DESCRIPTION

Hematology, Transfusion and Cell Therapy is a quarterly scientific publication of the Associação Brasileira de Hematologia, Hemoterapia e Terapia Celular (ABHH), Associazione Italo-Brasiliana di Ematologia (AIBE), and Sociedade Brasileira de Oncologia Pediátrica (SOBOPE).

Hematology, Transfusion and Cell Therapy publishes original articles, review articles and case reports covering various areas in the field of hematology and hemotherapy.

ABSTRACTING AND INDEXING

PubMed Central
Emerging Sources Citation Index (ESCI)
Scopus
Directory of Open Access Journals (DOAJ)

EDITORIAL BOARD

Editor-in-Chief
Fernando Ferreira Costa, Department of Clinical Medicine, Universidade Estadual de Campinas, Campinas, Brazil

Deputy Editor
Eduardo Magalhães Rego, Department of Clinical Medicine, Universidade de Sao Paulo, São Paulo, Brazil

Associate Editors
Alfredo Mendrone Jr, Medical Coordination, Faculdade de Medicina, Universidade de Sao Paulo, São Paulo, Brazil
Behnaz Bayat, Department of Clinical Immunology and Transfusion Medicine, Justus Liebig Universitat Giessen, Gießen, Germany
Belinda Pinto Simões, Department of Clinical Medicine, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, Brazil
Carlos Sergio Chiattone, Department of Clinical Medicine, Faculdade de Ciências Médicas da Santa Casa de São Paulo, São Paulo, Brazil
Carmino Antonio Souza, Center for Hematology and Hemotherapy (Hemocentro), Universidade Estadual de Campinas, Campinas, Brazil
Dante Mario Langhi Junior, Department of Clinical Medicine, Faculdade de Ciencias Medicas da Santa Casa de São Paulo Departamento de Saude Coletiva, São Paulo, Brazil
Dimas Tadeu Covas, Department of Clinical Medicine, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil
Elvira Deolinda Rodrigues Pereira Veloso, Department of Hematology and Hemotherapy, Faculdade de Medicina, Universidade de São Paulo, São Paulo, Brazil
Fabiola Traina, Department of Clinical Medicine, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, Brazil
Helio Moraes de Souza, Department of Clinical Medicine, Universidade Federal do Triângulo Mineiro, Uberaba, Brazil
Irene Lorand-Metze, Department of Clinical Medicine, Faculdade de Ciências Médicas, Universidade Estadual de Campinas, Campinas, Brazil
José Orlando Bordin, Department of Medicine, Hematology, Universidade Federal de São Paulo, São Paulo, Brazil
Luis Fernando Bouzas, Coordination of the Centro de Transplante de Medula Óssea (CEMO), Instituto Nacional de Câncer, Rio de Janeiro, Brazil
Marcelo Pasquini, Scientific Board Director, Center for International Blood and Marrow Transplant Research, Milwaukee, United States
Marcio Nucci, Department of Clinical Medicine, Faculdade de Medicina, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil
Marcos Borato Viana, Department of Pediatrics, Faculdade de Medicina, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil
Marcos de Lima, Board for the Programs on Hematologic Malignancy and Bone Marrow Transplant, UH Cleveland Medical Center, Cleveland, United States
Margareth Castro Ozel, Hematology and Hemotherapy Center, Faculdade de Ciências Médicas, Universidade Estadual de Campinas, Campinas, Brazil
Maria Helena Pitombeira, Department of Clinical Medicine, Universidade Federal do Ceará, Fortaleza, Brazil
Maria Stella Figueiredo, Division of Hematology and Hemotherapy, Universidade Federal de São Paulo, São Paulo, Brazil
Marilda Da Souza Gonçalves, Centro de Pesquisa Gonçalo Muniz, Fundaçao Oswaldo Cruz, Salvador, Brazil
Nelson Hamerschlag, Coordination of the Postgraduate Program in Hematology and Hemotherapy, Instituto Israelita de Ensino e Pesquisa Albert Einstein, São Paulo, Brazil
Nelson Spector, Department of Clinical Medicine, Faculdade de Medicina, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil
Nicola Conran, Hemocentro, Faculdade de Ciências Médicas, Universidade Estadual de Campinas, Campinas, Brazil
Paulo Sérgio da Silva Santos, Division of Surgery (Stomach and Radiology), Faculdade de Odontologia de Bauru, Universidade de São Paulo, BAURU, Brazil
Roberto Passetto Falcao, Department of Clinical Medicine, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, Brazil
Sara Teresinha Olalla Saad, Department of Clinical Medicine, Faculdade de Ciências Médicas, Universidade Estadual de Campinas, Campinas, Brazil
Silvia Maria Meira Magalhães, Hematology Service, Hospital Universitário Walter Cantídio, Universidade Federal do Ceará, Fortaleza, Brazil
Suyly Meireles Rezende, Department of Clinical Medicine, Faculdade de Medicina, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil
Rodrigo Tocantins Calado, Department of Clinical Medicine, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil
Valder Arruda, Department of Pediatrics, The Children’s Hospital of Philadelphia, University of Pennsylvania, Philadelphia, United States
Vania Tietsche de Moraes Hungria, Department of Clinical Medicine, Faculdade de Ciencias Medicas da Santa Casa de São Paulo, Brazil
Vanderson Rocha, Division of Hematology and Hemothepoy, Hospital das Clínicas, Universidade de São Paulo, São Paulo, Brazil

Editorial Board
Alois Gratwohl, Stem Cell Transplantation Team, University Hospital of Basel, Basel, Switzerland
Alvaro Urbano-Ispizua, Division of Stem Cell Transplantation and Cellular Immunotherapy, Facultad de Medicina, Universitat de Barcelona, Barcelona, Spain
Andrea Bacigalupo, Department of Radiotherapy, Oncology and Hematology, Fondazione Policlinico Univeristario Agostino Gemelli, Roma, Italy
Angelo Maiolino, Department of Clinical Medicine, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil
Antonio Fabron Júnior, Department of Hematology and Hemothepoy, Faculdade de Medicina de Marilia, Marilia, Brazil
Christian Gisselbrecht, Hematology Institute, Hôpitaux Universitaires Saint-Louis, Paris, France
Corrado Tarella, Department of Clinical Hematology and Oncology, Istituto Europeo di Oncologia, Milan, Italy
Daniel Tabak, Center for Bone Marrow Transplantation, Instituto Nacional do Câncer, Rio de Janeiro, Brazil
David Gómez Almaguer, Department of Internal Medicine, Universidad Autónoma de Nuevo León, San Nicolas de los Garza, Mexico
Elbio D’Amico, Hematology Service, Hospital das Clínicas, Universidade de São Paulo, São Paulo, Brazil
Enric Carreras, Department of Hemotherapy and Hemostasis, Hospital Clínic de Barcelona, Barcelona, Spain
Eugenia Maria Amorim Ubiali, Hemoctrno, Fundación Hemoctrno de Ribeirão Preto, Ribeirão Preto, Brazil
Frederico Luiz Dulley, Department of Clinical Medicine, Faculdade de Medicina, Universidade de São Paulo, São Paulo, Brazil
Gino Santini, Department of Clinical Hematology, Università degli Studi di Genova, Genova, Italy
Guillermo Dighiero, Board of Directors, Institut Pasteur, Montevideo, Uruguay
Guilermo Ruiz-Anguelles, Board of Directors, Centro de Hematologia y Medicina Interna de Puebla, Puebla, Mexico
Jesus Fernando San Miguel, Department of Clinical and Translational Medicine, Universidad de Navarra, Navarra, Spain
João Carlos Pina Saraiva, Technical Board, Centro de Hemoterapia e Hematologia do Pará, Belém, Brazil
Laércio de Melo, External Quality Control Program in Immunohematology, Associação Brasileira de Hematologia, Hemoterapia e Terapia Celular, São Paulo, Brazil
Lilian Maria Castilho, Hematology and Hemotherapy Center, Universidade Estadual de Campinas, Campinas, Brazil
Linamara Rizzo Battistella, Department of Physiatry, Faculdade de Medicina, Universidade de São Paulo, São Paulo, Brazil
Lucia Mariano da Rocha Silla, Clinical Hematology Service, Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil
Marcos Antonio Zago, Biosciences Institute, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, Brazil
Maria de Lourdes Chauffaille, Division of Hematology and Hemotherapy, Escola Paulista de Medicina, Universidade Federal de São Paulo, São Paulo, Brazil
Maria do Socorro Pombo de Oliveira, Coordination of Research, Instituto Nacional de Câncer, Rio de Janeiro, Brazil
Maria Cazzola, Department of Hematology, IRCCS Fondazione San Matteo, Roma, Italy
Mary Evelyn Flowers, Long-Term Follow-Up Clinical Service, Seattle Cancer Care Alliance, Seattle, USA
Nelson Abramim Fraiji, Department of Hematology, Fundação de Hematologia e Hemoterapia do Amazonas, Amazonas, Brazil
Nelson Chao, Department of Medicine, School of Medicine, Duke University, Durham, United States
Paul Ness, Division of Transfusion Medicine, Johns Hopkins University, Baltimore, United States
Pedro Enrique Dhorlliac-Llacer, Hematology Service and Blood Transfusion Division, Hospital das Clínicas, Universidade de São Paulo, São Paulo, Brazil
Paulo Cesar Naoum, Board of Directors, Academia de Ciência e Tecnologia de São José do Rio Preto, São José do Rio Preto, Brazil
Raul Gabus, Department of Hematology and Stem Cell Transplantation, Hospital Maciel, Montevideo, Uruguay
Raul Ribeiro, Department of Pediatric Hematology and Oncology, St. Jude Children’s Research Hospital, Memphis, United States
Ricardo Pasquini, Department of Clinical Medicine, Universidade Federal do Paraná, Curitiba, Brazil
Richard Burt, Chief of Immunotherapy and Autoimmune Diseases, Department of Medicine, Northwestern University, Evanston, United States
Sergio A. Giralt, Department of Internal Medicine, Hematology/Oncology and Medical Oncology, Memorial Sloan Kettering Cancer Center, New York, United States
Vicente Odone Filho, Department of Oncology/Hematology, Child’s Institute, Hospital das Clínicas, Universidade de São Paulo, São Paulo, Brazil
INTRODUCTION

Hematology, Transfusion and Cell Therapy, the official scientific publication of the Associação Brasileira de Hematologia, Hemoterapia e Terapia Celular, aims to promote scientific development in Hematology, Transfusion Medicine and related areas. All manuscripts, after initial acceptance by the editors, will be sent for analysis by two peer reviewers. Anonymity is guaranteed throughout the evaluation process. When considered necessary, a list of modifications will be sent to authors to correct their work or justify their decision not to do so.

The responsibility for opinions expressed in articles is solely that of the authors.

Types of article

The journal publishes the following sections: Original Article, Special Article, Review Article, Updates in the Specialty, Case report, Letter to the Editor, Images in Clinical Hematology, Editorial, Scientific Comment and What is the Evidence. Other types of publications of interest in the area will be published at the discretion of the editors.

• Original Article: Used to publish the results of scientific research, it must be original and should comprise the following: Introduction, Objective, Method, Results, Discussion, Conclusion and References. The work should not exceed 4000 words (including references), up to 6 authors, up to 7 tables, illustrations and photos and up to 30 references.

• Special Article: With the same structure as original articles, Original Articles are reclassified by the Editor depending on their importance.

• Review Articles: Narrative reviews addressing an important issue in the specialty. These articles should not exceed 5000 words (including references), a maximum of 7 tables, Figures and Photos and up to 60 references.

• Update in the Specialty: On a theme, method, treatment etc. It must contain a brief history of the topic, its current state of knowledge and the reasons for the work; study methods (data sources, selection criteria), hypotheses, study lines, etc., criteria similar to review articles.

• Case Report: It should have an introduction with a brief literature review, a description of the case showing significant results for the diagnosis and differential diagnoses (if any), discussion or comments and references. Case reports are not published with abstracts or keywords. It should not exceed 1800 words, two tables, illustrations and photographs, up to four authors and ten references.

• Letters to the Editor: Maximum of 1000 words (including references), three authors, and two illustrations.

• Images in Clinical Hematology: Maximum 100 words, three authors and three references.

• Scientific comments: It will only be accepted by invitation of the editors.

Language

All papers must be submitted in good English.

Submission checklist

You can use this list to carry out a final check of your submission before you submit 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:
  • Keywords (when required)
  • 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.

*Human and animal rights*

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; Uniform Requirements for manuscripts submitted to Biomedical journals. 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.

Experimental studies involving animals should be conducted according to the Ethical Principles for Animal Experimentation recommended by the National Council for the Control of Animal Experimentation (CONCEA, http://www.mct.gov.br/index.php/content/view/363950/E_book_CONCEA.html), Brazilian Law No. 11.794/2008; or equivalent international guidelines. Authors should obtain previous approval from their local Institutional Committee for Ethics in Animal Experimentation or equivalent ethics committee. A statement of protocol approval from an Animal Ethics Committee (CEUA) or equivalent as well permit numbers must be included in the Methods section of the paper.

*Declaration of conflicts 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 conflicts of interest 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.
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.

Contributors
Each author is required to declare his or her individual contribution to the article: all authors must have materially participated in the research and/or article preparation, so roles for all authors should be described. The statement that all authors have approved the final article should be true and included in the disclosure.

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.

Clinical trial results
In line with the position of the International Committee of Medical Journal Editors, the journal will not consider results posted in the same clinical trials registry in which primary registration resides to be prior publication if the results posted are presented in the form of a brief structured (less than 500 words) abstract or table. However, divulging results in other circumstances (e.g., investors' meetings) is discouraged and may jeopardise consideration of the manuscript. Authors should fully disclose all posting in registries of results of the same or closely related work.

Reporting clinical trials
Randomized controlled trials should be presented according to the CONSORT guidelines. At manuscript submission, authors must provide the CONSORT checklist accompanied by a flow diagram that illustrates the progress of patients through the trial, including recruitment, enrollment, randomization, withdrawal and completion, and a detailed description of the randomization procedure. The CONSORT checklist and template flow diagram are available online.

Registration of clinical trials
Registration in a public trials registry is a condition for publication of clinical trials in this journal in accordance with International Committee of Medical Journal Editors recommendations. Trials must register at or before the onset of patient enrolment. The clinical trial registration number should be included at the end of the abstract of the article. A clinical trial is defined as any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects of health outcomes. Health-related interventions include any intervention used to modify a biomedical or health-related outcome (for example drugs, surgical procedures, devices, behavioural treatments, dietary interventions, and process-of-care treatments).
changes). Health outcomes include any biomedical or health-related measures obtained in patients or participants, including pharmacokinetic measures and adverse events. Purely observational studies (those in which the assignment of the medical intervention is not at the discretion of the investigator) will not require registration.

**Copyright**
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this) to assign to the Associação Brasileira de Hematologia, Hemoterapia e Terapia Celular (ABHH) the copyright in the manuscript and any tables, illustrations or other material submitted for publication as part of the manuscript (the "Article") in all forms and media (whether now known or later developed), throughout the world, in all languages, for the full term of copyright, effective when the Article is accepted for publication. 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.

**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.

**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 https://www.editorialmanager.com/htct.

PREPARATION

Double-blind review
This journal uses double-blind review, which means the identities of the authors are concealed from the reviewers, and vice versa. More information is available on our website. To facilitate this, please include the following separately:

Title page (with author details): This should include the title, authors' names, affiliations, acknowledgements and any Declaration of Interest statement, and a complete address for the corresponding author including an e-mail address.
Blinded manuscript (no author details): The main body of the paper (including the references, figures, tables and any acknowledgements) should not include any identifying information, such as the authors’ names or affiliations.

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, including ORCID ID. Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. 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. Author affiliations should be presented in decreasing hierarchical order (e.g. Harvard University, Harvard Business School, Boston, USA) and should be written as established in its own language (e.g. Universit Paris-Sorbonne; Harvard University, Universidade de So Paulo). The ORCID ID must be inserted in all authors profile. To that Click 'Change Details' to update the 'My Information' page, Select 'Link to ORCID'. The ORCID website will open in a new window: Enter your ORCID username and password. If any of the authors does not have an ORCID ID, it can be registered at https://orcid.org/register.

**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.

**Abstract**
A concise and factual abstract of not more than 250 words is required. For Original Articles this should be structured with background, method, main results and conclusion. For the other article types, the abstract need not be structured but should contain information illustrating the importance of the work. For clinical trials, indicate the International Clinical Trials Registry Number below the summary. Non-standard or uncommon abbreviations should be avoided in the title, abstract, and keywords, but if essential they must be defined at their first mention in the abstract itself.

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).

**Keywords**
Immediately after the abstract, provide a maximum of 5 keywords, which define the theme of the paper. The keywords should be based on MeSH (Medical Subject Headings) from the National Library of Medicine. Please avoid 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.
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.

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
Image manipulation
Whilst it is accepted that authors sometimes need to manipulate images for clarity, manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly. For graphical images, this journal is applying the following policy: no specific feature within an image may be enhanced, obscured, moved, removed, or introduced. Adjustments of brightness, contrast, or color balance are acceptable if and as long as they do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

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.
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 style
Indicate references by superscript numbers in the text. The actual authors can be referred to, but the reference number(s) must always be given.
References should always be numbered in the order they appear in the text. The format must be based on the Uniform Requirements for Manuscripts Submitted to Biomedical Journals guidelines proposed by the International Committee of Medical Journal Editors and updated in 2009, as follows: the titles of journals should be abbreviated following the List of Journals Indexed in Index Medicus of the National Library of Medicine (http://www.ncbi.nlm.nih.gov/sites/entrez). Cite the first six authors after which add the words et al.

**Examples of references:**

*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.

**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).

**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.

**AUTHOR INQUIRIES**

Visit the [Elsevier Support Center](https://www.elsevier.com) to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.

© Copyright 2018 Elsevier | [https://www.elsevier.com](https://www.elsevier.com)