



PEER-REVIEW REPORT

Name of journal: World Journal of Orthopedics

Manuscript NO: 49726

Title: The Use of 3D Printing in Preoperative Planning in Orthopaedic Trauma Surgery:
a Systematic Review and Meta-analysis

Reviewer’s code: 02454185

Position: Editorial Board

Academic degree: BSc, MSc

Professional title: Doctor

Reviewer’s country: China

Author’s country: United Kingdom

Reviewer chosen by: Li Ma

Reviewer accepted review: 2019-09-04 02:13

Reviewer performed review: 2019-09-04 06:10

Review time: 3 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer’s expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS



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The study was performed according to standard guideline and pre-registered for the protocol, which is good. I have several comments as follows: 1. For quality assessment of RCTs, I suggest not to use JADAD score due to critical criticism of the score. the cochrane chelcklist can be used for assessment which included 6 items from sequence generation, allocation concealment and so on. 2. evidence from RCT and observational studies cannot be incorporated together with equal weight. Bayesian analysis can thus be used for down-weight the observational evidence (BMJ Open. 2015 Sep 8;5(9):e007473. doi: 10.1136/bmjopen-2014-007473.). 3. All studies used different types of operations and the time required for the analysis is different, I suggest to use standardized mean difference to report the outcome. 4. The included component studies are small in sample size and the so-called "small study effect" cannot be ignored. suggest to discuss this limitation (Crit Care. 2013 Jan 9;17(1):R2. doi: 10.1186/cc11919.).

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- The same title
- Duplicate publication
- Plagiarism
- No

BPG Search:

- The same title
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- No



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Name of journal: World Journal of Orthopedics

Manuscript NO: 49726

Title: The Use of 3D Printing in Preoperative Planning in Orthopaedic Trauma Surgery:
a Systematic Review and Meta-analysis

Reviewer's code: 00742054

Position: Editorial Board

Academic degree: BSc, MSc, PhD

Professional title: Associate Professor, Senior Lecturer

Reviewer's country: Australia

Author's country: United Kingdom

Reviewer chosen by: Ruo-Yu Ma

Reviewer accepted review: 2019-09-05 22:20

Reviewer performed review: 2019-09-10 03:17

Review time: 4 Days and 4 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	<input type="checkbox"/> Accept (High priority)	<input type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of	<input type="checkbox"/> Accept (General priority)	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	<input type="checkbox"/> Minor revision	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	topic of the manuscript:
<input type="checkbox"/> publish		<input type="checkbox"/> Rejection	<input type="checkbox"/> Advanced
			<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

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This is a well-written paper on the use of 3D printing in preoperative planning in orthopaedic trauma surgery. Below are my comment: - Methods, Quality assessment, page 6: Two tools have been used to assess the quality of the selected papers: “Jadad” and “Newcastle-Ottawa scale”. Please indicate for each tool whether they have cut-off score. Also, what do lower or higher scores mean, as shown in Table 1. - Results: page 8: the last sentence is incomplete “The heterogeneity was high (I²= 10”. Please correct

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Name of journal: World Journal of Orthopedics

Manuscript NO: 49726

Title: The Use of 3D Printing in Preoperative Planning in Orthopaedic Trauma Surgery:
a Systematic Review and Meta-analysis

Reviewer’s code: 00503929

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Associate Professor

Reviewer’s country: Brazil

Author’s country: United Kingdom

Reviewer chosen by: Ruo-Yu Ma

Reviewer accepted review: 2019-09-05 14:16

Reviewer performed review: 2019-09-12 10:02

Review time: 6 Days and 19 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer’s expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

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This well-written manuscript describes, in sufficient detail, a systematic review and meta-analysis of studies in the field of orthopaedic trauma surgery, involving patients of both sexes and all age groups, which might yield information as to whether the preoperative use of 3D printing has a beneficial impact on major outcomes of the surgery, including the duration of intervention, the extent of intraoperative blood loss and the overall exposure to ionizing radiation from fluoroscopy. The subject is relevant, the study is correctly designed and properly described. The inclusion criteria have been strictly defined and adhered to, including the exclusion of studies with small numbers of patients. The results provide evidence that, in a set of over 900 patients whose data were extracted from 17 individual publications, the use of 3D printing to model the lesion to be corrected was helpful, and led to reductions in operative time, blood loss and undue exposure to ionizing radiation.

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Name of journal: World Journal of Orthopedics

Manuscript NO: 49726

Title: The Use of 3D Printing in Preoperative Planning in Orthopaedic Trauma Surgery:
a Systematic Review and Meta-analysis

Reviewer's code: 00502903

Position: Editorial Board

Academic degree: MD

Professional title: Assistant Professor

Reviewer's country: United States

Author's country: United Kingdom

Reviewer chosen by: Ruo-Yu Ma

Reviewer accepted review: 2019-09-12 14:25

Reviewer performed review: 2019-09-12 15:18

Review time: 1 Hour

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	<input checked="" type="checkbox"/> Accept	Peer-Review:
<input checked="" type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input checked="" type="checkbox"/> General
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Very well written manuscript with insightful discussion of an important developing technology in orthopedics and surgery in general. The comparison of 3D printing to robotic surgery is provocative, as robotic surgery has been widely noted not to have fulfilled its promise. While study quality seems well-assessed in this meta-analysis, publication bias should be considered. Funnel plots for the main results would contribute to our understanding of this possibility.

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Name of journal: World Journal of Orthopedics

Manuscript NO: 49726

Title: The Use of 3D Printing in Preoperative Planning in Orthopaedic Trauma Surgery:
a Systematic Review and Meta-analysis

Reviewer's code: 00467030

Position: Editorial Board

Academic degree: DDS, MSc

Professional title: Attending Doctor, Director, Full Professor

Reviewer's country: Taiwan

Author's country: United Kingdom

Reviewer chosen by: Ruo-Yu Ma

Reviewer accepted review: 2019-09-12 07:51

Reviewer performed review: 2019-09-14 08:11

Review time: 2 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input checked="" type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input checked="" type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

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This is a meta-analysis article on the analysis using 3D printing in preoperative planning in orthopaedic trauma could lead to a reduction in operation time, intra-operative blood loss and fluoroscopy used. After reading the submitted article carefully, the following points are suggested for further consideration. 1. Although the limitations have been touched, it still needs to write in more detail on this aspect such as to include the difference of extent and types of trauma would need to different outcome of the 3D printing in preoperative planning in orthopaedic trauma. 2. Quite a number of typo errors still need attention.

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