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PEER-REVIEW REPORT

Name of journal: World Journal of Orthopedics

Manuscript NO: 64759

Title: Three-dimensional printing technology for patient-matched instrument in treatment of cubitus varus deformity: Case report and technical note

Reviewer's code: 05489618
Position: Peer Reviewer
Academic degree: MD
Professional title: Doctor
Reviewer's Country/Territory: Malaysia
Author's Country/Territory: Thailand

Manuscript submission date: 2021-03-05
Reviewer chosen by: AI Technique
Reviewer accepted review: 2021-03-05 07:10
Reviewer performed review: 2021-03-15 04:37
Review time: 9 Days and 21 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

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SPECIFIC COMMENTS TO AUTHORS

The manuscript deals with case report of cubitus varus deformity treated by 3D printing technology. The authors used medical grade Ti-6Al-4V alloy powder as printing materials for fabrication of patient-matched osteotomy guide and instrumentation The study is scientifically sound and well conducted and the results are interesting. However, in my opinion, the following points should be considered before publication: (a) Major revision is needed for section of introduction as the presented information is insufficient. I suggest author to add more information on 3D printing technology in medical industries, discuss and compare more previous works which is related to current study. Apart from that, more updated references should be added to improve the quality of introduction. It is important to add some recent work (2018-2021) to the introduction. (b) The methodology of 3D printing process is unambiguous. For example, printing speed, extrusion temperature, raster layer and layer thickness to produce the printed part are not discussed by authors. (c) I would suggest the authors to present the details dimension of printed part (customized osteotomy guide) for the benefit of the reader. (d) For the section of discussion, it is suggested to compare the results of the present study with previous studies and analyze their results completely. In my opinion, much more explanations and interpretations must be added for the result, which are not enough at all for current manuscript. (e) Authors used Ti-6Al-4V as printing materials. Although Ti-6Al-4V has high reputation for biocompatibility and corrosion resistance, it can release ions such as aluminium (Al) and vanadium (V) which are toxic and can cause long term health problems such as Alzheimers disease, neuropathy, and ostemomalacia. These problems affect the long-term use of Ti-6Al-4V for implant applications. Authors should clarify why Ti-6Al-4V was used instead of commercially pure titanium although Ti-6Al-4V has long term side effects. Authors

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should also tell the readers the possible long term effects of Ti-6Al-4V as implant in this manuscript. (f) The conclusion is very weak. Please rewrite it to reflect the content of current study. Consequently it is recommended that the manuscript is returned to the authors for major revision before being accepted in World Journal of Orthopedics