The Journal of Emergency Medicine is an international, peer-reviewed publication featuring original contributions of interest to both the academic and practicing emergency physician. JEM, published monthly, contains research papers and clinical studies as well as articles focusing on the training of emergency physicians and on the practice of emergency medicine. The Journal features the following sections:

- Original Contributions
- Clinical Communications: Pediatric, Adult, OB/GYN
- Selected Topics: Toxicology, Prehospital Care, The Difficult Airway, Aeromedical Emergencies, Disaster Medicine, Cardiology Commentary, Emergency Radiology, Critical Care, Sports Medicine, Wound Care
- Techniques and Procedures
- Technical Tips
- Clinical Laboratory in Emergency Medicine
- Pharmacology in Emergency Medicine
- Case Presentations of the Harvard Emergency Medicine Residency
- Visual Diagnosis in Emergency Medicine
- Medical Classics
- Emergency Forum
- Editorial(s)
- Letters to the Editor
- Education
- Administration of Emergency Medicine
- International Emergency Medicine
- Computers in Emergency Medicine
- Violence: Recognition, Management, and Prevention
- Ethics
- Humanities and Medicine
- American Academy of Emergency Medicine
- AAEM Medical Student Forum
- Book and Other Media Reviews
- Calendar of Events
- Abstracts
- Trauma Reports
- Ultrasound in Emergency Medicine
AUDIENCE

Emergency Physicians, Nursing Supervisors, Technicians, Trauma Hospital Administrators.

IMPACT FACTOR

2018: 1.247 © Clarivate Analytics Journal Citation Reports 2019

ABSTRACTING AND INDEXING

Emergency Medical Abstracts
BIOSIS Citation Index
PubMed/Medline
Embase
Elsevier BIBOBASE
Hospital Medicine
International Bibliography Book Reviews
Web of Science
Current Contents - Clinical Medicine
Cambridge Scientific Abstracts
Scopus

EDITORIAL BOARD

Editor-in-Chief
Stephen Hayden, University of California San Diego, La Jolla, California, United States

Founding Editor
Peter Rosen, Harvard University, Cambridge, Massachusetts, United States

Senior Associate Editors
Gary Vilke, University of California San Diego, La Jolla, California, United States
Robert Rodriguez, University of California San Francisco, San Francisco, California, United States
Michael Witting, University of Maryland Baltimore, Baltimore, Maryland, United States

Associate Editors
George Sternbach, Stanford University, Stanford, California, United States
Lisa Mills, University of California Davis, Davis, California, United States
Gary Gaddis, Washington University in St. Louis School of Medicine, St. Louis, Missouri, United States
Kama Guluma, University of California San Diego, La Jolla, California, United States
Aaron Leetch, University of Arizona, Tucson, Arizona, United States
Michael P. Wilson, UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES, Little Rock, Arkansas, United States

Technical Review Editor
Martha C. Martell, University of California San Diego, La Jolla, California, United States

Editorial Manager
Terrie Best, University of California San Diego, La Jolla, California, United States

Administrative Review Editor
Marina Hayden, University of California San Diego Health System, San Diego, CA, United States

Section Editors

Original Contributions
Lisa Moreno-Walton, New Orleans, LA, United States
Jacob Ufberg, Philadelphia, PA, United States

Clinical Communications/Adults
Erik Barton, Salt Lake City, UT, United States
Thomas Stair, Boston, MA, United States
Gary Vilke, La Jolla, CA, United States

Clinical Laboratory in Emergency Medicine
David Jerrard, Baltimore, MD, United States

Pharmacology in Emergency Medicine
Binh Ly, La Jolla, CA, United States

Trauma Reports
Eric Legome, Brooklyn, NY, United States
Kaushal Shah, Forest Hills, NY, United States

Harvard Case Presentations
Eric S. Nadel, Boston, Massachusetts, United States
Susan R. Wilcox, Charlestown, Massachusetts, United States

Visual Diagnosis in Emergency Medicine
Alicia Minns, San Diego, CA, USA
Lynn Roppolo, Dallas, TX, United States
Mark Silverberg, Brooklyn, NY, United States

Medical Classics
George Sternbach, Stanford, CA, United States

Education
Dick Kuo, Houston, TX, United States
Leslie Oyama, San Diego, CA, USA

Administration of Emergency Medicine/ED Operations
Shoma Desai, Los Angeles, CA, USA
Christian Tomaszewski, San Diego, CA, USA

Evidence-Based Medicine
Samuel Keim, Tucson, AZ, United States

International Emergency Medicine
Jeffrey Arnold, San Jose, CA, United States
Christopher Lee, Stony Brook, NY, United States

Computers in Emergency Medicine
James Killeen, La Jolla, CA, United States

Public Health in Emergency Medicine
Jonathan Olshaker, Boston, MA, United States

Violence: Recognition, Management and Prevention
Ellen H. Taliaferro, San Mateo, CA, United States

Ethics
John Jesus, Wilmington, DE, United States

Humanities and Medicine
Richard M. Ratzan, West Hartford, CT, United States

AAEM Clinical Practice
Gary Vilke, La Jolla, CA, United States

Medical Student Forum
Shahram Lotfipour, Orange, CA, USA

Brief Reports
Joshua Joseph, Cambridge, MA, United States
Chad Kessler, Durham, NC, USA

Clinical Reviews in Emergency Medicine
Joseph Martinez, Baltimore, MD, United States
Salvator Vicario, Louisville, KY, United States
Book and Other Media Reviews
Edward J. (Mel) Otten, Cincinnati, OH, United States

Abstracts
Carly Eastin, Little Rock, Arkansas, United States

Statistical Editors
Edward M. Castillo, San Diego, CA, USA
Laurence S. Magder, Baltimore, MD, USA

JEM Podcasts
Matthew Kostura, Cleveland, OH, USA

Editorial Board
Tim Allen, Quebec City, QC, CA
Robert Barish, Shreveport, IL, United States
Stephanie B. Benjamin, San Diego, California, United States
Howard Bessen, Rolling Hills Estates, CA, United States
Barry Brenner, Cleveland, OH, USA
Daniel Danzl, Louisville, KY, United States
Peter E. Doris, Downers Grove, IL, USA
James Ducharme, St. John, New Brunswick, CA
Raymond Fish, Urbana, IL, USA
Teodoro J. Herbosa, Quezon City, Philippines
Kendall Ho, Vancouver, British Columbia, CA
Grant Innes, Vancouver, British Columbia, CA
Gene Kallsen, Freson, CA, USA
Alois F. Karlbauer, Salzburg, Austria
Martin Kohn, Brooklyn, NY, USA
Vincent J. Markovchick, Denver, CO, USA
James Mathews, Chicago, IL, United States
John W. McGill, Minneapolis, MN, United States
Robert McNamara, Philadelphia, PA, United States
Ernest E. Moore, Aurora, CO, United States
Edward Newton, Los Angeles, CA, United States
Charles Perrott, Chicago, IL, United States
Charles V. Pollack, Philadelphia, PA, United States
Thomas Purcell, Bakersfield, CA, USA
Jedd Roe, Royal Oak, MI, United States
Arthur B. Sanders, Tucson, AZ, United States
Stuart P. Swadron, Los Angeles, CA, USA
John Vinen, Sydney, New South Wales, AU
Richard Wolfe, Boston, MA, United States
Allan B. Wolfson, Pittsburgh, PA, United States
GUIDE FOR AUTHORS

Introduction

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

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

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.
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.

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. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

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.

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 from the Journal Homepage for more information.

**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.

**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.

**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 http://ees.elsevier.com/jem.

**Sections**
Please refer to the Section Explanations to determine which article type to select in EES (in other words, which section to submit a manuscript to). Please note that the following sections are for invited manuscripts only: Difficult Airway, Cardiology Commentary, Best Clinical Practice, Technical Tips, Trauma Reports, Harvard Case Presentations, Evidence Based Medicine, and Abstracts.
**Text Basics**

Be sure that all references are cited in numerical order in the text. All tables and figures must be cited in the text, numbered according to the order in which they appear. Data appearing in tables or figures should be summarized, not duplicated, in the text. All data cited in the text should be checked carefully against the corresponding data in the tables to ensure that they correspond. For drugs and chemicals, the generic name should be used at first mention and preferably thereafter. Trade names may appear in parentheses and should be capitalized. Patients' names, initials, or hospital numbers should not be used. Please use North American spelling conventions, i.e., do not use the vowel combination "ae" or "oe" in medical terms. It is preferable to set the language (under Tools) for your document to English (U.S.).

Every effort should be made to avoid medical jargon (such as "high index of suspicion," instead suggest an alternate like be vigilant or high level of suspicion, clinically suspicious, etc.) Use the term emergency physician, not emergency medicine physician, and emergency department (ED) rather than emergency room (ER). Please eliminate the term "and/or" throughout the manuscript and use "or" instead. In this context, "or" implies "and" and is cleaner and more concise. The preferred term is "dysrhythmia," not "arrhythmia" Please spell out "examination" rather than "exam" Temperatures should be given in Celsius; Fahrenheit equivalents may follow in parentheses. Please use ECG instead of EKG. Please spell out "laboratory" rather than "lab" Any ambiguous symbols (e.g., the letter O versus numeral 0, the letter I versus the numeral 1) should be identified.

**Style**

**Sources:** Manuscripts are to be prepared according to the *CBE Style Manual* (5th ed.) by Council of Biology Editors, Inc. (Council of Biology Editors, Inc., Bethesda, MD 20814 USA; 1983). *Dorland's Illustrated Medical Dictionary* (WB Saunders, Philadelphia) should be used for spelling of medical terms, and *Webster's Ninth New International* or New Collegiate dictionaries (G. and C. Merriam Co., Springfield, MO) for spelling and hyphenation of nonmedical terms. For further information on general style (grammar, capitalization, and so on), see *A Manual of Style* (The University of Chicago Press, Chicago).

**Numbers:** Use numerals for all units of measure and time; and for all numbers greater than ten. Spell out the numbers one through ten only for general usage (e.g., "we considered only two possibilities"). Spell out numbers beginning a sentence.

**Referees**

Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our Support site. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

**PREPARATION**

**Required format for manuscript text**

Manuscripts should be organized in one of the following formats: For *interventional studies*: *Introduction, Materials and Methods, Results, Discussion, Limitations* (should be the last paragraph of the Discussion as a separate subheading) and *Conclusions*. For *any paper involving a case report*: *Headings for Introduction, Case Report, Discussion, and Why should an emergency physician be aware of this?* Other descriptive headings and subheadings may be used if appropriate. *Techniques and Procedures* submissions should have separate sections for *Introduction, Discussion, and Conclusions*. Discussion should include all other subheadings (i.e., *Technique*, etc.) *Clinical Reviews* submissions should have separate sections for *Introduction, Discussion, and Conclusions*. Discussion should include all other subheadings. Please include an Article Summary. *Ethics* submissions: Body of manuscript needs sections; *Introduction, Case Report* (if applicable) and, *Discussion* (with subsections) and *Conclusion*. *Visual Diagnosis* submissions need only have sections for; *Introduction, Case Report, and Discussion*, and should not have an abstract. *Letters to the Editor and Reply to the Letter to the Editor* that refer to a specific article in the *Journal* must include the original citation in the reference section. Begin all Letters with the phrase; *To the Editor,*

**Article Summary**

The Article Summary is to be written by the authors and required for all interventional studies and clinical reviews. Other article types do not require an Article Summary.
In the Article Summary, please write out the following four questions (include the questions in the manuscript) and provide brief answers. Limit answers to one or two sentences for the first two questions, and no more than three key findings or three ways patient care is impacted.

1) Why is this topic important?
2) What does this study attempt to show? (change study to review for Clinical Reviews)
3) What are the key findings?
4) How is patient care impacted?

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 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.

Structured Abstract and Keywords
The title of the article should be followed by a structured abstract of no more than 250 words. For any study of interventional design (research study), please include the following sections in the abstract: Background; Objectives; Methods (with optional subheadings of Design, Patients, or Setting); Results; and Conclusion. For any paper involving a case report, please include the following headings in the abstract: Background; Case Report; and "Why should an emergency physician be aware of this?" For Techniques and Procedures, Abstract should have separate headings for Background, Discussion and Conclusions. For Clinical Reviews, Abstract should have separate headings for Background, Objective of the Review, Discussion and Conclusions. Ethics submissions, Abstract should have separate headings for; Background, case report (if applicable),and Discussion Following the abstract, please list five keywords for indexing. Visual Diagnosis, Letters to the Editor, Medical Classics, and Humanities and Medicine sections should not include an abstract.

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).

Abbreviations
No abbreviations should appear in the article title. Please define all abbreviations on first usage in the Abstract and again on first usage in the main body of the text and use abbreviation thereafter. Only standard abbreviations, as recommended in Medical Style and Format by Huth, may be used without definition.
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.

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.

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 style
Authors are responsible for the accuracy and completeness of the references. Type references double spaced and number them consecutively in the order in which they are first mentioned in the text, **not alphabetically**. Identify references in the text, tables, and legends by Arabic numerals in parentheses. References cited only in tables or figure legends should be numbered in accordance with a sequence established by the first mention in the text of the particular table or figure.

Examples of the correct format are as follows:

Journal reference


Book reference


Website reference


"Unpublished observations" and "personal communications" should not appear in the references, but should be inserted in parentheses in the text. Information obtained from manuscripts that have been submitted for publication but not yet accepted should be cited in parentheses in the text: include authors and manuscript title followed by "submitted for publication." Manuscripts that have been accepted for publication but have not yet been published may appear in the reference list: include the authors, manuscript title, and name of journal followed by "in press" in brackets.

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 will, at no cost, receive 25 free paper offprints, or alternatively a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. 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. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

**Author Inquiries**
For inquiries relating to the submission of articles (including electronic submission) or the status of a submission, please contact Terrie Best, Editorial Manager, by telephone (619) 294-3723 or email jemedit@ucsd.edu. For detailed instructions on the preparation of electronic artwork, please visit https://www.elsevier.com/artworkinstructions. Accepted articles can be tracked at https://www.elsevier.com/trackarticle.

For technical support during the submission process, please visit our Support Center.