

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Orthopedics*

**Manuscript NO:** 72040

**Title:** Fluctuation of visual analog scale pain scores and opioid consumption before and after total hip arthroplasty

**Provenance and peer review:** Invited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 03604107

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Professor

**Reviewer's Country/Territory:** Albania

**Author's Country/Territory:** United States

**Manuscript submission date:** 2021-10-01

**Reviewer chosen by:** Xin Liu

**Reviewer accepted review:** 2021-12-22 16:34

**Reviewer performed review:** 2021-12-24 16:01

**Review time:** 1 Day and 23 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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## SPECIFIC COMMENTS TO AUTHORS

I am a little bit confused with the drafting scheme of the paper, and what you are looking for. Total hip arthroplasty is a major surgery (no doubt), but if you're looking to decrease opioid consumption, I have nothing against. Anyway, VAS (visual analogue scale) - which is already overconsumed as a measuring scale to the point of doubting its validity - will do little to decrease opioid consumption; if this is the desired outcome. You should instead propose other pain medications and compare efficacy in between groups. You describe the anesthetic procedures; mentioning Propofol in the (pre)medication and sedation. THA was performed under spinal anesthesia ? No doubt (recently, however...) that this can be the gold standard, and patients will suffer less from postoperative pain when compared with the general anesthesia group: Matsen Ko L, Chen AF. Spinal anesthesia: the new gold standard for total joint arthroplasty? Ann Transl Med. 2015 Jul;3(12):162. However, I still miss the point between VAS (?) and opioid consumption: decreasing this one might be an advantage of the form of anesthesia. As far as people still need pain killers after operation, please consider comparing different groups (different medications used; why not different forms of anesthesia - here again the discussion over the spinal or general one)

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**Peer-review model:** Single blind

**Reviewer's code:** 05352073

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Director, Doctor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** United States

**Manuscript submission date:** 2021-10-01

**Reviewer chosen by:** Xin Liu

**Reviewer accepted review:** 2021-12-23 07:31

**Reviewer performed review:** 2022-01-02 01:36

**Review time:** 9 Days and 18 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="checkbox"/> ] Anonymous [ <input type="checkbox"/> ] Onymous Conflicts-of-Interest: [ <input type="checkbox"/> ] Yes [ <input checked="" type="checkbox"/> ] No
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## SPECIFIC COMMENTS TO AUTHORS

To the author This manuscript outlined the fluctuation of VAS scores and Opioid Consumptions before and after Total Hip Arthroplasty. You have done a lot of hard works for the manuscript. Here are some comments for this manuscript. Firstly, logic relationship is not clear enough. There is no direct causal relationship between VAS scores fluctuations and opioid consumptions peri-operatively. The VAS scores fluctuations before and after surgery are normal physiological phenomenon. The pain is severe during two to three days post-operatively, because of acute surgical trauma. And the pain will be relieved gradually as the healing process starts. As the pain intensity declined, opioid intake reduced, which is not difficult to understand. Therefore, I recommend that the title of the manuscript should be "The fluctuations of VAS scores and Opioid Consumption before and after Total Hip Arthroplasty". Anyway, the knowledge gap of this manuscript exists, which is the time node of 15 days post-operatively, when the VAS score and opioid consumption decreased dramatically. That will be useful to guide opioid prescribing practices. Secondly, various analgesics were administered, the author only used the number of opioid pills as the outcome. That is not rigorous. It would be better to take all the analgesics into consideration, convert analgesics into one kind of opioid equivalently, use the dose of the opioid as the outcome. Thirdly, this study is an observational study, and with no comparison group. As a cohort study, it would be better to have two groups or more with different exposure factors, only in this way can causal relationship be established. Strictly speaking, this is not a cohort study. Fourthly, the pain intensity several days after surgery fluctuates dramatically. Based on clinical experience, the pain is very severe one

to two days after surgery, and gradually alleviated afterwards. The author set postoperative days 1-7 as a whole for analysis, this did not reflect huge internal changes within postoperative days 1-7. Better to divide postoperative days 1-7 further into postoperative days 1, postoperative days 2-3, postoperative days 4-7, and use opioid doses per-day as an outcome. That would have more reference value for clinicians. Fifthly, apart from VAS score, some other outcome measures are recommended. Such as sleeping time, index of life quality and the like. These indexes also contribute to patient's recovery and satisfaction.

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**Peer-review model:** Single blind

**Reviewer's code:** 03999237

**Position:** Peer Reviewer

**Academic degree:** MS

**Professional title:** Professor

**Reviewer's Country/Territory:** India

**Author's Country/Territory:** United States

**Manuscript submission date:** 2021-10-01

**Reviewer chosen by:** Xin Liu

**Reviewer accepted review:** 2021-12-24 01:34

**Reviewer performed review:** 2022-01-03 15:50

**Review time:** 10 Days and 14 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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## SPECIFIC COMMENTS TO AUTHORS

Overall good article and significant aspect of the prevailing problem brought out

Key words Opioids; Narcotics; Pain; Hip replacement; Total hip arthroplasty Hip replacement and total hip arthroplasty same – please change one Please include the following references

1. Perioper Med (Lond). 2018 Nov 22;7:25. doi: 10.1186/s13741-018-0105-8. eCollection 2018. Predictors of chronic prescription opioid use after orthopedic surgery: derivation of a clinical prediction rule Daniel I Rhon 1 2 3, Suzanne J Snodgrass 3, Joshua A Cleland 4, Charles D Sissel 5, Chad E Cook 6 2. How orthopedic surgeons can impact opioid use and dependence in shoulder arthroplasty. Chatha K, Borroto W, Goss L, Ghisa C, Gilot G, Sabesan VJ. JSES Int. 2020 Feb 5;4(1):105-108. 3. The impact of state-mandated opioid prescribing restrictions on prescribing patterns surrounding reverse total shoulder arthroplasty. Sabesan VJ, Echeverry N, Dalton C, Grunhut J, Lavin A, Chatha K. JSES Int. 2021 May 6;5(4):663-666. Can be quoted for reducing opioid use. LINE 26, 98 105 out of 1142 THAs Only anterior approach How many among the remaining were anterior approach , rest posterior? This could be a variable – please clarify Line 152 Following discharge, patients are assessed for adequate pain control (and severity) at multiple time points. Please elaborate – telephonic review ? follow up ? LINE 187 MAJORITY WERE FEMALE 63% TABLE 1 AGE 65-74 40 >75 18 Geriatric - MAJORITY female and 58 > 65 years of age - bias , variable should be mentioned as a limitation. What duration was the preop opioid usage , what precautions were taken , perioperative care different?? No data on non opioid usage in the opioid dependent group Increased dosage non opioid attempted? When were



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opioids added in the post operative period                      This information could be added for clarity and also a clear mention that there was no comparison with the non opioid group    Pain tolerance and other factors could be different across geriatric age group with various co morbidities    Line 225    opioid medications such as ibuprofen and acetaminophen to manage pain    Ibuprofen also has significant risks – cardiac, renal, gastritis    Other NSAIDs    for short term – aceclofenac , etc    ALL limitations have been mentioned    Please highlight opioid dependence    could go undetected. Clear message regarding cautious use of opioids – avoidance best and non opioid options    The paper requires some revision with addition of the above points to bring out a clear message



## RE-REVIEW REPORT OF REVISED MANUSCRIPT

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**Provenance and peer review:** Invited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05352073

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Director, Doctor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** United States

**Manuscript submission date:** 2021-10-01

**Reviewer chosen by:** Yun-Xiaojuan Wu

**Reviewer accepted review:** 2022-07-09 08:26

**Reviewer performed review:** 2022-07-11 13:40

**Review time:** 2 Days and 5 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

**statements**Conflicts-of-Interest: [ ] Yes [ **Y** ] No**SPECIFIC COMMENTS TO AUTHORS**

To the author: Thank you for your answering. You have made some appropriate modifications for this manuscript. As a retrospective observational study, and also a real world clinical trial, the sample size was sufficient, the statistical analysis was reasonable, and the observational duration was appropriate. The results of the study was practically significant. It can be used to guide opioid prescribing practices and set patient expectations regarding pain management following THA. In general, it is a meaningful clinical study.