DESCRIPTION

Published four times per year, the objective of this online journal is to serve as a multidisciplinary, peer-reviewed source of information related to the administrative, economic, operational, safety, and quality aspects of the ambulatory and in-patient operating room and interventional procedural processes. As the official journal of the Society of Perioperative Assessment and Quality Improvement (SPAQi), the journal will provide high-quality information and research findings on operational and system-based approaches to ensure safe, coordinated, and high-value periprocedural care. With the current focus on value in health care it is essential that there is a venue for researchers to publish articles on quality improvement process initiatives, process flow modeling, information management, efficient design, cost improvement, use of novel technologies, and management.

This journal’s audience includes all groups who participate in the planning, execution, and monitoring of the periprocedural process such as medical specialists (surgeons, anesthesiologists, hospitalists), nurses, administrators, pharmacists, systems and process engineers, and other health care providers.

The Journal has no publication charges.

Perioperative Care and Operating Room Management accepts online submissions. Please visit the online submission site.

EDITORIAL BOARD

Editor-in-Chief

Richard D. Urman, Brigham and Women's Hospital Department of Anesthesiology Perioperative and Pain Medicine, Boston, Massachusetts, United States of America
Anesthesiology, Operating room management, Patient safety, Perioperative risk assessment

Ethics Editor

Sarah Abbett, Milford Regional Medical Center, Department of Anesthesiology, Milford, Massachusetts, United States of America
Shared decision making, Epidemiology, Practice management

Founding Editor

David H. Berger, Baylor College of Medicine Michael E DeBakey Department of Surgery, Houston, Texas, United States of America
Surgical outcomes and health services research, Improving patient discharge process to reduce avoidable hospital readmissions, Mobile technology to communicate with patients in the postop period

**Associate Editors**

**Angela M. Bader**, Brigham and Women's Hospital Roberta and Stephen R Weiner Center for Preoperative Evaluation, Boston, Massachusetts, United States of America  
Anesthesia and pain management, perioperative medicine, frailty, perioperative cognitive issues, value-based health care, preoperative risk assessment, patient centered outcomes, high quality patient centered surgical decision making, appropriateness of surgical care  
**Dietrich Doll**, Saint Mary's Hospital Vechta, Department of Proctosurgery, Vechta, Germany  
General surgery, Trauma, Operating room management, Colorectal surgery, Quality and safety  
**Paul James Grant**, University of Michigan Department of Internal Medicine, Ann Arbor, Michigan, United States of America  
Hospital medicine, perioperative medicine, venous thromboembolic disease, medical education

**SPAQI Recorder**

**Debra Pulley**, Washington University in St Louis School of Medicine, Saint Louis, Missouri, United States of America  
Anesthesiology, preoperative optimization and perioperative quality improvement

**iCORMET Recorder**

**Michell Tsai**, University of Vermont Medical Center, Burlington, Vermont, United States of America  
Anesthesiology, OR management and operations, preoperative evaluation, perioperative management and outcomes

**Editorial Board**

**Daniel Arnal**, Alcorcon, Spain  
Anesthesiology, patient safety, and crisis management  
**Alexander Arriaga**, Boston, Massachusetts, United States of America  
Medical education, Safety checklists, Crisis management, Perioperative medicine, Care transitions  
**Faisal Bakaeen**, Cleveland, Ohio, United States of America  
Coronary artery bypass surgery, valve disease and surgery, minimally invasive heart valve surgery, transcatheter aortic valve replacement (TAVR), aortic disease, endocarditis, cardiac reoperations  
**Angela Balfour**, Edinburgh, United Kingdom  
Nursing care, colorectal surgery, enhanced recovery after surgery pathways, implementation science  
**Pavan Battu**, Birmingham, United Kingdom  
Perioperative medicine, Perioperative outcomes, Quality, safety  
**William R. Berry**, Boston, Massachusetts, United States of America  
Cardiothoracic surgery, Patient safety and implementation in healthcare, Safety checklists  
**Steven Boggs**, Memphis, Tennessee, United States of America  
Cardiovascular, Thoracic, Trauma and orthopedic surgery, Outpatient and non-operating room anesthesia  
**Christopher W. Connor**, Boston, Massachusetts, United States of America  
Biomedical engineering, Physiology, Pharmacology, Neuroanesthesia  
**Franklin Dexter**, Iowa City, Iowa, United States of America  
Operating room management and health services research, physiological modeling, statistical analysis, and study design  
**Lynne Ferrari**, Boston, Massachusetts, United States of America  
Operating room management, Pediatric anesthesia, Practice management  
**Jason Fleming**, Houston, Texas, United States of America  
Systems implementation science, Engineering methods to improve the quality and value of health care delivery, Cancer screening  
**Jan Hendrickx**, Aalst, Belgium  
Technology, perioperative monitoring, patient safety, pharmacology  
**David L. Hepner**, Boston, Massachusetts, United States of America  
Patient safety, crisis management; anesthesiology, preoperative optimization, obstetric anesthesia  
**Jeanne Huddleston**, Rochester, Minnesota, United States of America  
Patient safety, systems engineering, health care quality, science of health care delivery  
**Michael G. Irwin**, Pok Fu Lam, Hong Kong  
Intravenous anesthesia, pharmacology, enhanced recovery, organ preconditioning  
**Douglas Johnson**, Cleveland, Ohio, United States of America  
Adult cardiac Surgery, cardiopulmonary transplantation, thoracic surgery, minimally invasive cardiac surgery, aortic surgery  
**Victoria Jordan**, Houston, Texas, United States of America
Systems management, applied statistics and quality improvement

**Anjali Joseph**, Clemson, South Carolina, United States of America
Understanding the relationship between the built environment and health outcomes; multidisciplinary approaches to improving patient safety in healthcare.

**Ross Kerridge**, New Lambton Heights, Australia
Clinical, organizational and system issues of perioperative patient management, patient’s experience of hospitals and health services

**Alison Knight**, Rochester, Minnesota, United States of America
Use of analytical tools to improve process efficiency, reduce costs and improve patient outcomes

**Panagiotis Kougias**, Houston, Texas, United States of America
Fenestrated endovascular repair of aortic aneurysms, carotid endarterectomy and stenting, transfusion thresholds after major operative interventions, optimization of operating room utilization

**Olle Ljungqvist**, Orebro, Sweden
Abdominal surgery, enhanced recovery after surgery, clinical pathways

**Markus Luedi**, Berne, Switzerland
Implementation science, Operating room efficiency, Leadership, Liver surgery, Neuroscience

**Patricia Fogarty Mack**, Ithaca, New York, United States of America
Operating room safety, Non-operating room anesthesia, Medication safety, Neuroanesthesia

**Marc Pimental**, Boston, Massachusetts, United States of America
Perioperative risk assessment, Patient safety, Quality of care, Cost-effectiveness

**Mark Radford**, Loughborough, United Kingdom
Workforce analysis, quality improvement, qualitative research methodologies, computer assisted qualitative data analysis

**Johan Raeder**, Oslo, Norway
Preoperative patient optimization, Acute pain management, Ambulatory care, Postoperative outcomes

**Ramai Santhirapala**, London, United Kingdom
Anesthesia, Perioperative Medicine, Shared decision making, End of life care

**Richard B. Siegrist, Jr.**, Boston, Massachusetts, United States of America
Financial management, cost accounting, management control, innovation and entrepreneurship, health policy

**Martyna Skowron**, Cambridge, Massachusetts, United States of America
Technological solutions in care delivery settings, specifically focused on physicians and care teams

**Ulrike Stamer**, Berne, Switzerland
Perioperative pain management, Outcomes research, Chronic pain

**Timothy Stephens**, London, United Kingdom
Building sustainability into quality improvement in acute care settings

**Vikram Tiwari**, Nashville, Tennessee, United States of America
Anesthesiology and biomedical Informatics, regression modelling, critical care, operating rooms, implementations

**Omar Viswanath**, Phoenix, Arizona, United States of America
Acute and chronic pain management, patient safety, clinical pathways, operating room management

**David Walker**, London, United Kingdom
Medical education, echocardiography in critical care and anesthesia, right heart function in critical illness, perioperative medicine

**Elizabeth C. Wick**, Baltimore, Maryland, United States of America
Clinical pathways, enhanced recovery after surgery, perioperative improvement, safety culture, surgical outcomes, surgical site infections

**Jean Wong**, Toronto, Ontario, Canada
Perioperative patient management, Sleep medicine, Patient outcomes research
GUIDE FOR AUTHORS

INTRODUCTION

The objective of this journal is to serve as a multidisciplinary, peer-reviewed source of information related to the administrative, economic, operational, safety, and quality aspects of the ambulatory and in-patient operating room and interventional procedural processes. The journal will provide high quality information and research findings on operational and system-based approaches to ensure safe, coordinated, and high value periprocedural care to all patients. With the current focus on value in health care it is essential that there is a publication for researchers to publish on quality improvement process initiatives, process flow modelings, information management, efficient design, cost improvement, use of novel technologies, and management.

This journal’s audience includes all groups who participate in the planning, execution, and monitoring of the perioperative process such as medical specialists (surgeons, anesthesiologists, hospitalists), nurses, administrators, pharmacists, systems and process engineers, and others health care providers involved in the development and implementation of perioperative or periprocedural care processes.

Submission checklist

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:
• E-mail address
• Full postal address

All necessary files have been uploaded:
Manuscript:
• Include keywords
• All figures (include relevant captions)
• All tables (including titles, description, footnotes)
• Ensure all figure and table citations in the text match the files provided
• Indicate clearly if color should be used for any figures in print

Graphical Abstracts / Highlights files (where applicable)

Supplemental files (where applicable)

Further considerations
• Manuscript has been 'spell checked' and 'grammar checked'
• All references mentioned in the Reference List are cited in the text, and vice versa
• Permission has been obtained for use of copyrighted material from other sources (including the Internet)
• A competing interests statement is provided, even if the authors have no competing interests to declare
• Journal policies detailed in this guide have been reviewed
• Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

Submission checklist

You can use this list to carry out a final check of your submission before you send it to the journal for review. Checklist.

Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:
• E-mail address
• Full postal address
All necessary files have been uploaded:

**Manuscript:**
- Include keywords
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print

**Graphical Abstracts / Highlights files** (where applicable)

**Supplemental files** (where applicable)

Further considerations
- Manuscript has been 'spell checked' and 'grammar checked'
- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

**BEFORE YOU BEGIN**

**Ethics in publishing**
Please see our information on Ethics in publishing.

**Informed consent and patient details**
Studies on patients or volunteers require ethics committee approval and informed consent, which should be documented in the paper. Appropriate consents, permissions and releases must be obtained where an author wishes to include case details or other personal information or images of patients and any other individuals in an Elsevier publication. Written consents must be retained by the author but copies should not be provided to the journal. Only if specifically requested by the journal in exceptional circumstances (for example if a legal issue arises) the author must provide copies of the consents or evidence that such consents have been obtained. For more information, please review the Elsevier Policy on the Use of Images or Personal Information of Patients or other Individuals. Unless you have written permission from the patient (or, where applicable, the next of kin), the personal details of any patient included in any part of the article and in any supplementary materials (including all illustrations and videos) must be removed before submission.

**Declaration of interest**
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double anonymized) or the manuscript file (if single anonymized). If there are no interests to declare then please state this: 'Declarations of interest: none'. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal’s official records. It is important for potential interests to be declared in both places and that the information matches. More information.

**Submission declaration and verification**
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.
Preprints
Please note that preprints can be shared anywhere at any time, in line with Elsevier’s sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see ‘Multiple, redundant or concurrent publication’ for more information).

Use of inclusive language
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns (“clinicians, patients/clients”) as default/wherever possible to avoid using “he, she,” or “he/she.” We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

Author contributions
For transparency, we encourage authors to submit an author statement file outlining their individual contributions to the paper using the relevant CRediT roles: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing. Authorship statements should be formatted with the names of authors first and CRediT role(s) following. More details and an example

Authorship
All authors should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

Changes to authorship
Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

Article transfer service
This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. More information.

Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.
Role of the funding source
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

Open access
Please visit our Open Access page for more information.

Elsevier Researcher Academy
Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

Language (usage and editing services)
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's Author Services.

Submission
Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Submit your article

Submission and peer review of all papers is conducted entirely online at https://www.editorialmanager.com/PCORM/default.aspx; increasing efficiency for editors, authors, and reviewers, and enhancing publication speed. Authors requesting further information on online submission are strongly encouraged to view the system, including a tutorial, at https://www.editorialmanager.com/PCORM/default.aspx. A comprehensive Author Support service is also available to answer additional enquiries: https://service.elsevier.com.

Uniform Requirements
These guidelines generally follow the 'Uniform Requirements for Manuscripts Submitted to Biomedical Journals, published by the International Committee of Medical Journal Editors (ICMJE). The complete document appears at http://www.icmje.org

Suggesting reviewers
Please submit the names and institutional e-mail addresses of several potential reviewers.

You should not suggest reviewers who are colleagues, or who have co-authored or collaborated with you during the last three years. Editors do not invite reviewers who have potential competing interests with the authors. Further, in order to provide a broad and balanced assessment of the work, and ensure scientific rigor, please suggest diverse candidate reviewers who are located in different countries/regions from the author group. Also consider other diversity attributes e.g. gender, race and ethnicity, career stage, etc. Finally, you should not include existing members of the journal's editorial team, of whom the journal are already aware.

Note: the editor decides whether or not to invite your suggested reviewers.

PREPARATION

NEW SUBMISSIONS
Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.
**Infographics**

An Infographic is a graphic visual representation of the data published in one of the Journal's articles. Infographics are intended to present complex information in one image, along with a short summary of major findings and reference to the original work.

**Studies in Humans and Animals**

If the work involves the use of human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans. The manuscript should be in line with the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals and aim for the inclusion of representative human populations (sex, age and ethnicity) as per those recommendations. The terms sex and gender should be used correctly. Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed. All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Institutes of Health guide for the care and use of Laboratory animals (NIH Publications No. 8023, revised 1978) and the authors should clearly indicate in the manuscript that such guidelines have been followed. The sex of animals must be indicated, and where appropriate, the influence (or association) of sex on the results of the study.

**Queries**

For questions about the editorial process (including the status of manuscripts under review) or for technical support on submissions, please visit our Support Center.

**Peer review**

This journal operates a single anonymized review process. All contributions are typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal’s usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

**Article structure**

**Subdivision - numbered sections**

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

**Introduction**

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

**Material and methods**

Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

**Theory/calculation**

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

**Results**

Results should be clear and concise.

**Discussion**

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.
Conclusions
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information
- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lowercase superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. **Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.**
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Highlights
Highlights are optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract
A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site.

Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images and in accordance with all technical requirements.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.
Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources
List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Units
Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI.

Math formulae
Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes
Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Artwork
Electronic artwork
General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Embed the used fonts if the application provides that option.
• Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Provide captions to illustrations separately.
• Size the illustrations close to the desired dimensions of the published version.
• Submit each illustration as a separate file.
• Ensure that color images are accessible to all, including those with impaired color vision.

A detailed guide on electronic artwork is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.

Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionately large for the content.

Illustration services
Elsevier's Author Services offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier's expert illustrators can produce scientific, technical and medical-style images, as well as a full range of charts, tables and graphs. Image 'polishing' is also available, where our illustrators take your image(s) and improve them to a professional standard. Please visit the website to find out more.

Figure captions
Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables
Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References
Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Reference links
Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.
References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference formatting
There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

Reference style
Text: Indicate references by (consecutive) superscript arabic numerals in the order in which they appear in the text. The numerals are to be used outside periods and commas, inside colons and semicolons. For further detail and examples you are referred to the AMA Manual of Style, A Guide for Authors and Editors, Tenth Edition, ISBN 0-978-0-19-517633-9.

List: Number the references in the list in the order in which they appear in the text.

Examples:
Reference to a journal publication:
Reference to a journal publication with an article number:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:
Reference to a dataset:
Reference to software:

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.
Supplementary material

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research data

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

Data linking

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

Mendeley Data

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

Data statement

To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

AFTER ACCEPTANCE

Online proof correction

To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to
MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors. If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints
The corresponding author, at no cost, will be provided with a PDF file of the article via e-mail (the PDF file is a watermarked version of the published article and includes a cover sheet with the journal cover image and a disclaimer outlining the terms and conditions of use). For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Author Services.

Accepted Articles
Visit https://www.elsevier.com/authors for the facility to track accepted articles and set email alerts to inform you of when an article's status has changed. The website also provides detailed artwork guidelines, copyright information, frequently asked questions and more. Contact details for questions arising after acceptance of an article, especially those related to proofs, are provided after registration of an article for publication.

Author Appeal Policy

It is very rare that editorial decisions are overturned. However, authors who believe that their manuscript was rejected due to a misunderstanding or mistake may email the editorial office to explain why they believe the decision to be in error. Appeals must include substantive new information with direct bearing on the decision (e.g., a well-reasoned argument providing compelling evidence that a key critique raised in the rejection letter relied on incorrect or outdated information). A difference of opinion as to the interest, novelty, or suitability of the manuscript for the journal is not sufficient reason for an appeal.

The appeal will be considered by the EIC and other relevant editors. The journal's response to the appeal will be final. Even if the journal agrees to reconsider the manuscript, acceptance is not guaranteed, and the reconsideration process may involve previous or new reviewers or editors and substantive revision.

ALLEGATIONS OF MISCONDUCT

Procedures for handling allegations of misconduct in submitted manuscripts

Submissions to the journal may be assessed for similarity to other published material to check for originality. Editors, reviewers, or any other individual may bring suspected instances of ethics misconduct to the attention of the journal Editor-in-Chief and the Publisher. The Journal will review the allegation and make a preliminary assessment. If they decide that there is merit to the allegation, the manuscript is placed on hold. Additional analyses, including similarity checks and forensic image analyses, may be requested as necessary. The Editor-in-Chief will send a letter of inquiry to the corresponding author summarizing the allegation and requesting an explanation. Original data may be requested. The Editor-in-Chief will work with the Publisher's Ethics Committee to discuss the allegations. Possible sanctions include warnings, increased scrutiny of subsequent manuscripts, and prohibitions from publishing in the Journal for a period of time, up to possible lifetime bans for the most severe cases. The corresponding author and co-authors are notified of the Journal's decision. In cases of alleged fraud or misconduct, the Journal may notify the authors' institution(s) and may alert the DHHS Office of Research Integrity. The Journal will comply with their investigations and will abide by their decisions. In the case of already published manuscripts, the Journal will pursue allegations of publishing misconduct if these papers provide evidence of an extensive pattern of misconduct. The Journal will decide the appropriate measures to ensure that the scientific record is appropriately
corrected in response to an allegation. The authors may be allowed to make corrections to the content in question, although the manuscript may be retracted if the authors’ explanation is insufficient, the authors are unable to provide original data, and/or the conclusions of the manuscript are no longer supported. Authors may appeal the decision by writing to the Journal within 30 days of receipt of the decision. The Journal, in conjunction with the Publisher's Ethics Committee will review independently the decision and the authors’ rebuttal. The Journal's decision is final and not subject to further appeal.

COMPLAINTS PROCESS

The author may submit, in writing, a complaint to the Editor's attention any time during the review process or after the paper has been published. The complaint may involve a rejection, content of the peer review or any other part of the publication process, including issues arising after the article is published in the Journal. A formal appeal about a rejection decision is allowed, especially if the author believes the decision to reject the manuscript was based on an error in the review of the article, in which case the author may appeal the decision by providing the Editor with a detailed written description of the error they believe occurred. If no error has occurred, the Editor's decision to reject is considered final. The author should expect Editor's reply to the initial inquiry within 2 weeks.

CONFLICTS OF INTEREST

Journal submissions must be assigned to editors in a way as to minimize potential conflicts of interest. All editors and reviewers must disclose their conflict(s) of interest before agreeing to handle and/or review submitted manuscripts. The following relationships between editors and authors are considered conflicts and should be avoided: current colleagues, recent colleagues, recent co-authors, and authors from the same institution as the assigned editor. Additional situations that are considered conflicts and should be avoided include co-authoring publications with at least one of the authors in the past 3 years, being colleagues within the same section/department or similar organizational unit in the past 3 years, supervising/having supervised the doctoral work of the author(s) or being supervised/having been supervised by the author(s), receiving professional or personal benefit resulting from the review, having a personal relationship (e.g. family, close friend) with the author(s), and having a direct or indirect financial interest in the paper being reviewed.

After papers are assigned to the editor and/or reviewer, individual editors/reviewers are required to inform the managing editor of any conflicts not included in the list above. If none of the editors satisfies all of the conflict screens, co-editors who are least conflicted will be assigned to the manuscript. In addition, co-editors who are least conflicted are assigned for all paper submissions by sitting editors. Journal submissions are also assigned to reviewers to minimize conflicts of interest. After papers are assigned, reviewers are asked to inform the editor of any conflicts that may exist.

A paper submitted by a member of the journal's editorial board (Editor-In-Chief, Associate Editor, Editorial Board member) must be handled by another editor who has no conflict of interest as outlined above. Members of the Editorial board can submit papers to the Journal, a member of the editorial board who is a co-author on the submitted paper or has a conflict of interest as outlined above cannot be handling the manuscript at any stage of the review process. The Journal will strictly enforce these rules.

AUTHOR INQUIRIES

Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.
You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com