

# Accuracy of postoperative recall by degenerative cervical myelopathy patients using the modified Japanese Orthopaedic Association scale

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Handling editor:

Michal Heger

*Department of Pharmaceutics, Utrecht University, the Netherlands*

*Department of Pharmaceutics, Jiaxing University Medical College, Zhejiang, China*

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1<sup>st</sup> Editorial decision

26-Oct-2022

Ref.: Ms. No. JCTRes-D-22-00152

Can patients with cervical spondylotic myelopathy (CSM) accurately recall the preoperative nerve function after anterior cervical discectomy and intervertebral fusion (ACDF) surgery? a study of recall accuracy using the modified Japanese Orthopaedic Association (mJOA) scale  
Journal of Clinical and Translational Research

Dear Dr Wang,

Reviewers have now commented on your paper. You will see that they are advising that you revise your manuscript. If you are prepared to undertake the work required, I would be

pleased to reconsider my decision.

For your guidance, reviewers' comments are appended below.

If you decide to revise the work, please submit a list of changes or a rebuttal against each point which is being raised when you submit the revised manuscript. Also, please ensure that the track changes function is switched on when implementing the revisions. This enables the reviewers to rapidly verify all changes made.

Your revision is due by Nov 25, 2022.

To submit a revision, go to <https://www.editorialmanager.com/jctres/> and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research

Reviewers' comments:

Reviewer #1: This is a retrospective study on post-operative degenerative cervical myelopathic (DCM) patients with recall bias of their Pre-operative modified Japanese Orthopaedic Association (mJOA) scores.

The mJOA score strictly speaking is not a patient-reported outcome (PRO). It is an assessment conducted by physicians, allied health or trained staff. The authors should make this very clear in the abstract and in the manuscript.

In the literature, there are reports of a patient-derived version of the modified Japanese Orthopaedic Association "P-mJOA" for the patients to report their conditions.

There are also publications on validating the PRO version of the JOA score. PRO JOA demonstrated a similar trend to mJOA, yet the PRO-JOA and mJOA scores should be regarded as different outcomes and the authors ought to make this very clear in the abstract and in the manuscript.

The authors are asked to adopt the new nomenclature of "Degenerative Cervical Myelopathy" (please see Nouri et al Spine 2015 and Badhiwala et al Nature Reviews 2020)

Reviewer #2: Good study searching for the discrepancy between recall mJOA scores and actual scores after CSM surgery. This is useful for surgeons to not rely recall scores. However, they do not mention if there is a relation of recall errors with age.

Reviewer #3: - The manuscript needs to undergo proper language polishing. Please engage a native speaker or contract a third-party service to assist if the authors are unable to compose

the manuscript in academic English. The manuscript should also be written in past tense as the research was performed in the past, and preferably limit or eliminate the use of personal pronouns.

- The mJOA questionnaire should be appended to the submission as supplemental material and posted online as such if the manuscript is accepted.
  - The inclusion criteria in Table 1 clearly state that only patients were included with an mJOA score of less than or equal to 13. How is it possible that the mean actual scores are greater than 13, as reflected by Figures 1-4?
  - The manner in which the recall was assessed is elusive in the context of the data. Section 2.1 states that "Patient recall of neurological function at 3, 12, and 24 months after surgery was compared to preoperative actual baseline scores according to the modified Japanese Orthopaedic Association (mJOA) scale (1994 Version)." One would therefore expect that patients were requested to recall at 3, 12, and 24 months after surgery what they filled out in the mJOA questionnaire at baseline, i.e., few days before surgery. If one then considers Figure 1, the fact that 3 actual scores are given for each time point and the fact that these scores differ is not commensurate with how the setup was explained in section 2.1. According to that description, there should be 1 actual data set and 3 recall data sets. The same applies to Figures 2-4, where the data points should all match up along the x-axis. This is a serious concern that needs to be properly addressed.
- 

Authors' response

**Date:** Oct 26, 2022

**To:** "Shaobo Wang" bysywangshaobo@outlook.com

**cc:** m.heger@jctres.com, "Shuai Chang" bysychangshuai@outlook.com, "Nanfang Xu" xunanfangpkuth@163.com, "Yubo Luo" luoyb@th.btbu.edu.cn, "Zhongjun Liu" zjliu@bjmu.edu.cn

**From:** "Michal Heger" m.heger@jctres.com

**Subject:** A decision has been made on JCTRes-D-22-00152

Ref.: Ms. No. JCTRes-D-22-00152

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Editor-in-Chief  
Journal of Clinical and Translational Research

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**Reviewer #1: This is a retrospective study on post-operative degenerative cervical myelopathic (DCM) patients with recall bias of their Pre-operative modified Japanese Orthopaedic Association (mJOA) scores.**

**Reply:**

Yes, Thank you for your guidance on our manuscript! And We have modified the CSM to the DCM(red labelled).

**The mJOA score strictly speaking is not a patient-reported outcome (PRO). It is an assessment conducted by physicians, allied health or trained staff. The authors should make this very clear in the abstract and in the manuscript.**

**Reply:**

We have stated the above points very clearly in the abstract and in the manuscript(red labelled).

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There are also publications on validating the PRO version of the JOA score. PRO JOA demonstrated a similar trend to mJOA, yet the PRO-JOA and mJOA scores should be regarded as different outcomes and the authors ought to make this very clear in the abstract and in the manuscript.

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Reviewer #2: Good study searching for the discrepancy between recall mJOA scores and actual scores after CSM surgery. This is useful for surgeons to not rely recall scores. However, they do not mention if there is a relation of recall errors with age.

**Reply:**

Age had negatively effects on recall error which was a bit of a surprise and worth exploring further in the future (red labelled) in the Results, Discussion and Conclusion of our manuscript.

Thank you for your guidance on our manuscript!

Reviewer #3: - The manuscript needs to undergo proper language polishing. Please engage a native speaker or contract a third-party service to assist if the authors are unable to compose the manuscript in academic English. The manuscript should also be written in past tense as the research was performed in the past, and preferably limit or eliminate the use of personal pronouns.

**Reply:**

Yes, Thank you for your guidance on our manuscript! We have referred to an editing company for language improvement (edanz) and the manuscript has been modified to past tense in appropriate context. We revised the manuscript accordingly and some sentences were added or rewritten (red labelled).

- The mJOA questionnaire should be appended to the submission as supplemental material and posted online as such if the manuscript is accepted.

**Reply:**

The mJOA questionnaire “**Modified JOA17 Scoring Table (1994 version)**” has been appended to the submission”Manuscript 07102022-revised” as **supplemental material**.

<b>Modified JOA17 Scoring Table (1994 version) (please mark "√" on the corresponding evaluation score)</b>	
<b>Note:</b>  When the selection is between two scores, the lower score shall be selected; When the left and right nerve disorders are different, the lower score side score shall be recorded.	
<b>Scoring items</b>	<b>Scoring items</b>
<b>A. Sports function</b>	<b>B. Sensory function</b>
<b>I.Fingers:</b> <ul style="list-style-type: none"> <li>*Can't use any tableware, including chopsticks, spoons or forks, and/or fasten buttons (0 point)</li> <li>*Can't use chopsticks or write, can barely use spoons and knives and forks (1 point)</li> </ul>	<b>I.Pain:</b> <ul style="list-style-type: none"> <li>*Sensation of upper limbs completely disappears (0 point)</li> <li>*Only 50% or less of normal sensation and (or) severe pain and numbness (0.5 point)</li> <li>*Only 60% or less of normal sensation and (or) moderate pain and numbness (1 point)</li> </ul>

<ul style="list-style-type: none"> <li>*Can use chopsticks to hold large pieces of food, can barely write, can fasten large clothes (2 points)</li> <li>*Can use chopsticks, can't write words quickly, can fasten buttons (3 points)</li> <li>*Normal (4 points)</li> </ul>	<ul style="list-style-type: none"> <li>*Only slight numbness (normal touch) (1.5 point)</li> <li>*Normal (2 points)</li> </ul>
<p><b>II.Shoulder and elbow joints:</b></p> <p>Six grade muscle strength evaluation (MMT) I Muscle strength of trunk ,deltoid muscle and biceps brachii muscle, select the weaker one to record.</p> <ul style="list-style-type: none"> <li>*Deltoid muscle or biceps brachii muscle strength <math>\leq</math> Grade 2 (- 2 points)</li> <li>*Deltoid muscle or biceps brachii muscle strength=Grade 3 (- 1 points)</li> <li>*Deltoid muscle or biceps brachii muscle strength=Grade 4 (- 0.5 points)</li> <li>*Deltoid muscle or biceps brachii muscle strength=Grade 5 (0 points)</li> </ul>	<p><b>II.Trunk:</b></p> <ul style="list-style-type: none"> <li>*The sense of tenderness disappears completely (0 point)</li> <li>*Only 50% or less of normal feeling and/or severe pain and numbness are completely disappeared (0.5 point)</li> <li>*Only 60% or less of normal feeling and/or moderate pain and numbness (1 point)</li> <li>*Only slight numbness (normal touch) (1.5 point)</li> <li>*Normal (2 points)</li> </ul>
<p><b>III. The lower limbs:</b></p> <ul style="list-style-type: none"> <li>*Cannot stand and walk independently (0 point)</li> <li>*Able to stand, but unable to walk (0.5 point)</li> <li>*Walking on the flat ground requires crutches or other supports (1 point)</li> <li>*Walking on flat ground without support, but with unstable gait (1.5 points)</li> <li>*Do not support when walking on the flat ground, but must grasp the handrail when climbing the stairs (2 points)</li> </ul>	<p><b>III. The lower limbs:</b></p> <ul style="list-style-type: none"> <li>*The sense of tenderness of lower limbs disappears completely (0 point)</li> <li>*Only 50% or less of normal feeling and (or) severe pain and numbness (0.5 point)</li> <li>*Only 60% or less of normal feeling and (or) moderate pain and numbness (1 point)</li> <li>*Only slight numbness (normal touch) (1.5 point)</li> <li>*Normal (2 points)</li> </ul>

<ul style="list-style-type: none"><li>*Able to go up stairs by oneself, only when going down stairs must grasp the railings by hand (2.5 points)</li><li>*Able to walk at a fast pace, but not fast, and has a clumsy gait (3 points)</li><li>*Normal (4 points)</li></ul>	
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- The inclusion criteria in Table 1 clearly state that only patients were included with an mJOA score of less than or equal to 13. How is it possible that the mean actual scores are greater than 13, as reflected by Figures 1-4?

**Reply:**

The  $mJOA \leq 13$  in the inclusion criteria, referred to the preoperative actual  $mJOA \leq 13$ . The mJOA changed with the implementation of surgery and postoperative recovery, and so that the postoperative mJOA values  $\geq 13$  was normal. And the mJOA in Figures 1 were the postoperative 3, 12, and 24month-recalled values and actual values, so more than or equal to 13 were very Reasonable; While the abscissa of Figures 2-4 represented the preoperative actual baseline mJOA, With the exception of the individual errors, Basically all within the range of less than or equal to 13.

Thank you for your guidance on our manuscript!

- The manner in which the recall was assessed is elusive in the context of the data. Section 2.1 states that "Patient recall of neurological function at 3, 12, and 24 months after surgery was compared to preoperative actual baseline scores according to the modified Japanese Orthopaedic Association (mJOA) scale (1994 Version)." One would therefore expect that patients were requested to recall at 3, 12, and 24 months after surgery what they filled out in the mJOA questionnaire at baseline, i.e., few days before surgery. If one then considers Figure 1, the fact that 3 actual scores are given for each time point and the fact that these scores differ is not commensurate with how the setup was explained in section 2.1. According to that description, there should be 1 actual data set and 3 recall data sets. The same applies to Figures 2-4, where the data points should all match up along the x-axis. This is a serious concern that needs to be properly addressed.



**Reply:**

① Figures 1:

The mJOA in Figures 1 were the postoperative 3,12, and 24month-recalled values and actual values. Figure 1 was a comparison between the actual mJOA values at postoperative 3,12 and 24 months and the recalled preoperative mJOA values at postoperative 3,12 and 24 months , which does not involve the preoperative actual mJOA baseline (The preoperative actual mJOA baseline was the 1 actual data set you mentioned).

So Figure 1 did not involved the 1 actual data set you mentioned, but the data sets 1,3,5 from left to right in the Figure 1, were the 3 recall data sets you mentioned.

② Figures 2-4 :

The mJOA in Figures 2-4 separately illustrated the relationship between recalled mJOA values and the preoperative actual mJOA baseline at postoperative 3,12 and 24 months. The abscissa of Figure 2-4 was the preoperative actual mJOA baseline, which was the 1 actual data set you mentioned, and the ordinate were recalled mJOA values at postoperative 3,12 and 24 months, which were the three recall data sets you mentioned.

Thank you for your guidance on our manuscript!

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2nd Editorial decision  
01-Nov-2022

Ref.: Ms. No. JCTRes-D-22-00152R1

Can patients with cervical spondylotic myelopathy (CSM) accurately recall the preoperative nerve function after anterior cervical discectomy and intervertebral fusion (ACDF) surgery? a study of recall accuracy using the modified Japanese Orthopaedic Association (mJOA) scale  
Journal of Clinical and Translational Research

Dear author(s),

Reviewers have submitted their critical appraisal of your paper. The reviewers' comments are appended below. Based on their comments and evaluation by the editorial board, your work was FOUND SUITABLE FOR PUBLICATION AFTER MINOR REVISION.

If you decide to revise the work, please itemize the reviewers' comments and provide a point-by-point response to every comment. An exemplary rebuttal letter can be found on at

<http://www.jctres.com/en/author-guidelines/> under "Manuscript preparation."  
Also, please use the track changes function in the original document so that the reviewers can easily verify your responses.

Your revision is due by Dec 01, 2022.

To submit a revision, go to <https://www.editorialmanager.com/jctres/> and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely,

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research

Reviewers' comments:

Dear authors,

Thank you for submitting your revision.

I have carefully perused over the manuscript, juxtaposing the implemented changes to the reviewers' comments. These have been performed to a satisfactory level except the language polishing. Here are clear indications that the academic level English requirements we aspire is still not met:

- Title: a study of recall should read A study of recall.
- abstract: DCM abbreviated twice, mJOA abbreviated twice
- abstract: And the mJOA score strictly speaking was not a patient-reported outcome (PRO), it was an assessment conducted by physicians, allied health or trained staff - -> comma after (PRO) should be a semi-colon.
- abstract: "which was a bit of a surprise" is populistic language and should be rephrased.
- Introduction: PRO abbreviated twice

and so forth.

The manuscript has therefore exited peer review but requires a minor revision. Please engage a native speaker, ask for your money back from the language editing contractor and hire a better service, or contact the journal for assistance ([m.heger@jctres.com](mailto:m.heger@jctres.com)).

Thank you and good luck with the last tasks.

Michal Heger  
Editor

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3rd Editorial decision  
03-Nov-2022

Ref.: Ms. No. JCTRes-D-22-00152R2

Accuracy of postoperative recall by degenerative cervical myelopathy patients using the modified Japanese Orthopaedic Association scale  
Journal of Clinical and Translational Research

Dear authors,

I am pleased to inform you that your manuscript has been accepted for publication in the Journal of Clinical and Translational Research.

You will receive the proofs of your article shortly, which we kindly ask you to thoroughly review for any errors.

Please notify our assistant editor/production editor when you receive the proofs if your article should belong a special issue specifying the issue's title.

Thank you for submitting your work to JCTR.

Kindest regards,

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research

Comments from the editors and reviewers: