

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Methods for Determination of Optimal Positive End-Expiratory Pressure: a protocol for a scoping review
AUTHORS	Edginton, Stefan; Kruger, Natalia; Stelfox, Tom; Brochard, Laurent; Zuege, Danny; Gaudet, Jonathan; Solverson, Kevin; Robertson, Helen; Fiest, Kirsten M.; Niven, Daniel; Bagshaw, Sean M.; Parhar, Ken Kuljit

VERSION 1 – REVIEW

REVIEWER	Horn, Andrew G. Kansas State University, Kinesiology
REVIEW RETURNED	06-Feb-2023

GENERAL COMMENTS	Determining the optimal PEEP level is important, and finding such may improve mechanical ventilation outcomes in a myriad of patient populations. It is interesting that the authors are not including PubMed in their database search, but nevertheless it is sufficient and thorough as is.
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REVIEWER	Zhao, Zhanqi Furtwangen University of Applied Sciences
REVIEW RETURNED	04-Apr-2023

GENERAL COMMENTS	The manuscript is clearly described how the scoping review is going to be conducted. However, I feel that the content and format of the manuscript is too general. I agree that the scoping review itself could be interesting but for this protocol, I hardly find any adding value to the field.
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REVIEWER	González-Seguel, Felipe Clínica Alemana de Santiago SA, Servicio Medicina Física y Rehabilitación
REVIEW RETURNED	16-Apr-2023

GENERAL COMMENTS	<p>Reviewer Comments:</p> <p>GENERAL COMMENTS:</p> <p>The authors are presenting a scoping review protocol where the goal is to identify gaps in the optimal PEEP strategies on the literature and to identify areas where there may be an opportunity to further systematically synthesize and meta-analyze existing literature. The manuscript is easy to read, complete, and follows the recommendations for conducting a scoping review. I would just like to add a few suggestions to make the manuscript and subsequent scoping review development even better.</p> <p>SPECIFIC COMMENTS:</p>
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	<p>1. I would like to recommend that the authors standardize the concepts of "method" and "strategy" of PEEP titration. Although they could be synonyms for this article, I think it would help reading fluency to define one or the other, unless each refers to different concepts (operational concepts). For example, in the title the authors use "Methods" but in most of the manuscript the authors use "strategies".</p> <p>2. Although the gap is well described following an easy flow, the sentence: "The use of alternative PEEP titration methods in broader non-ARDS patient populations has not been well synthesized by previous systematic or scoping reviews", could be interpreted as "capricious", in a good sense. The absence of something does not mean that it is needed. So, what is the real problem of the lack of reviews on this topic? I would better emphasize this point.</p> <p>3. Along the same line, if there are no reviews on this topic, are there surveys on the use of different strategies/methods of PEEP titration? Point prevalence studies? Probably, this ScR could be a precursor to a wide survey or a point prevalence study that maps the clinical use of what this ScR seeks to map. I would add this in the last idea of the intro</p> <p>4. About the selection criteria - I suggest the authors review the inclusion and exclusion criteria, since the articles must first be included and then excluded. That is, the exclusion criteria should not be "the opposite" of the inclusion criteria. In addition, they must be useful for screening and selection of articles. For example, with the inclusion criteria: "Adults undergoing invasive mechanical ventilation in hospital" you will exclude "Pediatric and neonatal population". But if you say "adults", this does not include pediatric or neonatal patients, so if it was included correctly, this exclusion criterion will never be used in screening or selection. In this case I would recommend as inclusion criteria "Patients undergoing invasive mechanical ventilation", and as exclusion criteria: "Pediatric and neonatal population", "Non-invasive ventilation", etc. Please revise this point for the rest of criteria at the Table 1.</p> <p>5. What is the rationale to exclude studies with "Single lung ventilation"?</p> <p>6. If a study includes animal or bench stage in addition to a human stage, this study will be excluded?</p> <p>7. If the authors agree, add an exclusion criterion "Full text not available" in the case of articles that cannot be downloaded using the paths allowed.</p> <p>8. Authors should add the estimated date of the search in the databases, or a range of dates where they will be carried out. In addition, the date limits for the inclusion of articles. For example, articles will be included from inception until xx,xx,xxxx.</p> <p>9. Add any applicable scoping review limitations.</p> <p>Overall, I liked reading this protocol and hope to see the results soon. My congratulations to the authors. I hope my comments are useful.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1 Comment 1: It is interesting that the authors are not including PubMed in their database search, but nevertheless it is sufficient and thorough as is.

Author Reply: Thank you for the comment. The vast majority of PubMed is comprised of MEDLINE resources.

MEDLINE allows more granularity with search strategies and reproducibility, so we opted to search MEDLINE directly

rather than PubMed. Our search was also conducted under the advice of an academic librarian and peer reviewed by a second

to ensure as much rigour as possible.

Reviewer 2 Comment 1: The manuscript is clearly described how the scoping review is going to be conducted. However, I

feel that the content and format of the manuscript is too general. I agree that the scoping review itself could be interesting but

for this protocol, I hardly find any adding value to the field.

Author Reply: We thank the reviewer for their comment. We have attempted to conduct this scoping review with as much

rigour as possible. Therefore, the purpose of publishing a peer reviewed protocol is primarily to maximize thoroughness and

transparency.

Reviewer 3 Comment 1: The authors are presenting a scoping review protocol where the goal is to identify gaps in the

optimal PEEP strategies on the literature and to identify areas where there may be an opportunity to further systematically

synthesize and meta-analyze existing literature. The manuscript is easy to read, complete, and

follows the recommendations for

conducting a scoping review. I would just like to add a few suggestions to make the manuscript and subsequent scoping review

development even better.

Author Reply: We thank the reviewer for their comments and review. We believe these comments have helped us strengthen

the manuscript.

Reviewer 3 Comment 2: I would like to recommend that the authors standardize the concepts of "method" and "strategy" of

PEEP titration. Although they could be synonyms for this article, I think it would help reading fluency to define one or the

other, unless each refers to different concepts (operational concepts). For example, in the title the authors use "Methods" but

in most of the manuscript the authors use "strategies".

Author Reply: We thank the reviewer for this comment and agree that the communication of these concepts could be

improved. To improve consistency, all references to PEEP 'strategies' have been changed to PEEP 'methods' in the

manuscript.

Reviewer 3 Comment 3: Although the gap is well described following an easy flow, the sentence: "The use of alternative

PEEP titration methods in broader non-ARDS patient populations has not been well synthesized by previous systematic or

scoping reviews", could be interpreted as "capricious", in a good sense. The absence of something does not mean that it is

needed. So, what is the real problem of the lack of reviews on this topic? I would better emphasize this point.

Author Reply: We thank the reviewer for this comment. We deleted that sentence (page 5) and replaced it with "To date,

there has not been a comprehensive review that has synthesize all known PEEP titration methods, regardless of patient population or study design.”

Reviewer 3 Comment 4: Along the same line, if there are no reviews on this topic, are there surveys on the use of different strategies/methods of PEEP titration? Point prevalence studies? Probably, this ScR could be a precursor to a wide survey or a point prevalence study that maps the clinical use of what this ScR seeks to map. I would add this in the last idea of the intro

Author Reply: We thank the reviewer for the comment. We added a sentence in the last paragraph (page 6): “Furthermore, this review could serve as the foundation for future studies or surveys that aim to map real world utilization of various methods”.

Reviewer 3 Comment 5: About the selection criteria - I suggest the authors review the inclusion and exclusion criteria, since the articles must first be included and then excluded. That is, the exclusion criteria should not be "the opposite" of the inclusion criteria. In addition, they must be useful for screening and selection of articles. For example, with the inclusion criteria: "Adults undergoing invasive mechanical ventilation in hospital" you will exclude "Pediatric and neonatal population".

But if you say “adults”, this does not include pediatric or neonatal patients, so if it was included correctly, this exclusion criterion will never be used in screening or selection. In this case I would recommend as inclusion criteria “Patients undergoing invasive mechanical ventilation”, and as exclusion criteria: “Pediatric and neonatal population”, “Non-invasive ventilation”, etc. Please revise this point for the rest of criteria at the Table 1.

Author Reply: We thank the reviewer for the comment. The inclusion and exclusion criteria (Table 1) were adjusted to keep only the exclusion criteria that would be relevant as described above.

Reviewer 3 Comment 6: What is the rationale to exclude studies with “Single lung ventilation”?

Author Reply: We thank the reviewer for the comment. Single lung ventilation is a very specific scenario, almost exclusively used in select surgical procedures in the operating room and with unique physiological considerations. We felt the methods used in this situation would not be relevant or applicable to a general anesthesia or critical care clinician and should likely be the topic of its own scoping review in the future.

Reviewer 3 Comment 7: If a study includes animal or bench stage in addition to a human stage, this study will be excluded?

Author Reply: We thank the reviewer for the comment. We changed the exclusion criteria (Table 1) to clarify that if a study has both an animal and human component it would be included but if solely animals it would be excluded.

Reviewer 3 Comment 8: If the authors agree, add an exclusion criterion "Full text not available" in the case of articles that cannot be downloaded using the paths allowed.

Author Reply: We thank the reviewer for the comment. We debated this comment at length. Ultimately, we elected to

maintain the inclusion of these articles. We plan to report the names and citations of any articles for which we are unable to gain full text as a supplemental table in the appendix of the full study.

Reviewer 3 Comment 9: Authors should add the estimated date of the search in the databases, or a range of dates where

they will be carried out. In addition, the date limits for the inclusion of articles. For example, articles will be included from

inception until xx,xx,xxxx.

Author Reply: We thank the reviewer for the comment. We added text on page 8 indicating that we would include all articles

from inception up until present day. Also, we plan to perform the search after submission of these revisions (early May 2023)

and indicated so on page 9.

Reviewer 3 Comment 10: Add any applicable scoping review limitations.

Author Reply: We thank the reviewer for the comment and agree. We have now added a sentence in the introduction

paragraph: "Scoping reviews do not assess the quality or risk of bias of included studies, nor do they aim to meta-analyze

outcomes from multiple studies¹⁸"

VERSION 2 – REVIEW

REVIEWER	González-Seguel, Felipe Clínica Alemana de Santiago SA, Servicio Medicina Física y Rehabilitación
REVIEW RETURNED	08-May-2023
GENERAL COMMENTS	I thank the authors for addressing my comments. I hope your manuscript has improved.

VERSION 2 – AUTHOR RESPONSE

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