

<b>Article details: 2020-0090</b>	
<b>Title</b>	A comparison of droplet and contact contamination using three simulated barrier techniques for COVID-19 intubation to guide institutional practice: a quality assurance study
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<b>Reviewer 1</b>	Helen Galley
<b>Institution</b>	University of Aberdeen, Institute of Medical Sciences
<b>General comments</b>	<p>Comments to the Author</p> <p>Thank you for asking me to review this paper which I read with interest. This is an important study but there are limitations relating to the number of study participants which mean that definitive conclusions cannot be drawn from the data.</p> <p>Specific comments</p> <ol style="list-style-type: none"> <li>1. The title could more accurately reflect the contents of the paper.</li> <li>2. There are an excessive number of abbreviations.</li> <li>3. How were subjects randomised?</li> <li>4. It is stated that participants were selected. Can the authors confirm if they were volunteers and so allowed to decline to participate?</li> <li>5. There were only 5 participants and so data distribution cannot be ascertained. Statistical tests are not likely to be reliable. The authors report that the sheet was worse than the control and the Perspex box (intubator only) but the box was not different from the control. Accepting that the statistics are flawed, the fact that the use of a Perspex box was not better than nothing is rather important, notably since the intubation procedure was affected. The discussion does not fully address this. I am concerned that others may stop using any protective barriers yet this study is not sufficient to change practice.</li> <li>6. To be useful the study design should very closely mimic actual clinical practice. This should be definitively stated.</li> <li>7. The scoring system is subjective and although there were two independent scorers, there is no information about the level of agreement. It is not clear if an average score was used for analysis and what was done if there was disagreement. It is also not clear how the terms 'light' and 'heavy' contamination were related to what degree of contamination and how this related to clinical circumstances.</li> </ol>
<b>Reviewer 2</b>	Pascal Augustin
<b>Institution</b>	Hôpital Bichat-Claude Bernard, Anesthesiology and Surgical Intensive Care
<b>General comments</b>	<p>Comments to the Author</p> <p>Thank you for the opportunity of reviewing the study by Peter Rose et al. Entitled « A comparison of droplet and contact contamination using three simulated barrier techniques for COVID-19 intubation: A Quality Assurance Study »</p> <p>Authors aimed to validate and compare different methods of contamination prevention during intubation.</p> <p>The contamination of protective equipment was assessed during a simulated intubation using three methods of prevention : plastic sheet, plexiglass box, and control.</p> <p>The plastic sheet was shown to be associated with a higher contamination score and more difficulty of intubation.</p>

	<p>The subject is interesting in the pandemic context, and the study brings useful information.</p> <p>The introduction is clearly written and adequately describes the objectives of the study.</p> <p>However, the methods section should provide more details :</p> <ul style="list-style-type: none"> <li>- Experience of the participants in the technique of intubation.</li> <li>- Justification of using the MADgic methods to simulate the environment contamination and the generation of droplets. We do not know it may reflect at least partly the actual contamination generated by talking, coughing, breathing... ?</li> <li>- Why 22 seconds have been decided to simulate the contamination?</li> <li>- Authors do not explain how they built the scoring system, which is the study endpoint.</li> <li>- Authors do not explain how the total contamination is scored. When looking at table 1, we do not understand how the right hand score can be 5 while the score is described from 0 to 2 in the methods section.</li> <li>- Why a 6.5 size endotracheal tube is chosen? Is it for purpose of economy?</li> <li>- Why does the trial end at the inflation of the endotracheal cuff ? Ulterior maneuvers may also further contaminate the protective equipment (connection to the ventilator, settings of ventilator, auscultation...)</li> <li>- The impact of the three methods on the procedure of intubation can be assessed subjectively and qualitatively as proposed by authors. However, the time to complete intubation is a simple and reproducible method that could have been added.</li> </ul> <p>The result section is well written. However, table is difficult to understand because of the lack of explanation in the methods section.</p> <p>The discussion over-interprets the result. The verb « demonstrate » in the first sentence seems inappropriate to me, because this an experimental study on simulated intubations on manikins and artificial contaminations. In the second paragraph, it is stated that the « benefit of barriers such as sheet have been demonstrated ». However, the reference 6 is also an experimentalarticle with simulated contaminations.</p> <p>Some important points have not been mentioned in the list of limitations.</p> <p>Overall, the study brings useful information. However, the design and the small numbers of participants make it more appropriate for a short communication or a letter.</p>
Author response	Thank you for your thorough and thoughtful review of our manuscript. We would like to resubmit revisions [based on editorial and reviewer comments] for your consideration for publication in CMAJ Open.