



# BAISHIDENG PUBLISHING GROUP INC

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## PEER-REVIEW REPORT

**Name of journal:** World Journal of Critical Care Medicine

**Manuscript NO:** 34404

**Title:** Reproducibility of diaphragm thickness measurements by ultrasonography in patients on mechanical ventilation

**Reviewer's code:** 00502907

**Reviewer's country:** Germany

**Science editor:** Li-Jun Cui

**Date sent for review:** 2017-04-21

**Date reviewed:** 2017-04-21

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"/> No	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		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 describe a study to evaluate the interobserver Agreement of sonographic measurement of the diaphragm thickness in 64 ventilated patients. They found that there is good intraobserver congruence. Since they Quote quite a lot of studies that have looked at sonographic measurement of diaphragm thickness, I don't quite understand what is so new about their study. Since there is no standard they compare it to, it remains unclear if the measurements are correct, albeit reproducible. What is the clinical relevance of this measurement? I would suggest that the authors correlate their measurements with extubation success, or with time on ventilatory Support.



**PEER-REVIEW REPORT**

**Name of journal:** World Journal of Critical Care Medicine

**Manuscript NO:** 34404

**Title:** Reproducibility of diaphragm thickness measurements by ultrasonography in patients on mechanical ventilation

**Reviewer’s code:** 02454185

**Reviewer’s country:** China

**Science editor:** Li-Jun Cui

**Date sent for review:** 2017-06-15

**Date reviewed:** 2017-06-15

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 checked="" 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 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 type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
		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**

Although there is a large body of literature investigating the usefulness of the assessment of diaphragm dysfunction on weaning outcome, the reproducibility of the measurement was not systematically evaluated. Some studies reported kappa value in the study, but not specifically addressed this issue. Thus, the study was timely that it provide evidence for the use of ultrasound to measure diaphragm thickness. Still, several suggestions are raised to improve the manuscript. 1. It is unclear from the description on how many measurements were taken by the same observer for the same patient. And what is the interval between these measurements? 2. The measurements were taken only at end-expiration, which is not enough. in the assessment of the diaphragm function for the evaluation of weaning outcome, we are interested in the change of the diaphragm thickness during respiratory cycle, thus it is also interesting to measure diaphragm in other stages of the respiratory cycle. 3. I also suggest to use kappa statistics, which is a standard in the report of agreement between observers. 4. The software used for the



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statistical analysis should be explicitly reported. 5. Factors that may influence the reproducibility of the measurements were not reported. these factors included, but not limited to, the BMI, the presence of pleural effusion, abdominal hypertension, and lung volume (COPD vs. NON-COPD). 6. Baseline characteristics of your cohort should be presented in a separate table.



**PEER-REVIEW REPORT**

**Name of journal:** World Journal of Critical Care Medicine

**Manuscript NO:** 34404

**Title:** Reproducibility of diaphragm thickness measurements by ultrasonography in patients on mechanical ventilation

**Reviewer’s code:** 03345330

**Reviewer’s country:** China

**Science editor:** Li-Jun Cui

**Date sent for review:** 2017-06-15

**Date reviewed:** 2017-06-15

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 type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
		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**

Ashesh Dhungana et al. demonstrates that the measurement of diaphragm thickness by ultrasound can be accurately performed by critical care physicians with a high degree of reproducibility in patients on mechanical ventilation. This topic is with clinical relevance. However, there are several issues required to clarify before the publication of the manuscript. 1.The method used to measure diaphragm thickness might be too simple to assess the diaphragm function in this study. I suggest the authors should provide the related reference literature and the validation of the method used in the study. Importantly, diaphragm thickness always is measured by M-mode in clinical practice, and M-mode could assess the function of the diaphragm [1-4]. Sometimes, the line of pleural and peritoneal membranes is difficult for a physician to identify without the indicator of Liver or spleen. Moreover, the end of expiration also is difficult to determine without the M-mode. I suggest the method of diaphragm thickness need further clarification. This is a potential cofounder. 1. Gerscovich EO, Cronan M, McGahan JP,



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et al: Ultrasonographic evaluation of diaphragmatic motion. *J Ultrasound Med* 2001; 20:597-604 2. Epelman M, Navarro OM, Daneman A, et al: M-mode sonography of diaphragmatic motion: Description of technique and experience in 278 pediatric patients. *Pediatr Radiol* 2005; 35:661-667 3. Lloyd T, Tang YM, Benson MD, et al: Diaphragmatic paralysis: The use of M-mode ultrasound for diagnosis in adults. *Spinal Cord* 2006; 44:505-508 4. Boussuges A, Gole Y, Blanc P: Diaphragmatic motion studied by M-mode ultrasonography: Methods, reproducibility, and normal values. *Chest* 2009; 135:391-400 2. The authors just included 10 patients for the comparison of the agreement between two observers with Bland-Altman test. It is unreasonable for a small sample to use Bland and Altman test. I suggest the pair-t test or correlation analysis might be better. 3. Since studies have supported reproducibility of diaphragm thickness, I think the aim of the study should focus on the ICU doctor could be trained and make a good measurement of diaphragm thickness in a short time. This point might be interesting. So, the golden standards measurement by the teacher should be included in the study. In summary, I strongly suggest the authors add additional data (the measurement by M-mode) and experimental (compare with the golden standards measurement by the teacher) to enhance the article.