sport players in terms of hamstring injury?

Thank you for your comment. This has been done. Please see changes made in the introduction section.

“In individual sports, athletes often perform repetitive motions that can strain the hamstrings over time. While, in team sports, hamstring injuries can result from a combination of factors, including sudden changes in direction and collisions with other players”

The introduction should also discuss why the authors chose to use PNF stretching to improve hamstring strength and neuromuscular activity.

This has been done. Please see changes made in the introduction section: “Proprioceptive Neuromuscular Facilitation (PNF) is a stretching technique commonly used in physical therapy and rehabilitation settings. It is designed to enhance muscle elasticity and improve both active and passive range of motion (15,16). PNF is a specialized approach to therapeutic exercise and rehabilitation that aims to stimulate proprioceptors and promote responses in neuromuscular mechanisms (17). These techniques emphasize multi-planar movements, which means they involve movement patterns that occur in different directions and planes of motion. The primary goal of PNF techniques is to facilitate or strengthen certain muscle groups while inhibiting or relaxing others (17).”

What is the evidence that PNF stretching is effective for this purpose?

Thank you for your comment. PNF stretching is effective because the intense muscular contraction continues for a period of time to the fatigue of many of the fast muscle fibers of the contracted muscle and this reduces the ability of the tired fibers to contract. Thus, it will lead to improving the work of the muscle and adaptation to exercises and repetitions according to the ability of the athlete to withstand stretching exercises to reach conditioning and thus we get a better result performance.

The methods section should explain the differences between football, handball, and basketball in terms of the amount of use of the lower extremity. Do these differences have any implications for the results of the study?

In the revised version, this difference was explained in the introduction section. We suggest that these differences haven't any implications for the results of the study:

“In individual sports, athletes often perform repetitive motions that can strain the hamstrings over time. While, in team sports (football, basketball and handball), hamstring injuries can result from a combination of factors, including sudden changes in direction and collisions with other players, overstretching while kicking or reaching for the ball, and fatigue due to extended play time (4)”.

The authors should clarify whether the players did any strength training on other days of the week. If so, how did this affect the results of the study?

Yes, there are some strength exercises on other days of the week and we suggest that they does not influence the results (i.e., as they are parts of their training routines).

The authors should cite the reference for the PNF protocol that they used.

Thank you for the comment. However, PNF protocol was proposed and prepared by the researchers.

The authors should specify how many repetitions and sets of each exercise the subjects performed.

Thank you for your comment. Correction made as suggested. Please see changes made in the text.

The authors should add photos of the exercises that were performed.

A photo was added. Please see changes made in the text.

The sentence "sandpaperand cleansed with alcohol" contains some grammatical errors. The authors should revise this sentence.

Thank you for your comment. Please see changes made in the text.

The abstract stated that the authors measured "posterior thigh muscle strength (medial and lateral)?" However, the methods section only mentions that the authors measured quadriceps strength. The authors should clarify whether they actually measured hamstring strength, and if so, how they did it.

Thank you for your comment. Yes, we have measured both the medial and lateral hamstring muscles. We added some modification. Please see changes made.

The sentence "The subjects were in a sitting position with the hip and knee flexed 90° and were required to extend the knee with maximum force" is not for measuring posterior thigh

muscle force. The authors should revise this sentence to reflect the correct method for measuring posterior thigh muscle force.

Thank you for your comment. Please see changes made in the text (Force-sensor).

The methods section should be reviewed and adjusted more carefully.

This has been done. Hope's it's clear now. Please see changes made in the text.

The authors should mention that the measurements were taken pre and post the implementation of the protocol.

This has been done. Hope's it's clear now. Please see changes made in the text.

The authors did not measure hamstring strength. This is a major error that invalidates the results of the study.

Thank you for the comment. However, in this study we have measured the strength of the hamstring muscles (medial and lateral). We adjust the methods and results section. Hope's it's clear now. Please see changes made in the text.

The discussion section should be rewritten to take into account the fact that the authors did not measure hamstring strength.

Thank you for the comment. However, in this study we have measured the strength of the hamstring muscles (medial and lateral). We adjust the methods and results section. Hope's it's clear now. Please see changes made in the text.

The discussion section should be revised to take into account the errors in the methods section.

Thank you for the comment. The discussion section has been reviewed.

The discussion section should also discuss the implications of the study's findings for future research.

Thank you for the comment. A paragraph was added in the discussion section

Associate Editor's Comments:

We would like to thank so much the editor for his comments that have been so helpful in improving the manuscript's quality.

It is not clear why you chose to restrict the research population to team sports. The results of this study could be useful to all athletes who suffer from hamstring injuries, so please provide your justification for this decision.

The following justifications are added: "The occurrence of sports injuries among players is one of the most important obstacles facing players and coaches and may reduce the player or team performance due to the detraining phases (i.e., reduced training or a rest period). Due to the higher number of competitions per year in the team sports compared to individual sports, we suggest that the results will be helpful for coaches and players.

Hamstring injuries can occur in a variety of sports and movements. A higher number occur in sports where the hamstrings are stretched eccentrically at high speed such as team sports (e.g., football and handball).

In individual sports, athletes often perform repetitive motions that can strain the hamstrings over time. While, in team sports, hamstring injuries can result from a combination of factors, including sudden changes in direction and collisions with other players."

Please see changes made in the revised version.

All of the variables used in this study should be explained in more detail in the introduction. It is unclear whether you were measuring the strength of the antagonist muscle (quadriceps) or the strength of the hamstring muscle (as stated in your objective).

Thank you for the comment. Hope's it's clear now. Please see changes in the text.

In the methods section, please provide more explanation about the research participants.

Thank you for the comment. Hope's it's clear now. Please see changes in the text. Also, a discussion of the sample size was added as a limitation for the study.

You should also explain if all of the participants had the same degree of hamstring injury, whether they were fully recovered or partially recovered from their previous rehabilitation, and whether they had the same previous rehabilitation protocol before PNF.

Thank you for the comment. Please see changes in the methods section.

“All participants involved in team sports (football, handball and basketball) and they have suffered injuries in the hamstring muscles and have completed rehabilitative treatment. Players should complete a two-month rehabilitation period. All participants entering the study were thoroughly examined by a single board-qualified senior sports and exercise medicine physician following detailed history taking regarding previous injuries and rehabilitation protocol”.

EIC Decision

We would like to thank so much the editor for his comments that have been so helpful in improving the manuscript’s quality.

First, we would like you to clarify the difference between individual sport and team sport players in terms of hamstring injury. Why did you choose to focus on team sport players?

The following justifications are added: “The occurrence of sports injuries among players is one of the most important obstacles facing players and coaches and may reduce the player or team performance due to the detraining phases (i.e., reduced training or a rest period). Due to the higher number of competitions per year in the team sports compared to individual sports, we suggest that the results will be helpful for coaches and players.

Hamstring injuries can occur in a variety of sports and movements. A higher number occur in sports where the hamstrings are stretched eccentrically at high speed such as team sports (*e.g.*, football and handball).

In individual sports, athletes often perform repetitive motions that can strain the hamstrings over time. While, in team sports, hamstring injuries can result from a combination of factors, including sudden changes in direction and collisions with other players.”

Please see changes made in the revised version.

Second, we would like you to justify the small sample size of 6 participants. How does this sample size affect the generalizability of your results?

The following part was added in the discussion section: “Concerning the limitations, the small sample size could qualify this investigation as a pilot study and that the results could not be generalized. But, as the responses of all participants was the same for all parameters, the results of this study could be helpful for coaches and players.”

Please see changes made in the revised version.

Third, we would like you to state the exact significant P values for your results in the abstract.

This has been done. Please see changes in the abstract section.

Finally, we would like you to use keywords for your manuscript that are not already present in the title. You can find appropriate keywords by using the Medical Subject Headings (MeSH) database: <https://meshb.nlm.nih.gov/>

This has been done. Please see changes in the abstract section.

OPEN PEER REVIEW

Revision (1)

Here, you can see the **Reviewers, Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

 **Morteza Taheri:** EIC | Revision (1)

18 Aug 2023

Dear Researchers,

Please expand your results section. Only one table has been used. It is recommended to use figures and more tables to better illustrate your results.

OPEN PEER REVIEW

Revision (2)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Point-by-point response to the reviewers

We thank the reviewers and the editor for their thorough review of our work and for the very constructive and helpful comments. We have taken the comments into consideration and have provided specific responses for each reviewer. Our responses appear in red typeface. We hope that this version has been improved and that is now suitable for publication in your journal. Furthermore, we are ready to make any further changes that would be deemed necessary for any deeper improvement.

EIC Comments to Author:

We would like to thank so much the comments that have been so helpful in improving the manuscript's quality.

Comments to the Author

1. *Please expand your results section. Only one table has been used. It is recommended to use figures and more tables to better illustrate your results.*

Thank you for your comment. 4 figures and 1 table were added. Please see changes made in the results section. Hope's its clear now.

OPEN PEER REVIEW

Revision (2)

Here, you can see the **Reviewers, Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

 **Morteza Taheri:** EIC | Revision (2)

23 Aug 2023

Dear Researchers,

Thank you for your revisions. I am confident that the quality of the paper has been improved greatly as a result of your feedback. I believe the paper is now suitable for publication.

Good Luck

EIC