The Journal's mission is to provide the most current and impactful source of clinical and scientific knowledge and evidence in pediatric surgery. The Journal aims to improve the surgical care of infants and children, not only through advances in physiology and pathology, but also by attention to the unique physical and non-physical needs of the young patient.

Case studies with five or fewer patients should be submitted to the Journal's open access companion title, *Journal of Pediatric Surgery Case Reports*. Another sister publication, *Journal of Pediatric Surgery Open*, publishes articles and case series of more than five patients. Both of these journals are excellent venues for papers that describe a new operative technique.

**IMPACT FACTOR**

2022: 2.400 © Clarivate Analytics Journal Citation Reports 2023

**ABSTRACTING AND INDEXING**

Biological Abstracts
Current Contents - Clinical Medicine
Embase
Index Medicus
Science Citation Index
Scopus

**EDITORIAL BOARD**

*Editor-in-Chief*
G.W. Holcomb III, Nashville, Tennessee, United States of America

*Editor for the British Isles*
M. Davenport, London, United Kingdom

*Editor for Europe*
M.P. Pakarinen, Helsinki, Finland
Editor for Pacific Region
P.K.H. Tam, Hong Kong, Hong Kong Hong Kong

Managing Editor
K. Jaeger, Indianapolis, Indiana, United States of America

Contributing Editors
V.E. Boston, Belfast, United Kingdom
T. Miyano, Tokyo, Japan
J.C. Molenaar, Rotterdam, Netherlands
K.S. Suruga, Tokyo, Japan
J.A. Tovar, Madrid, Spain

Editors-in-Chief Emeritus: Founding Editors
C.E. Koop†
(1966-1976)
S.L. Gans†
(1977-1994)
J.L. Grosfeld†, Indianapolis, Indiana, United States of America
(1994-2016)

Editor of Digital and Social Media
T. A. Ponsky, Akron, Ohio, United States of America

Social Media Assistants
E. Encisco, Akron, Ohio, United States of America
C. Gigena, Cincinnati, Ohio, United States of America
E. Levy, Lexington, Kentucky, United States of America
K. Miller, Roma, Italy
E. Tombash, Cincinnati, Ohio, United States of America

Associate Editor for Urology
J. Gearhart, Baltimore, Maryland, United States of America

Associate Editor for Latin America
P. Laje, Philadelphia, Pennsylvania, United States of America

Associate Editors
N. S. Adzick, Philadelphia, Pennsylvania, United States of America
P. Bagolan, Roma, Italy
A. Bonnard, Paris, France
C.M. Calkins, Milwaukee, Wisconsin, United States of America
R. Cowles, New Haven, Connecticut, United States of America
S. Dolgin, N New Hyde Pk, New York, United States of America
M.E. Fallat, Louisville, Kentucky, United States of America
D.L. Farmer, Sacramento, California, United States of America
J.M. Hutson, Parkville, VIC, Australia
S. Islam, Gainesville, Florida, United States of America
J.C. Langer, Toronto, Ontario, Canada
M.A. Levitt, Washington, District of Columbia, United States of America
H.N. Lovvorn III, Nashville, Tennessee, United States of America
M. Martinez-Ferro, Buenos Aires, Argentina
D.J. Ostlie, Phoenix, Arizona, United States of America
H Pearl, Peoria, Illinois, United States of America
A. Peña, Aurora, Colorado, United States of America
A. Pierro, Toronto, Ontario, Canada
P. Puri, Dublin, Ireland
S.J. Rangel, Boston, Massachusetts, United States of America
F.J. Rescorla, Indianapolis, Indiana, United States of America
M.Z. Schwartz, Philadelphia, Pennsylvania, United States of America
R.C. Shamberger, Boston, Massachusetts, United States of America
C.L. Snyder, Kansas City, Missouri, United States of America
S.D. St. Peter, Kansas City, Missouri, United States of America
S. Stylianos, New York, New York, United States of America
J.H.T. Waldhausen, Seattle, Washington, United States of America
B.W. Warner, St Loui, MO Missouri, United States of America
K. Y. Wong, Hong Kong, Hong Kong
R. Russell, Birmingham, Alabama, United States of America
S. Sarnacki, Paris, France
A. Saxena, London, United Kingdom
S. Shehata, Alexandria, Egypt
E.D. Skarsgard, Vancouver, British Columbia, Canada
J. Sulkowski, Richmond, Virginia, United States of America
R. Superina, Chicago, Illinois, United States of America
S. Teich, Charlotte, North Carolina, United States of America
D. Tibboel, Rotterdam, Netherlands
K. Tsao, Houston, Texas, United States of America
P. Varela, Santiago, Chile
A. M. Vogel, Houston, Texas, United States of America
T. Wester, Stockholm, Sweden
M. L. Wulkan, Akron, Ohio, United States of America

Societal Guest Editors
A. L. Beres, Philadelphia, Pennsylvania, United States of America, Chairperson, Publications Committee, Canadian Association of Paediatric Surgeons
M. E. Brindle, Calgary, Alberta, Canada, Chairperson, Publications Committee, Pacific Association of Pediatric Surgeons
M. Davenport, London, United Kingdom, Guest Editor, British Association of Paediatric Surgeons
R. Ignacio, San Diego, California, United States of America, Chairperson, Publications Committee, American Pediatric Surgical Association
P. Laje, Philadelphia, Pennsylvania, United States of America, Chairperson, Publications Committee, International Pediatric Endosurgery Group
C. Martin, Birmingham, Alabama, United States of America, Chairperson, Publications Committee, American Academy of Pediatrics, Section on Surgery
GUIDE FOR AUTHORS

The Journal of Pediatric Surgery (JPS) publishes original research articles, reviews, meta-analyses, systematic reviews and consensus guidelines covering all fields of general pediatric surgery, all of which are submitted to rigorous peer review. JPS subscribes to the policies published by the International Committee of Medical Journal Editors (ICMJE) and adheres to publishing ethics guidelines published by the Committee on Publication Ethics (COPE). It is not permissible to re-submit papers or re-purpose data that have been previously rejected and penalties may apply for such action.

**Manuscript types**

**Original Research Articles** are preferred and should be in the format of Introduction, Methods, Results and Discussion. Original articles must include a structured abstract of 250 words or less and should not exceed 5,000 words of text and 50 references. Combined number of figures and tables are limited to 6 (see below for detailed information). Submissions reporting an observational cohort, case-control, or cross-sectional study must include the relevant completed STROBE Checklist. Additional information can be found on the STROBE website. **Randomized Clinical Trials** must adhere to the guidelines outlined in the CONSORT and investigators must include a completed CONSORT checklist and flow diagram in their submission. Randomized clinical trials should be clearly identified as such in both the title and the abstract. **The paper will be returned to the authors without review if the appropriate checklist is applicable to the paper but is not completed.**

**Reviews, Systematic Reviews, Meta-Analyses, and Guidelines** must include a structured abstract of 250 words or less, and should not exceed 4,000 words of text, 75 references and the combined number of 6 tables and figures. A completed PRISMA checklist should be included when submitting systematic reviews and meta-analyses. **The paper will be returned to the authors without review if the PRISMA checklist is applicable to the paper but is not completed.** The Editors may request an Invited Commentary, usually from one of the reviewers, which will accompany a highlighted original article. This should be maximum of 500 words with no more than 10 references. Up to two figures or tables are allowed. **We accept two categories of Letters to the Editor (LTE). 1) We accept letters from readers who wish to comment on published articles in JPS. These LTEs should reach us within a month of the original article and should be no longer than 250 words. 2) We also welcome LTEs that are of general interest to the JPS readership and are not linked to previously published papers in JPS. These LTEs can be up to 500 words and accompanied by up to two figures or tables. The number of authors and references should be limited to five. Both categories of LTEs will be reviewed by the Editorial Board for acceptance. Videos can be submitted to enhance the article. For further information about submitting the video material, please see Supplementary Digital Material, page 14.**

**Manuscripts on operative technique** should be submitted as original research articles. These manuscripts should focus on novel or innovative approaches to established or new surgical approaches to surgical conditions. Those focusing on established techniques will not receive strong consideration

The Journal of Pediatric Surgery no longer accepts Case Reports or Surgical Images. Authors have the option of submitting Case Reports to the open access, online-only companion journal, Journal of Pediatric Surgery Case Reports

**Submission checklist**

You can use this list to carry out a final check of your submission before you submit it to the journal for review. Please check the Preparation Section below for more detailed information.

**Ensure that the following items are included and all necessary files have been uploaded:**

Cover Letter The names of suitable reviewers and their contact details (email addresses) can be suggested here Authorship Contribution Form Title Pages Ensure one author has been designated as the corresponding author with contact details: E-mail address Full postal address A statement of competing interests should be provided, even if the authors have none to declare A statement indicating the nature of any financial support for the conduct of the research (if applicable). Manuscript Abstract (up to 250 words. Keywords and Level of Evidence (I -V). Abbreviations used. Main body of manuscript. Figure legends. References Ensure all references mentioned in the Reference List are cited in the text, and vice versa, and are formatted per JPS protocol. Tables (including titles and footnotes; separate file for each table) Figures (separate file for each figure) and Legends Completed
STROBE/CONSORT/PRISMA checklist (see above indications) 

Highlights - What does this study add to the literature (required). More information below. Graphical Abstracts (optional) Supplemental Files (optional)

Further considerations

Manuscript should be 'spell checked' and 'grammar checked'. If English is not your native language, having a native English-speaking colleague review and edit your paper is strongly recommended. Unfortunately, the paper may not be acceptable for publication if the English grammar is not appropriate.

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 also wish to use the English Language Editing service available from Elsevier’s Author Services. Indicate clearly if color should be used for any figures in print, but there will be an additional charge Permission should be obtained for use of copyrighted material from other sources (including the Internet). For further information, visit our Support Center

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.

Submitting your manuscript and correspondence

Please visit https://www.editorialmanager.com/jpedsurg/ to submit your manuscript electronically to your regional editor. All LTEs , and Replies to Letters to the Editor should be submitted to Dr. Holcomb online. All other correspondence should be e-mailed to jpedsurg40@gmail.com

BEFORE YOU BEGIN

Ethics in publishing

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

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). In addition, the authors should clearly indicate in the manuscript that such guidelines have been followed.

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 anonymized) or the manuscript file (if single anonymized). If there are no interests to declare then please state this: 'Declarations of interest: none'. 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.

Declaration of generative AI in scientific writing

The below guidance only refers to the writing process, and not to the use of AI tools to analyse and draw insights from data as part of the research process.
Where authors use generative artificial intelligence (AI) and AI-assisted technologies in the writing process, authors should only use these technologies to improve readability and language. Applying the technology should be done with human oversight and control, and authors should carefully review and edit the result, as AI can generate authoritative-sounding output that can be incorrect, incomplete or biased. AI and AI-assisted technologies should not be listed as an author or co-author, or be cited as an author. Authorship implies responsibilities and tasks that can only be attributed to and performed by humans, as outlined in Elsevier’s AI policy for authors.

Authors should disclose in their manuscript the use of AI and AI-assisted technologies in the writing process by following the instructions below. A statement will appear in the published work. Please note that authors are ultimately responsible and accountable for the contents of the work.

**Disclosure instructions**

Authors must disclose the use of generative AI and AI-assisted technologies in the writing process by adding a statement at the end of their manuscript in the core manuscript file, before the References list. The statement should be placed in a new section entitled 'Declaration of Generative AI and AI-assisted technologies in the writing process'.

Statement: During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

This declaration does not apply to the use of basic tools for checking grammar, spelling, references etc. If there is nothing to disclose, there is no need to add a statement.

**Originality and submission declaration**

Articles are accepted for publication on the condition that they are contributed solely to this journal. Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see ‘Multiple, redundant or concurrent publication’ for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

**Use of inclusive language**

Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns ("clinicians, patients/clients") as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

**Reporting sex- and gender-based analyses**

**Reporting guidance**

For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research's generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below). Authors can refer to the Sex and Gender Equity in Research (SAGER) guidelines and the SAGER guidelines checklist. These offer systematic approaches to the use
and editorial review of sex and gender information in study design, data analysis, outcome reporting and research interpretation - however, please note there is no single, universally agreed-upon set of guidelines for defining sex and gender.

Definitions
Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth ("sex assigned at birth"), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

Authorship
All authors must have materially participated in the research and/or article preparation. It is the Journal's policy that each manuscript is to be accompanied by an authorship contribution form. This will identify each author's substantive intellectual contribution to the manuscript. Details regarding the criteria for authorship and other acknowledgements are attached to the form. Download the form.

Authors are expected to carefully consider the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. A recent trend is to publish papers through a consortium of institutions and authors. However, the number of authors for such papers can be quite large. For papers from a consortium or collaboration group with more than 10 authors, JPS asks you that only 10 authors be listed followed by "on behalf of the [consortium (or collaboration group)]". Then, a complete listing of the authors can be included in the Acknowledgments at the end of the paper as well as a brief description of the group and a listing of the involved institutions. (For an example, please click this link- Impact of rectal dissection technique on primary-school-age outcomes for a British and Irish cohort of children with Hirschsprung disease - ScienceDirect)

Article transfer service
This journal uses the Elsevier Article Transfer Service to find the best home for your manuscript. This means that if an editor feels your manuscript is more suitable for an alternative journal, you might be asked to consider transferring the manuscript to such a journal. The recommendation might be provided by a Journal Editor, a dedicated Scientific Managing Editor, a tool assisted recommendation, or a combination. If you agree, your manuscript will be transferred, though you will have the opportunity to make changes to the manuscript before the submission is complete. Please note that your manuscript will be independently reviewed by the new journal. More information.

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

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

For gold open access articles: Upon acceptance of an article, authors will be asked to complete a '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, it is recommended to state this.

**Open access**
Please visit our [Open Access page](https://www.elsevier.com/locate/jpedsurg) for more information.

**Elsevier Researcher Academy**
Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

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

**Submit your article**

**PREPARATION**

**Article structure**
The manuscript elements should be organized as follows: Abstract with Key words and Level of evidence, Abbreviations, Body of the paper (Introduction, Methods, Results, Discussion), Acknowledgements, References, Figure legends, Tables and Figures. Supplementary digital material such as additional figures and tables may be submitted as an additional separate file. Word and reference limitations are provided in the Manuscript types-section.

**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.

**Title pages**
Title pages must be provided for all submissions regardless of the type of manuscript being submitted. These should include:

**Title.** Concise and informative with no more than 130 characters. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae. **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. Place 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. **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. **Category of the manuscript.** Please indicate the category in which the manuscript is being submitted (original article, randomized clinical trial, review, systematic review, meta-analysis, guideline, letter to the editor, invited commentary). **Previous communication.** Please indicate whether the paper is based on a previous communication to a society or meeting (with full details). **Financial support statement.** List funding sources in this standard way to facilitate compliance to funder's requirements: Example - Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyy]; the Bill and Melinda Gates Foundation, Seattle, WA [grant number zzz]; 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.

**Main Body of Manuscript**

**Structured Abstract**

A structured abstract of up to 250 words, by means of appropriate headings (**Background, Methods, Results, Conclusions**) should provide the context or background for the research and should state its purpose, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific effect sizes and their statistical significance, if possible), and principal conclusions. It should emphasize new and important aspects of the study or observations.

**Keywords**

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

**Levels of Evidence**

The Level of Evidence rating must be placed after the Abstract. All clinically related articles will require a Level-of-Evidence rating for classifying study quality. The Journal has five levels of evidence for each of four different study types; therapeutic, prognostic, diagnostic, and cost effectiveness studies. Authors must classify the type of study and provide a level-of-evidence rating for all clinically oriented manuscripts. The level-of-evidence rating will be reviewed by our editorial staff and their decision will be final. The **Levels of Evidence Table** will assist the author in providing the appropriate level-of-evidence for each type of study

**Abbreviations**

The abbreviations used in the manuscript must be defined at their first mention. This applies to the entire body of the manuscript, figures and tables. Example: The aim of this study was to evaluate the outcomes of neonates with severe gastro-esophageal reflux disease (GERD) who underwent a fundoplication. Please include an alphabetical list of all non-standard abbreviations used within the manuscript and place this list after the Levels of Evidence rating.

**Highlights**

Highlights about your paper are now required as they increase the discoverability of your article via search engines and provide a snapshot about your manuscript to the reader. There should be two Bullet Points:

What is currently known about this topic? What new information is contained in this article?
Within each of the two Bullet Points, there should be one or two sentences answering these two questions. A total of 50 words is allowed in the answers to these two questions. There is a link to upload this file in the EM system.

**Graphical Abstract**
Graphical abstracts are optional yet strongly encouraged, and should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors should provide images that clearly represent the work described in the article. Graphical abstracts should be submitted as a separate file in the online submission system. Graphical abstracts should be provided as an image with a minimum of 531:531 pixels (h:w) using a minimum resolution of 300 dpi. If you are submitting a larger image then please use the same ratio. Please note that your image will be scaled proportionally to fit in the available window on ScienceDirect, which is a 200:500 pixel rectangle.

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

**Methods**
Provide details of ethical/institutional approval, selection of patients and controls, study design, analytical methods and statistics. Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

**Results**
Results should be clear and concise. Avoid repeating the information provided in tables and figures. There is a maximum of 6 tables and/or figures per article.

**Discussion**
This should explore the significance of the results of the work, not repeat them. Limitations of the study should be addressed. Avoid extensive citations and discussion of published literature not directly related to the current findings.

**Acknowledgements**
Collate acknowledgements in a separate section at the end of the article before the references. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proofreading the article, etc.).

**References**

_Citation in text_
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

_Reference links_
Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, Crossref and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., 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.

Preprint references
Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to your work or that cover crucial developments in the topic, but are not yet formally published, these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.

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

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

Reference style
Within the manuscript text:

-Indicate references by number(s) in square brackets in line with the text.

-Place the square brackets before the last period of the sentence (e.g.: Some authors have suggested a constrictive effect at the abdominal wall defect [11].)

-Use commas and no spaces in between two consecutive references (e.g.: [2,3]).

-Use commas and no spaces in between non-consecutive references (e.g.: [2,5,12]).

-Use a hyphen in between 3 or more consecutive references (e.g.: [3-6]).

-The actual first author can be mentioned in the text, but the reference number must always be given at the end of the sentence in which the author's last name was mentioned.

Reference list:

-Number the references in the list, in square brackets, in the order in which they appear in the text.

-Use the shortened form for last page number (e.g., 51-9).

-For references with more than 3 authors, only the first 3 should be listed, followed by 'et al.'

-Do not include the issue number after the volume number

-Do not use Bold, Italic, or Underlined font in any part of the reference.
Examples:
Reference to a journal publication:
Reference to a journal publication with an article number:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:
Reference to a dataset:

For further details you are referred to 'Uniform Requirements for Manuscripts submitted to Biomedical Journals' (J Am Med Assoc 1997;277:927–34) (see also Samples of Formatted References).

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Tables
Tables should be provided as Word (*.doc) compatible files. TIFF, JPG, PDF or PowerPoint files are NOT acceptable. When submitting tables in Microsoft Word, use the table function. No tab, space or colors should be used. Tables should contain a maximum of 10 columns. Tables submitted in landscape orientation will not be accepted. Tables should include a table number, title (in bold), table legend, and if necessary footnotes (including any abbreviations). Each table should be provided in a separate file. Tables must be uploaded as separate files under the table link and not embedded within the manuscript text. Table legends should be included with the table.

Figures
Figures must be submitted in electronic format. Images should be provided in EPS or TIF format. Graphics software such as Photoshop and Illustrator, not presentation software such as PowerPoint, CorelDraw, or Harvard Graphics, should be used to create the art. Color images must be CMYK, at least 600 DPI. Gray scale images should be at least 1200 DPI. Combinations of gray scale and line art should be at least 1200 DPI. Line art (black and white or color) should be at least 1200 DPI. The contributor must bear all costs connected with printing color illustrations.

Electronic artwork
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: Calibri, Arial, Times New Roman or Symbol. 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.

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel), 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 and 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 and Illustration services
Color artwork

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

Figure legends

Figure legends should be listed one after the other, as part of the text document, separate from the figure files. Please do not write a legend below each figure. Each figure legend should have a brief overarching title (in bold with figure number) that describes the entire figure without citing specific panels, followed by a description of each panel, and the symbols used. Enough information should be provided in the figure legend text to permit interpretation of figures without reference to the text, but should not contain any details of methods, or exceed 100 words. The statistical test used as well as the values of statistical significance (whether significant or not) should always be included in the figure legends.

The abbreviated word for figure "Fig." should be typed and bolded, followed by the figure number and a period (i.e., "Fig. 1."). Every figure legend should have a title written in bold. If a figure contains multiple sections (i.e., A, B, C, D), the letter for these subsections should be in capital letters, and should be surrounded by parenthesis [i.e., (A)(B)(C)(D)]. A maximum of 6 sections are allowed for each figure. Figures should be numbered according to the order in which they were cited.

Supplementary digital material

Supplementary digital material such as additional figures and tables can be published with your article to enhance it. Supplementary figures and tables should be labeled as 'Supplementary figure/table' numbered consecutively. Legends for supplementary figures should be included into the list of figure legends. Submitted supplementary items are published exactly as they are received (Word, Excel or PowerPoint files will appear as such online). Please submit your material together with the article, and supply a concise, descriptive title 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.

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.
**Formatting of the text**
The submitted manuscript must be typed double-spaced throughout in 12-point type in a standard font (e.g. Times New Roman, Calibri, Arial) and pages numbered (including references, tables and figure legends). 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 when 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. Please switch off the 'Track Changes' option in Microsoft Office files.

Follow internationally accepted rules and conventions: use the international system of units (SI). For mathematical symbols and equations, Greek letters, and other special characters, use normal text.

**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.

**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, which may also include 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).

**Research Elements**
This journal enables you to publish research objects related to your original research – such as data, methods, protocols, software and hardware – as an additional paper in a Research Elements journal.

Research Elements is a suite of peer-reviewed, open access journals which make your research objects findable, accessible and reusable. Articles place research objects into context by providing detailed descriptions of objects and their application, and linking to the associated original research articles. Research Elements articles can be prepared by you, or by one of your collaborators.

During submission, you will be alerted to the opportunity to prepare and submit a manuscript to one of the Research Elements journals.

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

AFTER ACCEPTANCE

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

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

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

Offprints
The corresponding author will, at no cost, receive 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. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

AUTHOR INQUIRIES
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