DESCRIPTION

An Official Publication of Delhi Orthopaedic Association

*Journal of Clinical Orthopaedics and Trauma* (JCOT) aims to provide its readers with the latest clinical and basic research, and informed opinions that shape today's orthopedic practice, thereby providing an opportunity to practice evidence-based medicine. With contributions from leading clinicians and researchers around the world, we aim to be the premier journal providing an international perspective advancing knowledge of the musculoskeletal system.

JCOT publishes content of value to both general orthopedic practitioners and specialists on all aspects of musculoskeletal research, diagnoses, and treatment. We accept following types of articles:

- Original articles focusing on current clinical issues.
- Review articles with learning value for professionals as well as students.
- Research articles providing the latest in basic biological or engineering research on musculoskeletal diseases.
- Regular columns by experts discussing issues affecting the field of orthopedics.
- "Symposia" devoted to a single topic offering the general reader an overview of a field, but providing the specialist current in-depth information.
- Video of any orthopedic surgery which is innovative and adds to present concepts.
- Articles emphasizing or demonstrating a new clinical sign in the art of patient examination is also considered for publication.

Contributions from anywhere in the world are welcome and considered on their merits. The manuscript must be written in English and should be submitted as outlined in the *Guide for Authors*.

Manuscripts are subject to blinded peer review by experts and a final decision by the editor. Papers are judged by the quality and relevance of the work. Our aim is to publish the best material available from anywhere in the world.

**Benefits to authors**

We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our *author services*.
Please see our Guide for Authors for information on article submission. If you require any further information or help, please visit our Support Center.

**ABSTRACTING AND INDEXING**

PubMed/Medline
Gale Academic OneFile
EBSCOhost
TOC Premier
Index Copernicus
Scopus
PubMed Central
Embase

**EDITORIAL BOARD**

*Editor-in-Chief*
Raju Vaishya, Indraprastha Apollo Hospitals Institutes of Orthopaedics, New Delhi, India

*Executive Editors*
Lalit Maini, Maulana Azad Medical College, Dept. of Orthopaedic Surgery, New Delhi, India
Rajesh Malhotra, All India Institute of Medical Sciences Department of Orthopaedics, New Delhi, India

*Associate Editors*
A. A. Shetty, Canterbury Christ Church University Institute of Medical Sciences, Chatham, United Kingdom
Abid Haleem, Jamia Hamdard School of Engineering Sciences and Technology, New Delhi, India
Aditya Vikram Maheshwari, State University of New York (SUNY), Department of Orthopaedic Surgery, Downstate Medical Center, Brooklyn, New York, United States
Ajit Deshmukh, VA New York Harbor Healthcare System, NYU Langone Medical Center, Department of Orthopaedic Surgery, New York, New York, United States
Atul Joshi, Covenant Medical Center - 19th Street Campus, Lubbock, Texas, United States
Birendra Balain, Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, United Kingdom
Bhavuk Garg, All India Institute of Medical Sciences Department of Orthopaedics, New Delhi, India
Gurpal Singh, National University Hospital, Singapore, Singapore
Jack Farr, Cartilage Restoration Center of Indiana, Greenwood, Indiana, United States
James P Hui, National University Hospital, Department of Orthopaedics, Singapore
Jugal Kishore, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi, India
Kamal Bose, Mount Elizabeth Medical Centre, Singapore, Singapore
M S Dhillon, Post Graduate Institute of Medical Education and Research Department of Orthopaedics, Chandigarh, India
Ramesh Sen, Max Hospital, Institute of Orthopedic Surgery, Mohali, Punjab, India
Rohini Handa, Indraprastha Apollo Hospital, New Delhi, India
Saket Tibrewal, University Hospital Lewisham, Department of Trauma & Orthopaedic Surgery, Lewisham & Greenwich NHS Trust, High Street, London, United Kingdom
S Rajasekharan, Ganga Medical Centre and Hospitals Pvt Ltd, Coimbatore, India
Saurabh Ghosh, Indian Institute of Technology Delhi, New Delhi, India
Ujjwal Debnath, AMRI Hospitals, Kolkata, India
Videsh Raut, Wrightington Hospital, Wigan, United Kingdom
Vikas Khanduja, Addenbrooke’s Hospital, Cambridge, United Kingdom
Vivek Trikha, Jai Prakash Narayan Apex Trauma Center AIIMS, New Delhi, India
Norimasa Nakamaru, Osaka Health Science University Graduate School Sports Medical Science Laboratory, Osaka, Japan

*Assistant Editors*
Abhishek Vaish, Indraprastha Apollo Hospitals Institutes of Orthopaedics, New Delhi, India
Ajay Aggarwal, UM Health Missouri Orthopaedic Institute, Columbia, Missouri, United States
Akshay Tiwari, Max Hospital Saket, Department of Orthopaedic Oncology, New Delhi, India
Alok Sud, Smt Sucheta Kripiani Hospital Department of Orthopedics, New Delhi, India
Amit Kumar Agarwal, Indraprastha Apollo Hospitals Institutes of Orthopaedics, New Delhi, India
Anand Arya, King's College Hospital Department of Orthopaedics, London, United Kingdom
Ankit Goyal, Vardhman Mahavir Medical College and Safdarjung Hospital Sports Injury Centre, New Delhi, India
Ashish Upadhyay, Bristol Hospital, Bristol, Connecticut, United States
Bijayendra Singh, Medway NHS Trust, Consultant Orthopaedic Surgeon, United Kingdom
Bikram Shrestha, BP Koirala Institute of Health Sciences, Dharan, Nepal
GUIDE FOR AUTHORS

INTRODUCTION

Journal of Clinical Orthopaedics and Trauma is the official, peer-reviewed publication of the Delhi Orthopaedic Association. The Journal is published quarterly (March, June, September and December) by Elsevier, a division of Reed-Elsevier (India) Private Limited. It is circulated to all bona fide members of Delhi Orthopaedic Association, all medical college libraries of India and subscribers.

The Journal accepts original articles on clinical or laboratory research in the field of Clinical Orthopaedics and Trauma and review articles on topics of current interest. In addition, the Journal features articles of educational value to postgraduate students. Delhi Orthopaedic Association has taken new initiatives to foster Clinical Orthopaedics and Trauma Care across the country. The association has over 800 members and as a group, is making a large contribution to international literature. Besides there are problems specific to this region and the solutions for these need to be exchanged and this Journal would make a great contribution to disseminate the knowledge amongst members. The Editorial Board comprises 49 eminent Orthopaedic surgeons from India and abroad. Although preference is given to original work carried out in the Indian subcontinent, contributions are welcome from across the world.

Article categories

The categories of articles that are published in the Journal are listed and described below. Please select the category that best describes your paper. The authors must also make sure that they adhere to following general guidelines:

- Keep the duplicity rate of your manuscript, to the most minimum. We do not accept plagiarism and all the manuscripts found to have substantial duplicity score will be rejected without any reviews.
- We only accept very novel or exceptional case reports.
- All the prospective studies must produce an evidence of Ethical Committee approval.
- All the Systematic reviews and Meta-analyses must be done as per PRISMA guidelines and should preferably be registered with PROSPERO.

The figures and diagrams must be of good quality, with high resolution.

Review Articles

These should aim to provide the reader with a balanced overview of an important and topical subject in Orthopaedic medicine, emphasizing factors such as cause, diagnosis, prognosis, therapy or prevention. They should cover aspects of a topic in which scientific consensus exists as well as aspects that remain controversial and are the subject of ongoing scientific research. All articles and data sources reviewed should include information about the specific type of study or analysis, population, intervention, exposure, and tests or outcomes. All articles or data sources should be selected systematically for inclusion in the review and critically evaluated.

While review articles are usually submitted by invitation only, unsolicited review articles will also be given due consideration.

Format guide

- Word limit: 3500 words (excluding abstract and references)
- References: 50 or less
- Abstract: up to 500 words, unstructured (i.e., no subheadings)
- Tables/Figures: no limit, but data in text should not be repeated extensively in tables or figures

Full Length Articles

These articles typically include randomized trials, intervention studies, studies of screening and diagnostic tests, laboratory and animal studies, cohort studies, cost-effectiveness analyses, case-control studies, and surveys with high response rates, which represent new and significant contributions to Orthopaedics.

Section headings should be: Abstract, Introduction, Methods, Results, Discussion, Conflicts of Interest Statement (if any), Acknowledgments (if any), and References. The Introduction should provide a brief background to the subject of the paper, explain the importance of the study, and state a precise study question or purpose. The Methods section should describe the study design and methods (including the study setting and dates, patients/participants with inclusion and exclusion criteria, patient samples or animal specimens used, the essential features of any interventions, the main outcome measures, the laboratory methods followed, or data sources and how these were selected for the study), and state
the statistical procedures employed in the research. The Results section should comprise the study results presented in a logical sequence, supplemented by tables and/or figures. Take care that the text does not repeat data that are presented in tables and/or figures. Only emphasize and summarize the essential features of the main results. The Discussion section should be used to emphasize the new and important aspects of the study, placing the results in context with published literature, the implications of the findings, and the conclusions that follow from the study results.

Format guide
- Word limit: 3000 words (excluding abstract and references)
- References: 40 or less
- Abstract: up to 500 words, structured (i.e., with the section headings Background, Methods, Results and Conclusion)
- Tables/Figures: no limit, but data in text should not be repeated extensively in tables or figures

Case Reports
These are short discussions of a case or case series with unique features not previously described that make an important teaching point or scientific observation. They may describe novel techniques or use of equipment, or new information on diseases of importance. Section headings should be: Abstract, Introduction, Case Report, Discussion, Conflicts of Interest Statement (if any), Acknowledgments (if any), and References. The Introduction should describe the purpose of the present report, the significance of the disease and its specificity, and briefly review the relevant literature. The Case Report should include the general data of the case, medical history, family history, chief complaint, present illness, clinical manifestation, methods of diagnosis and treatment, and outcome. The Discussion should compare, analyze and discuss the similarities and differences between the reported case and similar cases reported in other published articles. The importance or specificity of the case should be restated when discussing the differential diagnoses. Suggest the prognosis of the disease and possibility of prevention.

Most Case Reports shall be published in the online version of the journal. This does not alter the citability of such articles in any way, as all such articles will have a DOI and full citation details.

Format guide
- Word limit: 1000 words (excluding abstract and references)
- References: 10 or less
- Abstract: up to 500 words, unstructured (i.e., no subheadings)
- Tables/Figures: no limit, but data in text should not be repeated extensively in tables or figures

Letters to the Editor
We welcome letters to the Editor on matters of general orthopaedic concern or about recently published articles. Such letters will be subjected to selection and editing; where appropriate, the authors of the original article will be invited to reply. The letter should be double-spaced throughout, signed by all authors, and fully referenced. The edited version will be returned for approval before publication.

Format guide
- Word limit: 500 words (excluding references)
- References: 5 or less
- Tables/Figures: 1 table or 1 figure
- Begin with "Dear Editor"
- No subheadings

Contact Details
Please contact the Editorial Office at JCOT@elsevier.com for general queries.

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
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.

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').

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

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.

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.

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.

**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.

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

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

Submit your article

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**
Manuscripts must conform to the instructions given below:

**General**
Type the manuscript using 'Times New Roman' font, size 12 in double space throughout. Please arrange the manuscript as follows: Title page, Abstract, Introduction, Methods, Results, Discussion, and References. Number all pages consecutively, beginning with the title page. All figures and Tables must be referred to in the manuscript. Consult a recent issue of the Journal for details. Only the Title page should bear the names and addresses of the author(s). Editorials, perspective and review articles are generally by invitation. However if you are interested in writing a review/perspective, you can send an email to the editor with the topic and a short summary of contents to be included. The editor will convey his decision in 7-10 days' time.

**Length of articles**
Text of original articles should be between 2000 and 3000 words. The article should not ordinarily contain more than 3 tables, 2 figures and 30 references. Case Reports are accepted only if they can be converted into 'What is your diagnosis?' format (please consult a recent issue of the Journal). Briefly, the format consists of case report of about 500 words, 4 figures and up to 5 references. Letters discussing or criticizing material published recently in the Journal, brief presentations of data, or those pertaining to issues of relevance to health policy, practice of medicine, or the like, are welcome. These should not exceed 500 words, 1 table and 5 references.
**Peer review**
This journal operates a double blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.

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

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

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

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

**Results**
Results should be clear and concise.

**Discussion**
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

**Conclusions**
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.
Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information
• **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

  • **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a 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.

**Title page**
In animal studies, the title should state the species; all other titles will refer to human studies. State names of authors (including first names), the departments and the institution where the work was done. Please do not add your academic qualifications, designation etc. State contribution of each author clearly. A short, running title, not exceeding 40 characters, should be provided. Please provide the name, postal address with PIN code, facsimile number and E-mail address of the author to whom communications and proofs are to be sent. Acknowledgements, if any, may be mentioned on this page.

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

**Keywords**
Immediately after the abstract, provide a maximum of 5 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

**Abbreviations**
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

**Acknowledgements**
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].
It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

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

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

**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/halftone (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) in addition to color reproduction in print. 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**
Number the references in the order in which they first appear in the text and identify the reference numbers in the text in superscript. References must be placed at the end of the manuscript. Please use recent references as much as possible. The responsibility for accuracy of references lies with the respective authors. The Journal is in agreement with the International Committee of Medical Journal Editors (http://www.icmje.org). The general arrangement, abbreviations of Journal names and punctuations followed are as per the Uniform Requirements for Manuscripts submitted to Biomedical Journals (http://www.icmje.org). Please pay attention to the style of references and punctuations as follows:

**Journal article**
List all authors when six or less as shown in the example below: Tallon D, Chard J, Dieppe P. Exploring the priorities of patients with osteoarthritis of the knee. *Arthritis Care and Res* 2000;13:312–9.

When there are seven or more authors, list only the first six and add et al.

**Book or monograph**

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

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

Examples:

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 sequences 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.

**Editorial process**

All articles submitted to the Journal undergo initial review by the Editor/associate editor and articles that are outside the scope of Journal or are not in the journal format are excluded. Later each article is reviewed by at least two reviewers. The time to first decision is usually less than 6 weeks. As per the policy of the Journal, an Editor, who is either author of a manuscript or belongs to the same institution as any of the authors, is not assigned that manuscript and is not involved in decision-making regarding its publication.
Reviewers/Editorial Board members should decline the invitation to review a manuscript which is submitted by authors from their institution.

**AFTER ACCEPTANCE**

**Online proof correction**

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

If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

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

**Offprints**

The corresponding author, at no cost, will be provided with a personalized link providing 50 days free access to the final published version of the article on ScienceDirect. This link can also be used for sharing via email and social networks. 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 WebShop (http://www.elsevier.com/offprints).

Authors requiring printed copies of multiple articles may use Elsevier WebShop's 'Create Your Own Book' service to collate multiple articles within a single cover (http://www.elsevier.com/offprints).

**AUTHOR INQUIRIES**

Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.

You can also check the status of your submitted article or find out when your accepted article will be published.

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