The *Journal of Critical Care*, the official publication of the World Federation of Societies of Intensive and Critical Care Medicine (WFSICCM), is a leading international, peer-reviewed journal providing original research, review articles, tutorials, and invited articles for physicians and allied health professionals involved in treating the critically ill. The Journal aims to improve patient care by furthering understanding of health systems research and its integration into clinical practice.

The Journal will include articles which discuss:

- All aspects of health services research in critical care
- System based practice in anesthesiology, perioperative and critical care medicine
- Integrating intraoperative management in preparation for postoperative critical care management and recovery
- Optimizing patient management, i.e., exploring the interface between evidence-based principles or clinical insight into management and care of complex patients
- The team approach in the OR and ICU System-based research
- Medical ethics
- Technology in medicine

Seminars discussing current, state of the art, and sometimes controversial topics in anesthesiology, critical care medicine, and professional education

Residency Education: Providing a series of clinically relevant tutorials from experienced practitioners focusing on the six core competencies: Medical Knowledge, Professionalism, Patient Care, Interpersonal and communication skills, Case based learning and improvement

The editorial board represents an international cross section of individuals actively involved in the disciplines of Critical Care Medicine and Anesthesiology.

**IMPACT FACTOR**

2019: 2.685 © Clarivate Analytics Journal Citation Reports 2020

**EDITORIAL BOARD**

*Editor-in-Chief*
Jan Bakker, NEW YORK UNIVERSITY SCHOOL OF MEDICINE, New York, New York, USA

*Associate Editors*
Eric Hoste, Ghent University, Gent, Belgium
Jan de Waele, Ghent University, Gent, Belgium
Section Editors

Ethics Section
Erwin Kompanje, Erasmus University Rotterdam, Rotterdam, Netherlands

Education Section
Glenn Hernandez, Pontifical Catholic University of Chile, Santiago de Chile, Chile
Iwan van der Horst

Cardiovascular
Bernd Saugel, Germany
Jan Belohlavek, General University Hospital in Prague IIInd Department of Internal Cardiovascular Medicine, Praha, Czech Republic

Infection-Sepsis
Jeffrey Lipman, The University of Queensland, Royal Brisbane and Women's Hospital, Department of Intensive Care Medicine, Brisbane, Australia
Yasser Sakr, Friedrich Schiller University Jena, Jena, Germany

Renal
Marlies Ostermann, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

Neuro
Stephan Mayer, Detroit, Michigan, United States

Metabolics-Nutrition
Jean-Charles Preiser, Bruxelles, Belgium

Pulmonology
John Laffey, National University of Ireland Galway, Galway, Ireland
Frank M.P. van Haren, Australian National University Medical School, Canberra, Australia

Sonography
Jose Luis Diaz-Gomez

Editorial Board
Hollman D. Aya, St Bartholomew's Hospital, London, UK
Sean Bagshaw, University of Alberta, Edmonton, Canada
Satish Bhagwanjee, University of Washington Medical Center, Seattle, United States
Mark van den Boogaard, Radboudumc Haemophilia Treatment Center, Nijmegen, Netherlands
Hendrik Bracht, University Hospital Ulm Department of Anaesthesiology
Alexander Cavalcanti, Heart Hospital, SAO PAULO, Brazil
Mauricio Cecconi, Italy
Davide Chiumello, Hospital Polyclinic Maggiore, Milano, Italy
Arnaldo Dubin, National University of La Plata, La Plata, Argentina
Martin Duenser, Kepler University Hospital, Linz, Austria
Richard Ferrer, Hospital de Terrassa, Terrassa, Spain
Seyed Mohammad Reza Hashemian, Shahid Behesht University of Medical Sciences, Tehran, Iran, Islamic Republic of
Judith Jacobi, Indiana University Health, Indianapolis, United States
Mathieu van der Jagt, Erasmus Medical Center, Rotterdam, the Netherlands
Dimotrios Karakitsos, King Saud Medical City, Riyadh, Saudi Arabia
Ashish K. Khanna, United States
Andrej Michelsen, Hospital Tettnang, Friedrichshafen, Germany
Zsolt Molnar, Slovenia
Sheila Nainan Myatra, Tata Memorial Hospital Department of Anaesthesia, Mumbai, India
Gustavo Ospina Tascon, Icesi University, Valle del Lili Foundation, Cali, Colombia
Zhiyong Peng, Wuhan University Zhongnan Hospital, China
Joseph W. Rossano, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA
Ram Shammugam, United States
Andrew F. Shorr, Medstar Washington Hospital Center, Pulmonary and Critical Care Medicine, Washington, District of Columbia, United States
Robert D. Stevens, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA
Joshua M. Tobin, United States
Tony Yu-Chang Yeh, Taiwan

Senior Editorial Board
Rinaldo Bellomo, Australia
Philip D. Lumb, University of Southern California Keck School of Medicine, Los Angeles, California, United States
Didier Payen, University of Paris Societies and Humanities Faculty, Paris, France
Michael Pinsky, University of Pittsburgh, Pittsburgh, Pennsylvania, United States
Charles L. Sprung, Jerusalem Bio Park, Jerusalem, Israel
Jean Louis Vincent, Belgium

World Federation Council Members (WFSICCM)

Janice L Zimmerman, Cornell College, Mount Vernon, United States
John Myburgh, Australia
Arzu Topeli, Turkey
Djillali Annane, Versailles Saint-Quentin-en-Yvelines University, Versailles, France
Llius Blanch, Spain
Masaji Nishimura, Japan
Alvaro Rea-Neto, Brazil
Abdel Razek Assem, Egypt
Estensorro Elisa, Argentina
Sung Gene, United States
Martin-Loeches Ignacio, Ireland
Zirpe Kapil, India
Chae-Man Lim, Korea, Republic of
Obunbiyi Obashina, Nigeria

The Society for Complex Acute Illness

Timothy George Buchman, Emory University School of Medicine, Atlanta, Georgia, United States
Andrew J. Seely, University of Ottawa, Ottawa, Ontario, Canada
Yoram Vodovotz, University of Pittsburgh, Pittsburgh, Pennsylvania, United States

Statistical Board

Ricardo Castro, Pontifical Catholic University of Chile, Santiago de Chile, Chile
Irina Chis Ster, St George's University of London Institute for Infection and Immunity, London, United Kingdom
Wan-Jie Gu, Medical College of Nanjing University, Nanjing Drum Tower Hospital, Nangjing, China
Lucas Petri Damiani, HCor Research Institute, São Paulo, Brazil
Fernando Zampieri
Your Paper Your Way

We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article.

To find out more, please visit the Preparation section below.

The Journal of Critical Care provides a forum for the publication of original peer-reviewed articles with the goal of improving patient care by integrating critical care systems knowledge into practice behavior. The journal represents the World Federation of Societies of Intensive and Critical Care Medicine (WFSICCM), an organization of 42 national intensive/critical care societies representing some 32,000 physicians and allied health professionals. With this responsibility to the WFSICCM comes an international focus in systems research in constrained resource environments.

We accept research articles and review articles as well as those in a seminar or tutorial format. Topics covered are all aspects of Health Services Research, the interface of critical care, anesthesiology, and pain, as well as tutorials for residency education core competencies.

For the seminar format, the articles should be directed to the resident or practicing healthcare professional. We are particularly interested in your up-to-date evaluation of the topic. Dealing with subjects of current and sometimes controversial educational and research themes is acceptable. The seminar format lends itself to a more informal presentation. Express your own viewpoints, but feel free to discuss other viewpoints as well. If you are uncertain, please indicate the degree of your uncertainty. We are looking for an absolutely honest evaluation of the topic.

Manuscripts are accepted for consideration on the condition that they are contributed solely to the Journal of Critical Care. No substantial part of a paper may have been or may be published elsewhere, except for an abstract of 200 words or less.

Manuscripts will be critically reviewed by the Editor with appropriate independent referees drawn from the Editorial Board and other experts. Acknowledgments to other investigators for advice or data must be substantiated by written authorization specifically granting permission to authors. Upon submission, authors will be required to fill out an ethics in publishing form. All submissions must also include a conflict of interest statement.

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.

BEFORE YOU BEGIN

Plagiarism
Plagiarism and duplicate submission are serious acts of misconduct. Plagiarism is defined as unreferenced use of published or unauthorized use of unpublished ideas, and may occur at any stage of planning, researching, writing, or publication. Plagiarism takes many forms, from 'passing off' another's paper as the author's own paper, to copying or paraphrasing substantial parts of another's paper (without attribution), to claiming results from research conducted by others. Plagiarism in all its forms constitutes unethical publishing behavior and is unacceptable. Duplicate submission/publication occurs when two or more papers, without full cross-reference, share the same hypothesis, data, discussion points, or conclusions.

Manuscript Suitability
To understand the scope of publishing in our journal, please refer to our Aims and Scopes in our journal home page. If you would like to check suitability of your paper, please send the abstract and cover letter along with your complete contact information to jcritcare@gmail.com and the editor will get back to you.

Ethics in publishing
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

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-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 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.

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).

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. All authors MUST disclose details of preprint posting, including DOI and licensing terms.

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. 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

**Copyright**

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

**Author rights**

As an author you (or your employer or institution) have certain rights to reuse your work. 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

Please submit your article via https://www.evise.com/profile/api/navigate/JCRC.

**NIH Public Access Policy Compliance**

To comply with the NIH Public Access Policy, Elsevier will deposit to PubMed Central (PMC) author manuscripts on behalf of authors reporting NIH funded research. The NIH policy requires that NIH-funded authors submit to PubMed Central (PMC), or have submitted on their behalf, their peer-reviewed author manuscripts, to appear on PMC no later than 12 months after final publication. Elsevier will send to PMC the final peer-reviewed manuscript, which was accepted for publication and sent to Elsevier's production department, and that reflects any author-agreed changes made in response to peer-review comments. Elsevier will authorize the author manuscript's public access posting 12 months after final publication. Following the deposit by Elsevier, authors will receive further communications from the NIH with respect to the submission. Note: Authors must declare their NIH funding (or the other funding bodies listed below) when completing the copyright transfer form.

**PREPARATION**

**Peer review**

This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then 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. More information on types of peer review.

**Use of word processing software**

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

**Article structure**

**Subdivision - unnumbered sections**

Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

**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.

**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.

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 lower-
case 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.

Abstract
Note: Research papers should contain a structured abstract of no more than 200 words which contain
the following:
1. Purpose: Why was this study done?
2. Materials and Methods: What was the source of the data generated? How was it obtained?
3. Results: Findings should be objectively reported and statistical significance indicated (if
appropriate).
4. Conclusions: Do not include a summary at the end of the paper.

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.

Keywords
Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

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.

Embedded math equations
If you are submitting an article prepared with Microsoft Word containing embedded math equations then please read this (related support information).

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.

Color artwork
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

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 management software
Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:
http://open.mendeley.com/use-citation-style/journal-of-critical-care
When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

Reference style
Text: Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.
List: Number the references (numbers in square brackets) 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:
Note shortened form for last page number. e.g., 51–9, and that for more than 6 authors the first 6 should be listed followed by 'et al.' For further details you are referred to 'Uniform Requirements for Manuscripts submitted to Biomedical Journals' (J Am Med Assoc 1997;277:927–34) (see also Samples of Formatted References).
**Journal abbreviations source**
Journal names should be abbreviated according to the [List of Title Word Abbreviations](https://www.elsevier.com/locate/jcrc).

**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](https://www.elsevier.com/locate/jcrc). 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](https://www.elsevier.com/locate/jcrc). 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.

**Data visualization**
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions [here](https://www.elsevier.com/locate/jcrc) to find out about available data visualization options and how to include them with your article.

**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](https://www.elsevier.com/locate/jcrc).

**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](https://www.elsevier.com/locate/jcrc).

For [supported data repositories](https://www.elsevier.com/locate/jcrc) 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.

**Other Funding Body Policies**

Elsevier has also worked with the following funding bodies to ensure that our authors can comply with their policies:
- Arthritis Research Campaign (UK)
- British Heart Foundation (UK)
- Cancer Research (UK)
- Chief Scientist Office
- Department of Health (UK)
- Howard Hughes Medical Institute (US)
- Medical Research Council (UK)
- Wellcome Trust (UK)

For full details on how these policies are implemented, please see complete information at: https://www.elsevier.com/about/open-science/open-access/agreements.

**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