

RESPIRATORY CARE

RESPIRATORY CARE welcomes original manuscripts related to the science of respiratory care. The Journal is published in both print and electronic formats and appears online at www.rcjournal.com.

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GENERAL GUIDELINES

Ethics of Publication

Manuscripts must conform to the International Committee for Medical Journal Editors' (ICMJE) Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals and to these instructions.

All authors must:

- Give consent to submission and publication of the work
- Have participated in the research and in the shaping of the manuscript
- Have read and approved the manuscript
- Be able to publicly discuss and defend the manuscript's content

Authorship is not based on obtaining funding, offering advice, or similar. Persons who contribute such may be mentioned in the Acknowledgments. Authors must take responsibility for at least one component of the work, be able to identify who is responsible for each other component, and be confident in their co-authors' integrity.

The contributions of each author must be listed on the Title Page (literature search, data collection, study design, data analysis, manuscript preparation, manuscript review).

Any editorial contributions made by outside organizations, persons, funding bodies, or persons employed by funding sources must be acknowledged on the Title Page.

Duplicate Publication and Plagiarism

The manuscript must not have been previously published elsewhere and must not be currently under consideration for publication elsewhere, including online. If any part of the material (other

than a brief abstract submitted to a national or international meeting) has been published or is currently under consideration for publication elsewhere, you must provide copies of all related material at the time of submission.

Conflict of Interest

The conflict of interest policy of RESPIRATORY CARE is consistent with that of JAMA,¹ ICMJE,² CSE,³ and WAME.⁴ Disclosures must be made at the time of submission and must be indicated on the title page. The Editor will decide whether the presence of conflicts of interest affects the suitability of the manuscript for publication.

The Journal's conflict of interest policy is as follows:

- A conflict of interest may exist whenever an author (or the author's institution, employer, or immediate family member) has financial or personal relationships or affiliations that could influence or bias the author's decisions, work, or manuscript.
- All authors are required to disclose all potential conflicts of interest, including specific financial interests and relationships and affiliations
- Disclosures of potential conflicts of interest should be for the previous 2-year period. Authors must fully disclosure of all potential conflicts of interest, whether or not related to the content of the paper. The type of relationship (eg, consultant, speaker, employee) and monetary amount need not be specified. If no financial or other potential conflicts of interest exist, a statement to this effect must be included on the Title Page.

The following examples are considered conflicts of interest and require disclosure:

- Being an employee of a company that designs, manufactures, or sells respiratory care equipment
- Serving on an advisory board or as a consultant to such a company
- Having received a research grant or other grant-in-aid from such a company
- Having received honoraria for lectures, writing, or other educational activities from such a company
- Holding a patent or having other financial interest in a respiratory care product
- Material support for research, including grants, donation of equipment and supplies, and other paid contributions

These examples are intended to illustrate the types of relationships that constitute conflicts of interest in the field of respiratory care, and are not meant to be all-inclusive.

The conflict of interest policy also applies to the Journal's Editors, Editorial Board members, and all manuscript reviewers.

Disclosure of relationships will not necessarily affect the decision to publish a manuscript. Having such relationships is not considered unethical. However, not disclosing such relationships is unethical.

1. Flanagan A, Fontanarosa PB, DeAngelis CD. Update on JAMA's conflict of interest policy. JAMA 2006;296(2):220-221. doi: [10.1001/jama.296.2.220](https://doi.org/10.1001/jama.296.2.220)

2. International Committee of Medical Journal editors. Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals. *Updated December 2014. Accessed January 27, 2015*
3. Council of Science Editors. Editorial policy statements approved by the CSE Board of Directors. <http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3332> *Accessed January 27, 2015*
4. World Association of Medical Editors. Recommendations on publication ethics policies for medical journals. <http://www.wame.org/about/recommendations-on-publication-ethics-policie> *Accessed January 27, 2015*

Industry Relationships

RESPIRATORY CARE requires authors to indicate the role of funding organizations or sponsors in the design of the study, data collection, data analysis, and interpretation of the data. Authors must also disclose the role of funding organizations in the preparation, review, and approval of the manuscript. The setting where the study was conducted must be indicated. Full disclosure of the role of funding sources must be included at the beginning of the Methods section.

Individuals who provided paid contributions to the paper (including writers, statisticians, epidemiologists, and any others involved with data management and analyses) may meet the criteria for authorship. If they do not, they should be listed in the Acknowledgment section.

RESPIRATORY CARE will not consider submissions that are ghost written by industry employees or hired writers. Nor will the Journal consider submissions of industry-sponsored studies in which the data were collected and analyzed solely by employees of the company. Such studies are considered only if there is independent analysis of the methods and data by someone at an academic institution, who has research and publishing experience (eg, medical school, academic medical center, or government research institute).

For additional information related to relationships between authors and industry, refer to: Fontanarosa PB, Flanagan A, DeAngelis CD. Reporting conflicts of interest, financial aspects of research, and role of sponsors in funded studies. *JAMA* 2005;294(1):110-111
doi:[10.1001/jama.294.1.110](https://doi.org/10.1001/jama.294.1.110).

Registration of Clinical Studies

RESPIRATORY CARE will only consider clinical trials that are registered, as appropriate, at ClinicalTrials.gov or equivalent.

Ethics of Investigation

All studies that include human subjects must indicate in the Methods section that approval was received from the appropriate local institutional review board (IRB) or Ethics Committee. This requirement applies to both retrospective and prospective studies.

Authors must comply with the Health Insurance Portability and Accountability Act (HIPAA). This applies to any information (eg, text, photo, or radiograph) that could potentially identify a

patient or subject. Authors must provide written consent from the individual, next of kin, or guardian.

All studies involving animals must indicate in the Methods section that approval was received from the local IACUC (Institutional Animal Care and Use Committee) or that the research was conducted in accordance with a national guideline (eg, Public Health Service Policy on Humane Care and Use of Laboratory Animals).

MANUSCRIPT TYPES

Original Research

Original Research is a report of an original investigation. It must include: Title Page, Structured Abstract, Key Words, Introduction, Methods, Results, Discussion, Conclusions, References, and Quick Look. It may also include Tables, Figures, and Acknowledgments. Supplementary Material, such as a survey instrument or details related to the methods, may be provided for online publication only. Authors of randomized clinical trials must follow the CONSORT guidelines. One of the figures must be a CONSORT flow diagram.

Quality Improvement Projects

A well-done quality improvement project might be suitable for publication as original research. This type of research is commonly performed in the healthcare setting to understand and improve practice. Several considerations are important for a quality improvement project to be suitable for publication. It must have generalizable interest among the readers of the Journal and it must follow the scientific method. This means that the study must have an identified question or hypothesis, approval from the Institutional Review Committee, and statistical analysis of the data is necessary. Quality improvement projects are submitted in the category “Original Research.”

Reviews

Narrative Reviews

A Narrative Review is a comprehensive review of the literature that does not follow the rigor of a systematic review. It must include: Title Page, Outline, Unstructured Narrative Abstract, Key Words, Introduction, Review of the Literature, Summary, and References. The review of literature is typically divided into headings and sub-heading specific to the subject matter. The Outline consists of the headings and subheading of the paper. The review may also include Tables, Figures, Acknowledgments, and Supplementary Material for online publication only. Narrative reviews are usually written by persons with established expertise in the subject area.

A newer form of review is the scoping review. This has aspects of both narrative and systematic reviews. A scoping review will typically include a detailed search for relevant studies, and will include reports of various evidence levels (eg, randomized clinical studies, observational studies, bench studies, case series). In a scoping review, there is no critique of the individual studies included. The span of a scoping review tends to be much broader than systematic reviews. For purposes of the Journal, a scoping review is formatted as a narrative review and submitted as such. A scoping review is submitted in the category “Narrative Review.”

Systematic Reviews

Because of their methodological rigor, systematic reviews have become the standard for synthesizing evidence in health care. A systematic review organizes relevant evidence that fits pre-specified eligibility criteria to answer a specific research question. It uses explicit, systematic methods to minimize bias in the identification, selection, synthesis, and summary of studies. Some, but not all, systematic reviews contain a meta-analysis. A meta-analysis uses statistical techniques to combine and summarize the results of multiple studies. The systematic review must follow the PRISMA guidelines. A systematic review must include: Structured Abstract, Key Words, Introduction, Methods, Results, Discussion, Conclusions, and References. It may also include Tables, Figures, Acknowledgments, and Supplementary Material for online publication only. One of the Figures must be a PRISMA flow diagram. Other figures might be the results of a meta-analysis (forest plots). Systematic reviews are generally written by persons with established expertise in the subject area. A systematic review is submitted in the category “Systematic Review.”

Editorial

An invited manuscript related to another paper published in the same issue. Must include: Title Page, Text, and References. May also include Tables and Figures.

Correspondence

A brief communication responding to previously published material in *RESPIRATORY CARE*. Must include: Title Page, Text, and References. May include Tables and Figures. Correspondence is published online only.

PREPARING THE MANUSCRIPT

Title Page

For each author:

- First name, middle initial, last name
- Academic degrees (eg, MSc, PhD, EdD). The Journal does not publish bachelor degrees
- Credentials (eg, RRT, MD, RN)
- FAARC (Fellow of the American Association for Respiratory Care). The Journal does not publish any other honorary titles
- Institutional affiliation and location (division, department, hospital, university, city, state/province, country)

Indicate the specific contributions of each author to the paper:

- Literature search
- Data collection
- Study design
- Analysis of data

- Manuscript preparation
- Review of manuscript

Title Page must also include:

- Name and location of the institution where the study was performed
- Name, date, and location of any meeting or forum where research data were previously presented, and who presented
- Sources of financial support
- Conflict of interest statement. If no potential conflicts of interest exist, a statement to this effect must be included

Identify corresponding author and provide contact information

Abstract

A structured abstract for an Original Research study and a Systematic Review includes these sections: Introduction, Methods, Results, and Conclusions. Abstracts must not contain any facts or conclusions that do not also appear in the text.

An unstructured Abstract for a Narrative Review is written as a paragraph of fewer than 300 words that provides a general overview of the paper.

Include the Abstract in the main manuscript text file.

Key Words

List 6–10 key words or phrases that reflect the content of your manuscript. Key words may be selected from the Medical Subject Headings (MeSH terms) used by MEDLINE.

Text

Double-space all text (including Tables and References). Number the pages. Center and bold 1st level headings; flush-left and bold 2nd level headings; indent and bold 3rd level headings.

References

References must be listed and numbered in the sequence in which they are first cited in the text. Citations must conform to Journal style; see examples below. Authors are responsible for accuracy of their references.

EndNote contains the style for RESPIRATORY CARE:
<http://endnote.com/downloads/style/respiratory-care>

Journal Article

Article. List the first 6 authors, then “et al”. Exception – in a paper with 7 total authors, list all 7:

Wallet F, Delannoy B, Haquin A, Debord S, Leray V, Bourdin G, et al. Evaluation of recruited lung volume at inspiratory plateau pressure with PEEP using bedside digital chest x-ray in patients with acute lung injury/ARDS. *Respir Care* 2013;58(3):416-423.

Corporate authors:

Chang SY, Dabbagh O, Gajic O, Patrawalla A, Elie MC, Talmor DS, et al; on behalf of the United States Critical Illness and Injury Trials Group: Lung Injury Prevention Study Investigators (USCIITG-LIPS). Contemporary ventilator management in patients with and at risk of ALI/ARDS. *Respir Care* 2013;58(4):578-588.

Article in a supplement:

del Giudice MM, Leonardi S, Ciprandi G, Galdo F, Gubitosi A, La Rosa M, et al. Probiotics in childhood: allergic illness and respiratory infections. *J Clin Gastroenterol* 2012;46(Suppl):S69-S72.

Corrected article:

Mireles-Cabodevila E, Hatipoğlu U, Chatburn RL. A rational framework for selecting modes of ventilation. *Respir Care* 2013;58(2):348-366. Erratum in: *Respir Care* 2013;58(4):e51.

Articles e-published online ahead of print:

Nozoe M, Mase K, Murakami S, Okada M, Ogino T, Matsushita K, et al. The relationship between spontaneous expiratory flow-volume curve configuration and airflow obstruction in elderly COPD patients. *Respir Care* 2013 [Epub ahead of print] doi: 10.4187/respcare.02296

Abstract. Citing abstracts is highly discouraged. Those more than 3 years old should not be used:

Blakeman TC, Rodriquez D, Branson RD. Evaluation of five chemical oxygen generators (abstract). *Respir Care* 2012;57(10):1751.

Editorial:

Rouby JJ, Arbelot C, Brisson H, Lu Q, Bouhemad B. Measurement of alveolar recruitment at the bedside: the beginning of a new era in respiratory monitoring? (editorial). *Respir Care* 2013;58(3):539-542.

Editorial, no author given:

Asthma: not just for kids (editorial). *Johns Hopkins Med Lett Health After 50* 2012;24(8):6.

Letter:

Haynes JM. Expiratory reserve volume maneuver may be the preferred method for some patients during spirometry testing (letter). *Respir Care* 2013;58(2):e14-e15. author response: e15.

Books

Book. Corresponding pages should be cited whenever reference is made to specific statements or content:

Wilkins RL, Stoller JK, Kacmarek RM. Egan's fundamentals of respiratory care, 9th edition. St Louis: Mosby|Elsevier; 2009:400-404, 917.

Corporate authors:

Panel on Understanding Cross-National Health Differences Among High-Income Countries; Committee on Population Division of Behavioral and Social Sciences and Education; Board on Population Health and Public Health Practice; National Research Council; Institute of Medicine of the National Academies. U.S. health in international perspective: shorter lives, poorer health. Washington, DC: National Academies Press; 2013.

Chapter:

Heffner JE. Chronic obstructive pulmonary disease. In: Hess DR, MacIntyre NR, Mishoe SC, Galvin WF, Adams AB. Respiratory care principles and practice, 2nd edition. Sudbury, MA: Jones & Bartlett; 2012:735-764.

Online Material

Static material must be listed in the References and include the digital object identifier (DOI). Use a DOI for content published online only. Because these items are static, there is no need to include an access date:

Ng S, King CS, Hang J, Clifford R, Lesho EP, Kuschner RA, et al. Severe cavitary pneumonia caused by a non-*equi Rhodococcus* species in an immunocompetent patient. *Respir Care* 2013;58(4):e47-e50. doi:10.4187/respcare.02017

Frequently changing material, such as an organization's homepage, should be cited in the text using the URL and access date. Do not include in References:

"...as recommended by the American Association for Respiratory Care (<http://www.aarc.org>, Accessed January 27, 2015) ..."

News sources:

Productivity at work improved for sleep apnea patients using CPAP. *Medical News Today*: April 15, 2013. <http://www.medicalnewstoday.com/releases/259016.php> Accessed January 27, 2015.

Unpublished Work

Manuscript accepted but not yet published. A copy of cited unpublished manuscripts should be uploaded:

Strickland SL. Year in review: airway clearance. *Respir Care* 2015 (in press).
Research not yet accepted for publication should be cited in the text as personal communication. You must obtain written permission from the authors to cite unpublished data.

"Recently, Smith et al found this treatment effective in 45 of 83 patients (Smith R, personal communication, 2015)."

Your own unpublished work that has not been accepted for publication should be mentioned in the text: "We found this type of aerosol is no more effective than placebo (unpublished data)."

Quick Look

The Quick Look boxes in RESPIRATORY CARE provide readers with the concise take-home message of the study. Only Original Research articles have Quick Look boxes. Quick Look boxes have 2 headings, the first is *Current Knowledge* and the second is *What This Paper Contributes To Our Knowledge*.

Include your Quick Look text at the end of your main manuscript text file (after the References and any Figure Legends) under the heading Quick Look. Double-space all text.

Current Knowledge

Write 2–4 declarative sentences summarizing current understanding of the topic being studied. Think of it as defining the state of the art or establishing equipoise.

DO – State the current evidence on the subject

DO – Provide clear declarative statements

DO NOT – Ask a question

DO NOT – State what is not known or that a topic “requires further study” or “remains to be elucidated”

What This Paper Contributes To Our Knowledge

Write 2–4 declarative sentences summarizing the take-home message of the study. Use past tense. Provide only information supported by the data. Do not overstate the importance of your results and do not suggest further research; this section is about the paper at hand.

DO – Describe the main take-home points and findings

DO – Describe the environment (eg, if a lung model was used)

DO – Write statements that can be understood without re-stating the data

DO NOT – Allude to further work that needs to be accomplished

DO NOT – Overstate the importance of the findings or speculate. (eg, The use of APRV improved oxygenation [data from the study]. Due to improved oxygenation, APRV might reduce mortality in ARDS [speculation]).

DO NOT – Include statistics or numerical data

The Editors reserve the right to edit Quick Look boxes for accuracy, style, and length.

Example Quick Look

Current knowledge

The endotracheal tube cuff allows positive pressure ventilation and protects the airway from aspiration. Standard cuff pressures of 20–30 cm H₂O are typically used to prevent leakage of fluid around the cuff and to prevent mucosal injury. In recent years, laboratory evaluations of cuffs in glass models have demonstrated reduced fluid leakage, but clinical studies have not confirmed these findings in vitro.

What this paper contributes to our knowledge

In a realistic viscoelastic model of the trachea, endotracheal tube cuffs of different designs provided an adequate seal at a pressure of 12 cm H₂O. With increased PEEP, higher cuff pressures were required. Tubes with a subglottic suction channel performed best in the lateral position.

Figures

Use of Figures is encouraged. Include only Figures that clarify and augment the text. All Figures must be called-out in the text. Number consecutively as Figure 1, Figure 2, etc.

The first Figure in the report of a clinical trial must be a flow diagram showing phases of the trial (ie, enrollment, subject allocation, follow-up, and analysis). See CONSORT.

Each Figure must be uploaded to Manuscript Central as a separate image file, NOT embedded in the text.

Minimum 1200 dpi required for line art (graphs or drawings), 600 dpi required for images with labeling, and 300 required dpi for images (color or black and white) without labeling.

Radiographs must clearly identify the relevant details and contain no patient identifiers.

Any identifiable image must be accompanied with written consent (see Ethics of Investigation).

Identify stains and magnifications for all photomicrographs.

Arrows, numbers, letters, lines and other markers used to identify parts of a Figure must be defined in the Figure Legend.

Figures are redrawn for stylistic consistency. Contact the Editorial Office if you would like assistance in creating an original Figure.

Figure Legends

Every Figure must have a legend explaining every component of the Figure. The legend should be self-sufficient and allow the reader to understand the figure without referring to the text.

Legends are placed at the very end of the manuscript text file. Do not include legends in the Figure image files.

Tables

Each Table must be uploaded to Manuscript Central as a separate Microsoft Word file, NOT embedded in the text. Tables must have a title. The title should be self-sufficient and allow readers to understand the Table without referring to the text.

Tables should be numbered and cited consecutively in the text, Table 1, Table 2, etc. Any abbreviations and symbols must be explained in footnotes at the bottom of the Table. For footnotes use the following symbols, superscripted, in the following order: *, †, ‡, §, ||, ¶, **, ††.

Borrowed Figures and Tables

To include previously published Figures and Tables, you must obtain permission from the original copyright holder. Provide the reference citation in the Table footer so that appropriate credit can be acknowledged in accordance with copyright law.

Copyright is most often held by the publisher of the journal or book in which the Figure or Table originally appeared. It is the author's responsibility to secure permission. Payment of any fees required for borrowed material is the responsibility of the author.

Upload permissions documentation with your manuscript files.

Acknowledgements

Names of persons not eligible for authorship, and their contribution and institutional affiliation, should be listed in the Acknowledgments. You must obtain written permission from all individuals named in the Acknowledgments because inclusion can be taken as the individuals' approval of the paper's contents.

Equations

Write equations as normal text. Do not use the equation function in Microsoft Word or other mathematics software.

Statistical Analysis

For original research papers, the Editor recommends working with a biostatistician to assure appropriate analysis. The Editor may request a letter from your biostatistician assuring that the analysis is correct.

In the Methods section, identify the statistical tests used to analyze the data. Indicate the *P*-value that was taken to indicate significance. State whether tests were one-tailed or two-tailed; justify the use of one-tailed tests. Identify post-hoc analyses. Cite references to support your choice of tests and identify any statistical analysis software used. Indicate how the power analysis was conducted to determine appropriate sample size.

Report measurements with an appropriate degree of precision. Report both numerators and denominators for percentages.

For continuous data, description statistics should be expressed as mean and standard deviation (not standard error). For ordinal data, median and interquartile range should be reported.

For ratios (odds ratio, relative risk, etc.), provide 95% confidence interval.

Report actual P values rather than thresholds. Example: write " $P = .18$ ", not " $P > .05$ " or " $P = \text{NS}$." Note that P cannot equal 0 or 1.

P values should be expressed to 2 digits for $P \geq .01$. $P < .001$, rather than $P < .0001$ or $P = .00001$. If $P > .99$, $P = .999$ for example, it should be expressed as $P > .99$.

An exception is P values between .07 and .03, which the Journal expresses to 3 digits. This is to preserve potential meaning of values near .05.

Authors are encouraged to enlist the expertise of a local statistician. If questions arise during the peer review process regarding the statistical analysis, the Editor may ask for proof of input from a statistician when the revised manuscript is submitted.

Units of Measurement

Always report the units of measurement according to current scientific usage. Standard units of measurement and scientific terms may be abbreviated without explanation (eg, L/min, mm Hg, pH, O₂). The Journal uses most values in Systeme Internationale (SI) units. For blood gas values, we prefer mm Hg to kPa. For airway pressure, we prefer cm H₂O rather than millibars.

Pulmonary Terms and Symbols

Use the Preferred Pulmonary Terms and Symbols (Appendix 1). Use abbreviations sparingly. Do NOT invent new abbreviations for terms with long-held standard abbreviations. Use an abbreviation only if the term occurs 4 or more times in the manuscript.

The following commonly used abbreviations do not need to be defined: ARDS, CI, COPD, CPAP, DNA, FDA, FEV₁, FIO₂, FVC, ICU, PaO₂, PaCO₂, PO₂, PCO₂, PEEP, SD, SpO₂. We also do not define units (eg, mL, cm, μm, μL).

Drugs and Commercial Products

Precisely identify all drugs and chemicals, doses, and methods of administration.

Use generic names instead of trade (proprietary) names for both drugs and equipment.

At first mention, trade names may be given parenthetically after generic names, including the name and location of the manufacturer. For equipment, provide model numbers if available.

Subjects versus Patients

Individuals enrolled in research are referred to as subjects, not patients. This applies to both retrospective and prospective studies.

Ventilator Modes

Use the Preferred Ventilator Mode Nomenclature (Appendix 2).

Language Editing Services

Poorly written papers will not be accepted. Particularly for authors whose native language is not English, it is strongly recommended to work with someone fluent in English science writing. If the quality of the English is not acceptable, the Editor may ask the author to submit evidence of help by someone fluent in English science writing when the revised manuscript is submitted. If you need assistance, below are some companies that provide language and copyediting services. Use of such a service is at the discretion and cost of the authors, and does not guarantee acceptance. Inclusion on this list does not represent endorsement by the Journal.

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Log in, or if you are a first-time user, create an account by selecting “Register Here”. You should have only one account.

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Submission Process

1. Type, Title, Running Head, & Abstract: Information may be pasted into the fields from a text file.
2. Attributes: Choose 3 categories to aid in the selection of reviewers.
3. Authors & Institutions: Add coauthor names and affiliations. **Be certain that their email address is correct.**
4. Reviewers & Editors: Authors may suggest names reviewers who are not affiliated with the same institution(s). Authors may also indicate who they would prefer *not* review their manuscript.
5. Cover Letter: Include a cover letter to the Editor. This letter should include any noteworthy information of which you would like him to be aware.
6. File Upload and Submission Checklist: Upload manuscript text file, Figure image files, and Tables files individually.
7. Complete the Manuscript Submission Checklist by indicating the appropriate selections. Failure to complete the Submission Checklist in a manner consistent with the submitted manuscript could lead to rejection.
8. Review & Submit: Carefully review your manuscript and submit.
9. Submission Form: Authors will each be emailed a personalized link to complete the Submission Form. Manuscripts are not considered until **ALL** authors have completed this step. On the form, authors must indicate whether they have any potential conflicts of interest (and if so, list them) and digitally sign the form by typing their name. When finished, click Submit to send the form to the Editorial Office.

Peer Review

Manuscripts undergo peer review on the basis of clarity, scientific accuracy, breadth of appeal, and timeliness. Manuscript reviewers are professionals with expertise in the subject and are selected by the Editor.

You can log into Manuscript Central at any time to check the status of your manuscript. The Editor will inform you via e-mail once a decision has been made; his decision letter may include reviewer comments.

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Select “Manuscripts with Decision” in your Author Center. You will be prompted to create a revision. Submit your revision retaining the original manuscript ID.

Respond to the Editor's decision letter and reviewer comments. You must respond *point by point* to the specific comments and suggestions, indicating in each instance whether or how the manuscript has been changed.

You should have ready:

- A revised manuscript text file with changes indicated via Microsoft Word's Track Changes function AND a clean text file where all changes are included (no red text).
- Tables or Figures with changes indicated, and clean versions where changes are included.
- Any file that you do not revise may remain as is in the list of files. Before uploading a revised file, *delete* the original file.

If there has been any change in authors, author contact information, or other aspect of the research or manuscript about which the Editor should be informed, please highlight these changes in your response.

If there has been a change in conflict of interest status for any of the authors, this must be noted in your response and indicated on the Title Page of the revision.

The Editor may send the revision for peer review and further revision may be requested.

If revision of a submission is not received within 6 months, the Journal will assume the authors have withdrawn the manuscript from further consideration.

Papers in Press

After acceptance, a version of the manuscript will be e-published ahead of print and available online in PubMed and the RESPIRATORY CARE website.

Copy Editing

Accepted manuscripts are copy edited for clarity, syntax, grammar, consistency, and conformity with Journal style.

Page Proof

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Appendix 1. Preferred Terms and Symbols

Primary Symbols	
S	Saturation
C	content
F	Fractional concentration
T	Temperature
P	Pressure
V	Volume
Qualifying symbols are denoted by subscripted character; uppercase for values in the lungs and lowercase for values in the blood	
A	Alveolar
I	Inspired
B	Barometric
L	Lung
D	Dead space
T	Tidal
E	Expired
\bar{E}	Mixed expired
a	Arterial
b	Blood
c	Capillary
v	Venous
c'	Pulmonary end-capillary
\bar{v}	Mixed venous
t	Time
Pulmonary Function testing	
D/V_A	
DLCOb	Lung diffusing capacity determined by the single-breath technique
ERV	Expiratory reserve volume
FEF _{25-75%}	Forced expiratory flow over the middle half of the FVC
FEV ₁	Forced expiratory volume in the first second
FEV _t	Forced expiratory volume in the first <i>t</i> seconds
FRC	Functional residual capacity
FVC	Forced vital capacity
IC	Inspiratory capacity

IRV	Inspiratory reserve volume
IVC	Inspiratory vital capacity
MVV	Maximal voluntary ventilation
PEF	Peak expiratory flow
RV	Residual volume
RV/TLC%	Residual volume expressed as percent of TLC
TGV	thoracic gas volume
TLC	Total lung capacity
V_A	Alveolar gas volume
VC	Vital capacity
Ventilation	
f	Breathing frequency
V_T	Tidal volume
\dot{V}_A	Alveolar ventilation
\dot{V}_D	Dead space ventilation
\dot{V}_{CO_2}	Carbon dioxide production
\dot{V}_{O_2}	Oxygen consumption
V/Q	ventilation-perfusion ratio
Pulmonary mechanics	
C	Compliance
E	Elastance
Gaw	Airway conductance
$P_{0.1}$	Airway occlusion pressure at 0.1 s
P_A	Alveolar pressure
P_{aw}	Pressure in the airway
\bar{P}_{aw}	Mean pressure
$P_{E_{max}}$	Maximal expiratory pressure
P_{es}	Esophageal pressure
$P_{I_{max}}$	Maximal inspiratory pressure
PIP	Peak inspiratory pressure
P_L	Transpulmonary pressure
P_{pl}	Intrapleural pressure
P_{plat}	Plateau pressure
R	Resistance
R_{aw}	Airway resistance
R_E	Expiratory resistance
R_I	Inspiratory resistance
sGaw	Specific airway conductance
WOB	Work of breathing
Blood gases	
\bar{P}	Mean pressure
P_{O_2}	Partial pressure of oxygen

P_{aO_2}	Arterial partial pressure of oxygen
P_{AO_2}	Alveolar partial pressure of oxygen
P_{aCO_2}	Arterial partial pressure of carbon dioxide
P_{ACO_2}	Alveolar partial pressure of carbon dioxide
P_{ETCO_2}	End-tidal partial pressure of carbon dioxide
$P_{\bar{E}CO_2}$	Mixed exhaled partial pressure of carbon dioxide
$P_{\bar{v}CO_2}$	Mixed venous partial pressure of oxygen
P_{tcO_2}	tcPO2 transcutaneous partial pressure of oxygen
P_{tcCO_2}	tcPO2 transcutaneous partial pressure of carbon dioxide
$P(A-a)O_2$	Alveolar-arterial PO_2 difference
$P(a/A)O_2$	Arterial to alveolar PO_2 ratio
C_{aO_2}	Arterial oxygen content
$C_{\bar{v}CO_2}$	Mixed venous oxygen content
$C_{c'O_2}$	Pulmonary capillary oxygen content
S_{aO_2}	Arterial oxygen saturation
S_{pO_2}	Oxygen saturation as measured by pulse oximetry
$S_{\bar{v}CO_2}$	Mixed venous oxygen saturation
$C(a - \bar{v})O_2$	Arterial-venous oxygen content difference
pH	
\dot{Q}	Blood flow
\dot{Q}_T	Cardiac output
Q	Blood volume
\dot{Q}_S/\dot{Q}_T	Shunt fraction
R	Respiratory quotient
Ventilator Nomenclature	
APRV	Airway pressure release ventilation
AVAPS	Average volume assured pressure support
CMV	Continuous mandatory ventilation (rather than assist-control)
CPAP	Continuous positive airway pressure
EPAP	Expiratory positive airway pressure
F_{IO_2}	Fraction of inspired oxygen (expressed as a fraction, not percent)
HFJV	High frequency jet ventilation
HFOV	High frequency oscillatory ventilation
I:E	Inspiratory time to expiratory time ratio
IPAP	Inspiratory positive airway pressure
NAVA	Neurally adjusted ventilatory assist
NIV	Noninvasive ventilation (rather than NPPV)
PAV	Proportional assist ventilation
PC-CMV	Pressure-control continuous mandatory ventilation (rather than pressure assist-control)
PC-IMV	Pressure-control intermittent mandatory ventilation
PCIRV	Pressure control inverse ration ventilation

PEEP	Positive end-expiratory pressure
PRVC	Pressure regulated volume control
PSV	Pressure support ventilation
T _E	Expiratory time
T _I	Inspiratory time
VC-CMV	Volume-control continuous mandatory ventilation (preferred rather than volume assist-control)
VC-IMV	Volume-control intermittent mandatory ventilation
VDR	Volumetric diffusion respiration
VS	Volume support
Other preferred terms	
6MWD	Six-minute walk distance
6MWT	Six-minute walk test
AARC	American Association for Respiratory Care
ABG	Arterial blood gas
ALS	Amyotrophic lateral sclerosis
ARDS	Acute respiratory distress syndrome
ARF	Acute respiratory failure
ATPS	Ambient temperature and pressure saturated
BMI	Body mass index
BPAP	Bilevel positive airway pressure (rather than BiPAP)
BTPS	Body temperature and pressure saturated
CCI	Chronic critical illness
CDC	Centers for Disease and Prevention
CF	Cystic fibrosis
CI	Confidence interval
CMS	Centers for Medicare and Medicaid services
CO	Carbon monoxide
COPD	Chronic obstructive pulmonary disease
CPR	Cardiopulmonary resuscitation
CPT	Chest physical therapy
CT	Computed tomography
DNR	Do not resuscitate
DPI	Dry powder inhaler
EAdi	Electrical activity of the diaphragm
EBUS	Endobronchial ultrasound
ECLS	Extracorporeal life support
ECMO	Extracorporeal membrane oxygenation
EIB	Exercise-induced bronchospasm
FDA	US Food and Drug Administration
HFNC	High flow nasal cannula
HME	Heat and moisture exchanger
HMEF	Heat and moisture exchanging filter
HRCT	High resolution computed tomography

Hz	Hertz
IBW	Ideal body weight
IBW	Ideal body weight
ICP	Intracranial pressure
ICU	Intensive care unit
ICU	Intensive care unit
ILD	Interstitial lung disease
IQR	Interquartile range
MDI	Metered dose inhaler
MRI	Magnetic resonance imaging
NG	Nasogastric (tube)
NIH	National Institutes of Health
NO	Nitric oxide
OSA	Obstructive sleep apnea
PAP	Positive airway pressure
PEP	Positive expiratory pressure
PFT	Pulmonary function test or testing
PMV	Prolonged mechanical ventilation
PSG	Polysomnography
r	Correlation coefficient
RSBI	Rapid shallow breathing index
RT	Respiratory therapist
SBT	Spontaneous breathing trial
SD	Standard deviation
SE	Standard error
STPD	Standard temperature and pressure dry
TBLB	Transbronchial lung biopsy
TBNA	Transbronchial needle aspiration
VA	Veterans Administration
VAE	Ventilator-associated event
VAC	Ventilator-associated condition
VAP	Ventilator-associated pneumonia
VILI	Ventilator induced lung injury

Appendix 2. Preferred Ventilator Mode Nomenclature

Preferred Term	Preferred Symbol	Intended Meaning	Similar Terms to be Avoided
Volume Control Continuous Mandatory Ventilation	VC-CMV	Mechanical ventilation with preset tidal volume and inspiratory flow. Every breath is mandatory (ie, inspiration is patient or machine triggered and machine cycled).	Assist/Control, A/C, CMV, Volume Assist/Control, Volume Control, Volume Limited Ventilation, Volume Control Ventilation, Controlled Ventilation, Volume Targeted Ventilation
Volume Control Intermittent Mandatory Ventilation	VC-IMV	Mechanical ventilation with preset tidal volume and inspiratory flow. Spontaneous breaths (ie, inspiration is patient triggered and patient cycled) can exist between mandatory breaths.	Synchronized Intermittent Mandatory Ventilation, SIMV
Pressure Control Continuous Mandatory Ventilation	PC-CMV	Mechanical ventilation with preset inspiratory pressure and inspiratory time. Every breath is mandatory (ie, patient or machine triggered and machine cycled).	Assist/Control, A/C, CMV, Pressure Assist/Control, Pressure Control, Pressure Limited Ventilation, Pressure Control Ventilation, Pressure Targeted Ventilation

Pressure Control Intermittent Mandatory Ventilation	PC-IMV	Mechanical ventilation with preset inspiratory pressure and inspiratory time. Spontaneous breaths (ie, inspiration is patient triggered and patient cycled) can exist between mandatory breaths.	Synchronized Intermittent Mandatory Ventilation, SIMV
Continuous Spontaneous Ventilation	CSV	Any mode of mechanical ventilation where every breath is spontaneous (ie, patient triggered and patient cycled)	Spont
Mandatory Breath	None	A breath type during mechanical ventilation for which inspiration is machine triggered and/or machine cycled.	Machine breath, mechanical breath
Spontaneous Breath	None	A breath type for which inspiration is both patient-triggered and patient cycled. Applies to assisted or unassisted breathing.	N/A
Assisted Ventilation or Breath	None	Ventilation or breath for which a machine provides some or all of the work of breathing.	Patient triggered ventilation or breath

Patient Triggered Breath	None	A breath that is initiated by the patient, independent of ventilator settings for frequency.	Patient assisted breath, assisted breath
Auto-triggering	None	Unintended initiation of breath delivery by the ventilator, eg, by an external disturbance such as movement of the breathing tube or an inappropriate trigger sensitivity setting.	Auto-cycling