**TABLE OF CONTENTS**

- Description p.1
- Impact Factor p.1
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.3

**DESCRIPTION**

The *Journal of Cardiovascular Computed Tomography* is a unique peer-review journal that integrates the entire international cardiovascular CT community including cardiologist and radiologists, from basic to clinical academic researchers, to private practitioners, engineers, allied professionals, industry, and trainees, all of whom are vital and interdependent members of our cardiovascular imaging community across the world. The goal of the journal is to advance the field of cardiovascular CT as the leading cardiovascular CT journal, attracting seminal work in the field with rapid and timely dissemination in electronic and print media.

The Journal addresses a broad range of topics that affect cardiovascular CT imaging. Our major focus is on original research and on the clinical and technical aspects of cardiovascular CT. Other sections include Contemporary and Historical Reviews, unique Case Reports, Viewpoints, Practical Tips and Tricks, Images with videos viewable on the Internet, Guidelines, Editorial Commentaries, Basic/Clinical Implications, Historical Vignettes and news developments in cardiovascular CT. As the Official Journal of the Society of Cardiovascular CT, we also publish the Plenary address given at the annual Scientific Sessions of SCCT each summer.

We publish position papers and important news information for SCCT members about the Society, and supplement issues, including the abstracts from the Annual Scientific Session.

To encourage and promote excitement in performing research, each year we recognize leading clinicians and researchers, and recognize outstanding cardiology and four outstanding radiology trainees for their work in the field.

The Editorial Board includes internationally prominent individuals who are devoted to advancement of the science of cardiovascular CT.

**IMPACT FACTOR**

2016: 3.185 © Clarivate Analytics Journal Citation Reports 2017
ABSTRACTING AND INDEXING

EMBASE/Excerpta Medica
Scopus
Medline/Index Medicus
PubMed
Science Citation Index Expanded
Current Contents / Clinical Medicine

EDITORIAL BOARD

Editor-in-Chief
S. Achenbach, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

Associate Editors
S. Abbara, Massachusetts General Hospital, Boston, Massachusetts, USA
M.H. Al-Mallah, King Abdulaziz Medical City, Riyadh, Saudi Arabia
F Bamberg, Ludwig-Maximilians-Universität München (LMU), München, Germany
D.S. Berman, Cedars-Sinai Medical Center, Los Angeles, California, USA
R Blankstein, Brigham and Women’s Hospital and Harvard Medical School, Boston, Massachusetts, USA
M. Chen, National Institute of Health (NIH), Bethesda, USA
D. Dey, Cedars-Sinai Medical Center, Los Angeles, California, USA
A.J. Einstein, Columbia University Medical Center, New York, New York, USA
M. Ferencik, Massachusetts General Hospital, Boston, Massachusetts, USA
S.S. Halliburton, Cleveland Clinic, Cleveland, Ohio, USA
J. Hausleiter, Technische Universität München, Munich, Germany
S. Kuribayashi, Keio University School of Medicine, Tokyo, Japan
J.A. Leipsic, St. Paul’s Hospital, Vancouver, British Columbia, Canada
M. Marwan, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
J.K. Min, Cedars-Sinai Medical Center, Los Angeles, California, USA
K Nieman, Erasmus MC: Universitair Medisch Centrum Rotterdam, Rotterdam, Netherlands
A. Schmermund, Cardioangiologisches Centrum Bethanien, Frankfurt, Germany
P. Schoenhagen, Cleveland Clinic, Cleveland, Ohio, USA
M. Shapiro, Oregon Health and Science University (OHSU), Portland, Oregon, USA
M.B. Srichai-Parsia, MedStar Georgetown University Hospital, Washington, Washington, USA
Q. Truong, Weill Medical College and the New York Presbyterian Hospital, New York, New York, USA
T.C. Villines, Walter Reed National Military Medical Center, Bethesda, Maryland, USA

Editorial Board
R.S. Blumenthal, Johns Hopkins University, Baltimore, Maryland, USA
M.Y. Desai, Cleveland Clinic Foundation, Cleveland, Ohio, USA
J. Dodd, St. Vincent's University Hospital Dublin, Dublin, Ireland
U. Hoffmann, Massachusetts General Hospital, Boston, Massachusetts, USA
S Kuribayashi, Keio University, Tokyo, Japan
A. Leber, Heart Center Munich Bogenhausen, Munich, Germany
J. Lesser, Abbott Northwestern Hospital, Maple Plain, Minnesota, USA
S. Möhlenkamp, Universitätsklinikum Essen, Essen, Germany
J. Mahmarian, Methodist Hospital, Houston, Texas, USA
C. McCollough, Mayo Foundation for Med Education & Research, Rochester, Minnesota, USA
X. Pan, University of Chicago, Chicago, Illinois, USA
M. Ridner, Heart Center, Inc., Huntsville, Alabama, USA
F. Rybicki, Brigham and Women's Hospital, Boston, Massachusetts, USA
S. Voros, Stony Brook University Medical School, Stony Brook, New York, USA
C.S. White, University of Maryland, Blacksburg, Virginia, USA

Emeritus Editor
A.J. Taylor, Washington, District of Columbia, USA
STATEMENT OF PURPOSE
The Journal of Cardiovascular Computed Tomography (JCCT) is an established, Medline-indexed peer-reviewed journal that integrates the entire international cardiovascular CT community including cardiologists and radiologists, from basic to clinical academic researchers, to private practitioners, engineers, allied professionals, industry and trainees—all of whom are vital and interdependent members of the global cardiovascular imaging community. Publishing timely information rapidly both online and in print, the Journal addresses a broad range of topics that affect cardiovascular CT imaging. It focuses primarily on original research and the clinical and technical aspects of cardiovascular CT but also publishes reviews, unique images with a focus on multi-modality validation, editorial viewpoints, practical diagnostic and management tips, clinical trial designs, and multimedia elements, with videos and images viewable on the journal’s full-text website. The Journal publishes official SCCT guidelines and communications of interest for the SCCT membership. Particular attention is placed on the inclusion of high quality medical graphics. Supplement issues include the abstracts from the Society's Annual Scientific Sessions and occasional peer-reviewed sponsored symposia and topical monograph proceedings of relevance to members.

Manuscript Categories
Original Research Review article Technical report Case Report Practical Tips/Tricks Editorial Correspondence Book Review

Unsolicited Contributions
Original Research
The Journal encourages the submission of manuscripts of original data from animal, pre-clinical, clinical and technical investigations. Such publications require detailed description of the background, research methodology, results and discussion as outlined in the Instructions for Authors. Clinical trials should be properly registered at www.clinicaltrials.gov and the NCT registration number should be provided in the manuscript. Although length is not specified for original articles, in general the manuscript should not exceed 4000 words (all inclusive) and 20 double-spaced typed pages in total, including 8 up to 8 figures, 4 tables, and 30 references.

Review articles
Comprehensive, clinically-oriented review papers on topics within cardiovascular CT. Review manuscripts are encouraged to incorporate systematic review methodology, and undergo critical peer review to ensure accuracy and balance. Review articles should contain a brief abstract and should be approximately 4000 words (all inclusive), including references (limited to 30), tables, and figures.

Technical Reports
Technical reports describe a new technology, application or observation, and are typically used to report initial, preliminary or hypothesis-generating studies. The report should contain an abstract, a brief introduction, and full methods and results sections. There is a strict word limit of 1500 words which includes the abstract, tables and figure legends. A total of 3 figures and 15 references are permitted

Case Report
Case Report should contain concise statements on patient presentation and further management and must not exceed 300 words. High-quality figures are indispensable. Figure legends are not to be provided separately, much rather, the figures should be referred to and, if necessary, explained, in the body of the manuscript. No abstract is required and no more than two references are permitted.

Practical Tips/Tricks
Brief, focused discussions on a practical aspect for improving performance and interpretation of cardiovascular CT. There is a strict word limit of 1500 words which includes the abstract, tables and figure legends.

Editorials
Editorials are invited manuscripts that usually accompany an Original Research article in the same issue of the Journal of Cardiovascular Computed Tomography. They comment on the specific findings within the Original Research article, highlight particularly important aspects, and point out areas that require further clarification. An important aspect is to put the newly reported findings in the context...
of already published research results. Editorials usually have no more than 1500 words. An abstract is not required. Figures and tables are usually not included, but exceptions can be made. Up to 15 references are permitted.

**Correspondence**
Letters, either concerning a published manuscript or discussing topics of general interest, should be double-spaced, not exceeding 450 words. Letters will be reviewed and are subject to editing. They should not contain original data or figures. If accepted for publication, a copy of the letter will be sent to the author(s) of the original article, if applicable. The author(s) will have an opportunity to respond with new material that will be considered for publication with the letter. Correspondence is usually published electronically only.

**Book Reviews**
Newly published books may be sent to the Editor in Chief for consideration of review.

**Invited Articles**
All invited manuscripts will undergo the regular peer review process and are not to be considered guaranteed publications until the author is notified as such. Potential authors are encouraged to contact the editorial office if they are interested in contributing a manuscript.

**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.

All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations within three years of beginning the submitted work that could inappropriately influence, or be perceived to influence, their work. See also http://www.elsevier.com/conflictsofinterest.
Journal of Cardiovascular Computed Tomography requires full disclosure of all potential conflicts of interest. Please include the disclosure form along with manuscript submission. The corresponding author is responsible for preparing and sharing a copy of this form for each and every co-author listed on the manuscript. Each and every co-author must complete and sign their individual form and return to the corresponding author. The corresponding author is responsible for uploading their form and those of their co-authors (as one document) at the submission process. Investigators should disclose potential conflicts to participants in clinical trials and other studies and should state in the manuscript whether they have done so. Journal of Cardiovascular Computed Tomography may decide not to publish on the basis of a declared conflict, such as the financial interest of an author in a company (or its competitors) that makes a product discussed in the paper.

When authors submit a manuscript, whether an article or a letter, they are responsible for disclosing all financial and personal relationships that might bias their work. To prevent ambiguity, authors must state explicitly whether potential conflicts do or do not exist.

Further information and an example of a Conflict of Interest form can be found at: http://service.elsevier.com/app/answers/detail/a_id/286/supporthub/publishing.

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.

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.

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

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

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

Author rights
As an author you (or your employer or institution) have certain rights to reuse your work. [More information]

Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.

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

Funding body agreements and policies
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online.

After acceptance, open access papers will be published under a noncommercial license. For authors requiring a commercial CC BY license, you can apply after your manuscript is accepted for publication.

Open access
This journal offers authors a choice in publishing their research:

Subscription
- Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs.
- No open access publication fee payable by authors.
- The Author is entitled to post the accepted manuscript in their institution’s repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

Gold open access
- Articles are freely available to both subscribers and the wider public with permitted reuse.
- A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:

Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)
For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is USD 2750, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

Green open access
Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our green open access page for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution’s repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. Find out more.

This journal has an embargo period of 12 months.
Language (usage and editing services)
Manuscripts must be written in good English (American or British usage is accepted, but not a mixture of these). Manuscripts may be rejected for poor language before entering the formal review process. 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 WebShop.


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
Manuscripts must be submitted through it Internet-based Manuscript Submission System, EES, at https://ees.elsevier.com/JCCT or through the Submit Manuscript button at its full-text site at www.CardiacCTJournal.com:

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.

MANUSCRIPT and FIGURE PREPARATION - General instructions
Manuscripts should be typed, double spaced with 1 inch margins using Arial font (12 point).

For text files, Microsoft Word is preferred.

Black and white illustrations accompanying editorial text shall be reproduced without charge to authors. All color art submitted to the Journal will appear in color in the full-text online version of the Journal at no charge to the authors. The Editor-in-Chief will choose ten 4-color illustrations per issue, and these will be published as color illustrations in the print Journal without cost to the authors. Priority of these free color images will be given to solicited manuscripts. Authors will be notified if the Editor-in-Chief designates any of their illustrations as free.

The cost of color illustrations will be charged to the authors at the rate of $650 per color illustration for the first color figure in each article and $100 for each additional 4-color figure in that article. Authors may also choose to convert color illustrations to black and white.

MANUSCRIPT FORMAT
Manuscripts must be properly formatted in order to enter the peer review process. Proper formatting includes meeting exact specifications for length, sections (including the abstract), and references.

Authors whose native language is not English are STRONGLY advised to seek appropriate grammatical assistance. Poorly written manuscripts are at a disadvantage. International Science Editing and Asia Science Editing can provide English language and copyediting services to authors who want to publish in scientific, technical and medical journals and need assistance before they submit their article or, before it is accepted for publication. Authors can contact these services directly: International Science Editing (http://www.internationalscienceediting.com) and Asia Science Editing (http://www.asiascienceediting.com) or, for more information about language editing services, please visit our Support Center.
Arrange the contents in the following order: Cover letter (save as a separate file for upload) Title page (Include degrees for all authors and corresponding author contact information, and all conflicts of interest; save as a separate file for upload) Abstract (Required for original and review articles) Key words (5-10) List of abbreviations used in the manuscript (Limit use to only those that are commonly accepted and adhere to the terminology in Weigold WG, et al; Standardized medical terminology for cardiac computed tomography; a report of the Society of Cardiovascular Computed Tomography. J Cardiovasc Comput Tomogr. 2011; 5:136-44.) Text (Double-spaced, single columned with a minimum of 1-inch margins on all four edges.) References (Cite all authors) Figure legends Tables (save as separate files for upload) Figures (save each as a separate file for upload, or compress all into one ZIP file for upload; the system will unpack a .zip file automatically and allow you to properly identify each figure file. Go to www.winzip.com for a free trial of this compression software.)

**Cover letter:** A cover letter should be submitted under the signature of the corresponding authors detailing the following characteristics: Manuscripts submitted must be original, with no portion under simultaneous consideration for publication elsewhere or previously published, except for abstracts published as part of a scientific meeting. Include only authors who have made an important contribution to the study and are thoroughly familiar and can warrant their contribution to the Editor. All authors are responsible for the contents and must have read and approved the manuscript and conform to the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" published in Annals of Internal Medicine (1997;126:36-47). Studies involving experimental animals and humans must conform to the guiding principles of the Declaration of Helsinki, and human subjects must have given informed consent of a study that has been approved by the Institutional Committee on Human Research at the authors' institution. Any financial or other relations must be disclosed in accordance with the IMJE standards (http://www.icmje.org). Clinical trials will only be published if they were properly registered at www.clinicaltrials.gov. Cover letters must include affirmation of the above.

**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.

**Methods**
Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

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

**Discussion**
This should explore the significance of the results of the work, not repeat them. It is important to put the new findings in context with published literature, but avoid extensive citations and discussion of published articles unless they directly relate to the specific topic. A possible structure for a meaningful Discussion selection is to start by a brief descriptive summary of the observations made, to then
compare these observations to what has been previously published, subsequently state the limitations of the current research, and finally describe clinical or other implications that are justified in spite of the limitations.

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 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.

Title Page
• Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
• Include a short title of fewer than 50 characters, author' full names, academic degrees, and affiliations. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. 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. Ensure that phone numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address. Contact details must be 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
Editorial comments and letters to the editor do not require an abstract. All others should contain an abstract as outlined below:

Original Research, Technical Report: The abstract has up to 250 words. Sections are Background, Methods, Results, and Conclusion, the latter stating the importance and potential implications of the observations. No references are included. Following the abstract, list 5 to 10 key words suitable for indexing.

Reviews, Practical Tips and Tricks:: The abstract has up to 250 words. It is not structured in sections, but should start with a background statement (justify relevance to readership), and continue to provide an informative, content-based summary of the findings of the review. It should end with a conclusion that summarizes the relevance of the reviewed topic. Avoid a non-informative listing of the "topics covered" in the article.

TOC Summary
Original Research, Technical Report, Review, Practical Tips and Tricks: Include a short summary (not exceeding 100 words) that describes the article. This summary would be used in the table of contents when the article is published in an issue.

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.

Use of excessive abbreviations diminishes the readability of manuscripts and should there be strongly avoided. Abbreviations should be used only for common terms that appear at a high frequency in the manuscript. For more information on appropriate abbreviations, see Weigold WG, et al. Standardized medical terminology for cardiac computed tomography: a report of the Society of Cardiovascular Computed Tomography. J Cardiovasc Comput Tomogr. 2011; 5:136-44.
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.
A detailed guide on electronic artwork is available.

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

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply ‘as is’ in the native document format. Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please ‘Save as’ or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

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

**Color artwork**

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

**Illustration services**

Elsevier's WebShop 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 encouraged.

A DOI can be used to cite and link to electronic articles where an article is in-press and full citation details are not yet known, but the article is available online. A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.
Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

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

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

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

List: Number the references in the list in the order in which they appear in the text.
Examples:
Reference to a journal publication:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:
Reference to a dataset:

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.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

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

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

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

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. Before submitting your article, you can deposit the relevant datasets to Mendeley Data. Please include the DOI of the deposited dataset(s) in your main manuscript file. 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 in Brief
You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed and published in the open access data journal, Data in Brief. Please note an open access fee of 500 USD is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief.

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

AFTER ACCEPTANCE
Online proof correction
Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors. If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints
The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Webshop. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

Responsibility
Manuscripts are subject to editorial modification to bring them into conformity with the style of the journal. Statements in articles or opinions expressed by any contributor in any article, including changes made by the copy editor and approved by the corresponding author, are not the responsibility of the editors or the publishers.

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