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## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**ESPS manuscript NO:** 17535

**Title:** A novel 3-dimensional virtual hepatectomy simulation combined with real time deformation

**Reviewer's code:** 00058443

**Reviewer's country:** Taiwan

**Science editor:** Ya-Juan Ma

**Date sent for review:** 2015-03-13 08:18

**Date reviewed:** 2015-04-03 19:47

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		[ Y ] No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		[ Y ] No	

### COMMENTS TO AUTHORS

Please have my humble comments. Virtual hepatectomy by using 3-dimensional imaging can provide precise visual contact and will play key role during liver surgery. Comprehensive understanding of liver anatomy, detailed pre-operative dynamic image study, and intra-operative Doppler ultrasound are still the standard methods in hepatectomy. The Liversim would be more useful for complex hepatectomy, non-anatomical hepatectomy and laparoscopic hepatectomy. Hepatectomy without aid of 3-D virtual hepatectomy simulation combined real time deformation would generate same outcome in this case series. But, it does not indicate that the method described in this manuscript is not useful. On the contrary, new innovative softwares in virtual system will be created step by step in the future, and should not be the reason to reject this paper. This paper is worth to be accepted and published in World Journal of Gastroenterology.

## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**ESPS manuscript NO:** 17535

**Title:** A novel 3-dimensional virtual hepatectomy simulation combined with real time deformation

**Reviewer's code:** 03261278

**Reviewer's country:** Japan

**Science editor:** Ya-Juan Ma

**Date sent for review:** 2015-03-13 08:18

**Date reviewed:** 2015-03-26 05:26

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good		<input type="checkbox"/> Duplicate publication	
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade E: Poor		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
	<input type="checkbox"/> Grade D: Rejected	BPG Search:	<input checked="" type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

### COMMENTS TO AUTHORS

The authors developed a novel 3D virtual hepatectomy simulation software "Liversim" that enables real-time deformation of the liver intraoperatively and described its utility in 11 patients. Although the images appear accurate and intuitive, the presentation requires some refinements. 1. The authors aimed to evaluate the "usefulness" of Liversim in this study; however, it is unclear in the paper. Figures 4A and 4B and the video does demonstrate the similarity between the created images and the actual transection plane. If the authors wanted to show that there were no discrepancies between simulation and actual surgery by using Liversim, they should have presented images of other cases as well. If the authors' aim was to demonstrate its usefulness in surgical education (as mentioned in Discussion), they should have invited residents or medical students Liversim in the study and attempts should have been made to compare their level of understanding liver surgery with and without the use of Liversim. Moreover, the authors stated that their team was "able to discuss several critical points" by the Liversim images during hepatectomy: Please describe those critical points because that might be the heart of their presentation. My impression is that Liversim



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may not add much to experts because they can foresee most of the time, without the aid of Liversim, which portal pedicle or hepatic branch would show up after any given parenchymal dissection. I agree that Liversim has several advantages in clinical practice but what is the most striking point that the authors want to tell the readers? 2. In relation to the above question, the authors admit that they were not able to prevent accidental injury by using Liversim when compared with SYNAPSE VINCENT. This is probably because both software miss small vessels anyways. If this problem gets solved, the software may indeed become useful for experts. Is it just a matter of the resolution level of the CT? Isn't it dependent on the operator, who creates the Liversim or SYNAPSE VINCENT images from the CT? 3. There is an overlap between the period of SYNAPSE VINCENT and Liversim. What was the patient selection criteria?



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## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**ESPS manuscript NO:** 17535

**Title:** A novel 3-dimensional virtual hepatectomy simulation combined with real time deformation

**Reviewer's code:** 00068443

**Reviewer's country:** China

**Science editor:** Ya-Juan Ma

**Date sent for review:** 2015-03-13 08:18

**Date reviewed:** 2015-03-24 15:36

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> [ Y] Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> [ Y] Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> [ ] High priority for publication
<input type="checkbox"/> [ Y] Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> [ ] Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> [ ] Minor revision
<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> [ Y] No	<input type="checkbox"/> [ ] Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> [ Y] No	

### COMMENTS TO AUTHORS

Liversim system provides specialized functions for liver surgery planning. This function enables us to represent the real time motion and display an estimated vascular territory of segments. The paper is clearly written and contains valuable information. Publishing it would be of great value for surgeons.



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## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**ESPS manuscript NO:** 17535

**Title:** A novel 3-dimensional virtual hepatectomy simulation combined with real time deformation

**Reviewer's code:** 00225294

**Reviewer's country:** Spain

**Science editor:** Ya-Juan Ma

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
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<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

### COMMENTS TO AUTHORS

This is a very original and technical sound support to reveal 3D changes during liver surgery. The text is well organized in describing the changes depicted in the figs and in the accompanying video. Open access to all this info will significantly provide support to surgeons and professionals in this field.