DESCRIPTION

*Fertility and Sterility®* is an international journal for obstetricians, gynecologists, reproductive endocrinologists, urologists, basic scientists and others who treat and investigate problems of *infertility* and *human reproductive disorders*. The journal publishes juried original scientific articles in clinical and laboratory research relevant to *reproductive endocrinology, urology, andrology, physiology, immunology, genetics, contraception*, and *menopause*. *Fertility and Sterility®* encourages and supports meaningful basic and clinical research, and facilitates and promotes excellence in professional education, in the field of reproductive medicine.

**Benefits to authors**

We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our [author services](http://service.elsevier.com).

Please see our [Guide for Authors](http://service.elsevier.com) for information on article submission. If you require any further information or help, please visit our support pages: [http://service.elsevier.com](http://service.elsevier.com)

AUDIENCE

Obstetricians, Gynecologists, General Practitioners, Family Practitioners, Endocrinologists, Oncologists, Reproductive Surgeons, and Urologists

IMPACT FACTOR

2018: 5.411 © Clarivate Analytics Journal Citation Reports 2019
ABSTRACTING AND INDEXING

Embase
BIOSIS Citation Index
Chemical Abstracts
Current Contents
PubMed/Medline
Nutrition Abstracts
Science Citation Index
Scopus

EDITORIAL BOARD

Editors-in-Chief
Craig Niederberger, Chicago, Illinois, United States
Antonio Pellicer, Roma, Italy

Video and New Media Editor:
Kurt Barnhart, Philadelphia, Pennsylvania, United States

Editors
Robert Brannigan, Evanston, Illinois, United States
Jacques Donnez, Brussels, Belgium
Cynthia Farquhar, Auckland, New Zealand
Richard Paulson, Los Angeles, California, United States
Zev Rosenwaks, New York, New York, United States
William Schlaff, Philadelphia, Pennsylvania, United States
Mark Sigman, Providence, Rhode Island, United States
Carlos Simon, Valencia Spain

Associate Editors
Mats Brännström, Gothenburg, Sweden
Owen K. Davis, New York, New York, United States
Michael Eisenberg, Stanford, California, USA
Nicolas Garrido, Valencia, Spain
Richard Legro, Hershey, Pennsylvania, United States
Pauline Mendola, Hyattsville, Maryland, United States
Terhi Piltonen, Oulu, Finland
Richard Scott, Basking Ridge, New Jersey, USA
Anne Steiner, Chapel Hill, North Carolina, United States

Specialty Editors
Eve Feinberg, Chicago, Illinois, United States
William Gibbons, Houston, Texas, United States
Jim Hotaling, Salt Lake City, Utah, USA
Susan Klock, Chicago, Illinois, USA
Steven R. Lindheim, Dayton, Ohio, USA
Robert John Norman, Adelaide, Australia
Ranjith Ramasamy, Miami, Florida, United States
Margrit Urbanek, Chicago, Illinois, USA
Dominique de Ziegler, Paris, France

Interactive-Associate in Chief
Micah Hill, Bethesda, Maryland, USA

Interactive Associates
Katherine Cameron, Philadelphia, Pennsylvania, United States
Laura Cooney, Madison, Wisconsin, United States
Ali A. Dabaja, Detroit, Michigan, USA
James M. Dupree, Ann Arbor, Michigan, USA
Rani Fritz, New York, New York, USA
T. Mike Hsieh, San Diego, California, USA
Amanda Kallen, New Haven, Connecticut, USA
Jason Kovac, Carmel, Indiana, USA
Scott Morin, Basking Ridge, New Jersey, USA
Philippe Koninckx, Bierbeek, Belgium
Jonathan Kort, San Francisco, California, USA
Stephen A. Krawetz, Detroit, Michigan, USA
Allen R. Kunselman, Hershey, Pennsylvania, USA
Dolores Lamb, New York, New York, United States
Dan Lebovic, Madison, Wisconsin, United States
Larry I. Lipshtutz, Houston, Texas, United States
Danelle Lobdell, Research Triangle Park, North Carolina, United States
Tycho Lock, Groningen, Netherlands
Nick Macklon, Southampton, United Kingdom
Guillermo Marconi, Buenos Aires, Argentina
Peter McGovern, Newark, New Jersey, United States
Marcos Meseguer, Valencia, Spain
Yoshiharu Morimoto, Osaka, Japan
Sunni L. Mumford, Bethesda, Maryland, USA
Ajay Nangia, Kansas City, Kansas, USA
Camran Nezhat, Stanford, California, United States
Michelle Nisolle, Liege, Belgium
Hiroshi Okada, Koshigaya, Japan
Kutluk Oktay, New York, New York, USA
Steven Ory, Ann Arbor, Florida, United States
Firuza Parikh, Mumbai, India
J. Preston Parry, Madison, Mississippi, USA
Lauri Pasch, San Francisco, California, USA
Alexander W. Pastuszak, Houston, Texas, United States
Alan Penzias, Boston, Massachusetts, United States
Mark Perloe, Atlanta, Georgia, USA
John Petrozza, Boston, Massachusetts, USA
Thomas Pool, San Antonio, Texas, United States
Elizabeth Puschek, Detroit, Michigan, United States
Gwendolyn P. Quinn, Tampa, Florida, United States
Catherine Racowsky, Boston, Massachusetts, United States
David Reichman, New York, New York, USA
Ilana B. Ressler, Norwalk, Connecticut, USA
Mary Riddle, State College, Pennsylvania, USA
Jared C. Robins, Chicago, Illinois, USA
Jay Sandlow, Milwaukee, Wisconsin, United States
Joseph S. Sanfilippo, Pittsburgh, Pennsylvania, United States
Peter Schlegel, New York, New York, United States
Beata Seeber, Innsbruck, Austria
James Segars, Bethesda, Maryland, United States
Steven D. Spandorfer, New York, New York, USA
Judy E. Stern, Lebanon, New Hampshire, USA
H. Irene Su, La Jolla, California, USA
Eric S. Surrey, Lone Tree, Colorado, United States
Hugh Taylor, New Haven, Connecticut, United States
Nathan Treff, Basking Ridge, New Jersey, USA
Alfredo Ulloa-Aguirre, Mexico City, Mexico
Monica Vazquez-Levin, Buenos Aires, Argentina
Robert Wild, Oklahoma City, Oklahoma, United States
Edwina Yeung, Bethesda, Maryland, USA
Heping Zhang, New Haven, Connecticut, USA

Global Associates
Pilar Alama, Valencia, Spain
Diana Alecsandru, Madrid, Spain
Natalia Basile, Madrid, Spain
Luis Carmona, Las Palmas, Spain
Irene Cervelló, Valencia, Spain
Mª José de los Santos, Valencia, Spain
Cesar Díaz, London, UK
Patricia Díaz-Gimeno, Valencia, Spain
Marga Esbert, Barcelona, Spain
Manuel Fernandez, Sevilla, Spain
Hortensia Ferrero, Valencia, Spain
Sonia Herráiz, Valencia, Spain
Evelin Lara, Barcelona, Spain
Barbara Lotti, Buenos Aires, Argentina
Elkin Muñoz, Vigo, Spain
Manual Muñoz, Alicante, Spain
Fernando Neuspiller, Buenos Aires, Argentina
Andrés Reig, Milford, CT, USA
José Serna, Zaragoza, Spain
Carlos Vásquez, Panama City, Panamá
Vanessa Vergara, Madrid, Spain

Managing Editor:
Meredith Sauls, Birmingham, Alabama, United States

Assistant Managing Editor
Thea Ryan, Birmingham, AL, USA

Former Editors
M. Edward Davis
Alan H. DeCherney
Roger D. Kempers
Luigi Mastroianni, Jr.
Pendleton Tomkins
INTRODUCTION

Only those manuscripts which are original, have not been published elsewhere, and are not currently being considered for inclusion in another publication will be considered for publication in Fertility and Sterility®. Authors are advised to keep a copy of all manuscripts submitted.

All manuscripts will be evaluated by peer reviewers who will remain anonymous. Selection of the peer reviewers is at the sole discretion of the Fertility and Sterility® editors. The editors and reviewers do not disclose any information about a manuscript or its review. If revisions are required, authors are asked to return the revised manuscripts within 40 days for the first revision, and within 30 days for any subsequent revisions. Please notify the editorial office if additional time is needed or if you choose not to submit a revision.

Authors are strongly encouraged to limit article length to 3,500 words for effective and efficient communication. If substantial merit would be gained from increasing the number of words in an article, longer submissions may be considered for publication. A combined maximum of 4 total figures and tables is allowed for the print version. Article length does not include the running title, title page, capsule, abstract, or references.

If you wish, you may include expanded discussion of the materials and methods section, or additional figures or tables, as supplemental material. This supplemental material will be published in the online version only, and will be referenced in the print version. Please indicate in your cover letter which sections are intended to be supplemental material. Title any supplemental figures or tables as “Supplemental figure 1,” and so on.

REQUIREMENTS FOR SPECIFIC ARTICLE TYPES

Reviews

Reviews are generally by invitation only, but unsolicited systematic reviews and meta-analyses will be considered if they are in the style of the Preferred Reporting Items for Systematic Review and Meta-analyses (PRISMA), details of which can be found at http://www.prisma-statement.org. Systematic reviews/meta-analyses should be formatted according to the “Preparation of Manuscript.”

Video Articles

Video submissions are peer reviewed, citable and indexed as publications in PubMed. The video article format allows you to provide a video demonstration of both the data and technique of your study. Authors should submit a cover letter, title page, structured abstract, and reference list (submit the title page, abstract, and references as the “Manuscript”) through the Elsevier Editorial System (EES) website for this journal (http://ees.elsevier.com/fns). The video itself should be submitted to a Dropbox file. The corresponding author will receive an invitation to the Dropbox after the manuscript has been submitted through EES.

Video articles should provide a significant contribution to the medical literature. They should include original data or provide a review of a subject. The visual demonstration of the topic is a key component and the video should demonstrate information beyond what would be in text alone. Videos should NOT be a series of text-only slides.

Length: Videos should have a maximum length of 8 minutes. Videos should have an audio narration track. Silent videos will not be likely to be accepted. Music should be used with careful consideration. When utilized creatively, music can enhance some videos. If music is used, the author must obtain permission from the copyright holder or documentation that the music is royalty-free. The start of the video should include the title of the video and the author’s name and institution. Commercial-type messages should not be used. File formats: WMV, AVI, MOV, or MP4 are accepted. Aspect ratio: We prefer videos to be in 16:9 format because we use 16:9 aspect ratio players. If you are uploading a non-16:9 file, it will be processed and displayed correctly as well, with pillar boxes or letter boxes provided by the player. If you want to fit the player perfectly, encode at these resolutions: 1080P: 1920x1080 720P: 1280x720

Resolution: Please submit your video files in HD 1080P. We accept 72P but prefer higher resolution. We do not accept video files with standard definition. Suggested bitrates for uploads:

Format 1080P: video bitrate 8,000 kbps; Mono Audio bitrate 128 kbps; stereo audio bitrate 384 kbps
Any patient identification must be removed or masked.

**Monographs, Supplements, and Compilations**
Supplements are paginated like a regular journal issue and consist of peer-reviewed original research. The cover is clearly identified with the volume and number, and the articles can be cited. Monographs are not peer-reviewed, are not identified as part of the regular journal, are not paginated, and cannot be cited. Compilations are previously published journal articles with an index indicating where each article was published. All requests for publication of monographs, supplements, or compilations should be referred to the Publications Committee.

**Letters to the Editor**
*Fertility and Sterility* is phasing out “Letters to the Editor” in favor of the real-time, interactive *Fertility and Sterility* Forum. For instructions on how to post your comments regarding articles in our journal, please see fertstertforum.com/fertstertforum-discussion.

**CONTACT INFORMATION**
All correspondence regarding submitted manuscripts will be handled via e-mail through EES. Send all other correspondence to:

Fertility and Sterility®
American Society for Reproductive Medicine (ASRM)
1209 Montgomery Highway
Birmingham, AL 35216
P: 205-978-5000 x139
F: 205-978-5005
E: fertstert@asrm.org

**BEFORE YOU BEGIN**

**Ethics in Publishing**

**Authors**

**Conditions of Authorship.**
Authors should have made significant conceptual, intellectual, experimental, and analytical contributions to the research, as well as having participated in writing and revising the manuscript. Each author should have participated sufficiently in the work to take public responsibility for its content. Honorary authorship (i.e., not adhering to the conditions of authorship and, none-the-less, being granted authorship) is not permitted. All authors must sign the Statement of Authorship (typed or printed name is not acceptable) and include the form on initial submission.

**Responsibilities of Authors.**
Authors must describe the research in sufficient detail such that others could repeat it. Written, informed consent under protocols approved by an institutional or local review board or approved animal protocols are essential if the research involves human or animal subjects, respectively. This information should be stated in the manuscript and the protocol number or exempt status of approved protocols should be stated in the manuscript at the time of submission for review. Authors of clinical trials are required to prospectively register their trial with one of the ICMJE-recognized trial registries (5). Selective reporting of data is inappropriate, especially if unreported data are in disagreement with the findings of the selectively reported data. In accordance with the ICMJE, the ASRM supports publication of negative studies. Authors should cite publications in the literature that are relevant to the uniqueness of the research and should including publications by others, as well as of their own research group. Previous publication of a preliminary report on the data is permissible, if this is stated clearly in a footnote in the manuscript.

**Scientific Misconduct.** Definition. The DHHS Office of Research Integrity defines plagiarism, fabrication, and falsification.
The ASRM accepts these definitions and considers them to constitute scientific misconduct. Additional unethical behavior that comprises scientific misconduct includes: submission of results from animal or clinical research that was conducted without appropriate approval and written, informed consent; duplicate publication; and honorary authorship. Research misconduct occurs when results are falsified,
fabricated or plagiarized. The actions are willful or intentional, although the actual definition of misconduct varies somewhat by country. This can occur at various times during the process of proposing, performing or reviewing research. Differences of opinion or honest errors do not constitute misconduct.

**Fabrication**: Data, results or recording or reporting information that does not exist. **Falsification**: Changing research materials, equipment or processes; omission of data or results. As a consequence, the research is not accurately represented in the research records. **Plagiarism**: Using another person’s words, ideas, results, and processes without giving credit to them. Plagiarism includes the theft of intellectual property, ideas or methods such as the use of information gained by personal communication, or during a grant or manuscript review. Plagiarism also includes the direct textual copying of another person’s work. Direct copying of 100-250 words constitutes plagiarism. Authorship disputes are not included in this definition. Citation plagiarism is the failure to credit others with prior discoveries and is extremely common. Self-plagiarism can include multiple publications of the same manuscript in different journals or books.

**Submission without animal or human subjects oversight approvals**. Any manuscript submitted without proof of animal or human subjects approval by institutional or local IRBs will not be reviewed and will be returned to the authors.

**Duplicate publication**. Duplicate publication can take several forms: Duplicate Publication with other journals. On occasion ASRM journals may decide to publish an article simultaneously with another journal, e.g., with consensus statements from consensus conferences. Such intention on the part of the Editor-In-Chief should be discussed with the Publications Committee immediately after the two journals have had discussion so that Publications Committee members can assess the appropriateness of such joint publications and approve or disapprove. Publication of identical data. The ASRM considers that disclosure, citing the original publication, and obtaining permission are essential. Without all of these, publication of identical data is inappropriate and not permissible. “Salami” publications. Dividing data, analysis, and presentation into “minimally publishable units” is a slippery slope, and can be used to extend one data set over several manuscripts. While this may be acceptable for clarity of presentation and focus on specific outcomes in different manuscripts, a motivation may also be to increase the publication list in an author's CV. The latter is unethical and unacceptable. Therefore, please acknowledge in your cover letter any similar publications or submitted manuscripts

**Partial publication**. Partial presentation of data in another medium (e.g., on a website) does not necessarily preclude publication in Fertility and Sterility, but acknowledgment of the previous presentation is required, along with identification of the source (e.g., the URL of the website). Content cannot be copied verbatim from the previous presentation, as that would constitute self-plagiarism, but must be rewritten to comply with journal standards.

**Investigation of scientific misconduct**. All cases of suspected misconduct will be investigated initially by the Editor-In-Chief and the Publications Committee of the American Society for Reproductive Medicine to determine if the evidence of misconduct is sufficient to proceed with a formal inquiry. If so, the author will be notified in writing of the allegations, and will be asked to provide information useful to the investigation, including access to all original data, notes, and copies of prior publications. The author's institution may be contacted, as well. Processing and publication of the manuscript will be delayed while the matter is resolved. Confidentiality will be maintained and care taken to protect the rights and reputations of all concerned. The final decision on disposition of the paper and any sanctions against the author will be made by the Editor-In-Chief in concert with the Publications Committee.

Potential sanctions include, but may not be limited to: rejection of a manuscript in process; a letter of reprimand to the author, copied to the author's institution; and correction or retraction of the manuscript, including a statement in the print issue detailing the nature of the misconduct.

**Reviewers**. Reviewers have the responsibility to objectively and fairly review the manuscript. If there is a conflict of interest or if the reviewer does not have the requisite expertise, then the manuscript should be immediately returned to the Editor for reassignment. Strict confidentiality is required during the review process. If any portion of a manuscript is shared before the review is completed and before acceptance and publication, written consent of the authors is required.
Conflict of Interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. If there are no conflicts of interest then please state this: 'Conflicts of interest: none'. See also https://www.elsevier.com/conflictsofinterest. Further information and an example of a Conflict of Interest form can be found at: http://icmje.org/coi_disclosure.pdf.

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

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

Authorship
To meet the criteria for authorship, in accordance with the Fertility and Sterility instructions for authors, all authors should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, AND (2) drafting the article or revising it critically for important intellectual content, AND (3) final approval of the version to be submitted, AND (4) agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Changes to authorship
Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed. Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

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

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

The ICMJE accepts registration in the following registries:

http://www.anzctr.org.au
http://www.clinicaltrials.gov
http://www.ISRCTN.org
http://www.umin.ac.jp/ctr/index/htm
http://www.trialregister.nl

In addition to the above registries, starting in June 2007 the ICMJE will also accept registration in any of the primary registries that participate in the WHO International Clinical Trials Portal (see http://www.who.int/ictrp/network/primary/en/index.html). Because it is critical that trial registries are independent of for-profit interests, the ICMJE policy requires registration in a WHO primary registry rather than solely in an associate registry, since for-profit entities manage some associate registries. Trial registration with missing or uninformative fields for the minimum data elements is inadequate even if the registration is in an acceptable registry.

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.

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. Please see https://www.elsevier.com/funding.
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 3500**, excluding taxes. There is a **50%** discount off the open access publication fee for members of the American Society for Reproductive Medicine. 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 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](https://www.elsevier.com/openaccess).

This journal has an embargo period of 12 months.

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

Submission
Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.
Submit Your Article
Please submit your article via http://ees.elsevier.com/fns.

PREPARATION

Use of Wordprocessing Software
It is important that the file be saved in the native format of the wordprocessor 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 wordprocessor'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: https://www.elsevier.com/guidepublication). 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 wordprocessor.

LaTeX
You are recommended to use the Elsevier article class elsarticle.cls to prepare your manuscript and BibTeX to generate your bibliography. Our LaTeX site has detailed submission instructions, templates and other information.

Article structure
Subdivision - unnumbered sections
Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

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

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

A statement of Institutional Review Board (IRB) status must be included. Similarly, a statement of Institutional Animal Care and Use Committee (IACUC) approval must be provided for research involving animals.

Results
Results should be clear and concise.

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

Conclusions
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Essential Title Page Information
• Running title. A short version of your title, consisting of 40 characters or less, including spaces.

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

• Author names 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.** Only one corresponding author may be designated. 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.

**Capsule**
A summary of the abstract of 30 words or less, this will be published in the table of contents. It should describe the final conclusion(s) of the paper.

**Structured Abstract**
A structured abstract, by means of appropriate headings, 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.

Required headings are Objective (beginning with a phrase like "To study..."), Design, Setting, Patients/Animals, Intervention(s), Main Outcome Measure(s), Results, and Conclusion.

**Keywords**
Immediately after the abstract, provide 3-5, 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.

**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 or writing assistance or proofreading the article, etc.).

**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.

**Artwork**
**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 on the Web (e.g., ScienceDirect and other sites) in addition to color reproduction in print. For further information on the preparation of electronic artwork, please see [https://www.elsevier.com/artworkinstructions](https://www.elsevier.com/artworkinstructions).

**Figure Captions**
Ensure that each illustration has a caption. Supply captions separately on the page of your manuscript file following the reference list. 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 should be placed at the end of the manuscript file, following the figure legends or reference list. 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.

**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.

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.

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/fertility-and-sterility
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
References follow style of “Uniform Requirements” (http://www.nlm.nih.gov/bsd/uniform_requirements.html).

Examples:


**Reference List**

References are numbered consecutively, with Arabic numerals, in the order of text citation, including citations in figure legends and tables at first mention in text. **List up to six authors, followed by a comma and et al.** Journal article titles are initial cap/lower case. Use lower case letter after colon in journal article title. Abbreviate journal names according to the current *Index Medicus*. Do not use an ampersand in journal names.

Delete issue number in parentheses after volume. Page ranges use only the numbers that change.

**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.

**Supplemental data**

Elsevier accepts electronic supplemental material to support and enhance your scientific research. Supplemental files offer the author additional possibilities to publish supporting applications, high-resolution images, background datasets, sound clips, and more. Supplemental files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: http://www.sciencedirect.com. In order to ensure that your submitted material is
directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. For more detailed instructions please visit our artwork instruction pages at https://www.elsevier.com/artworkinstructions.

Research data
This journal encourages you to share data that supports your research publication in an appropriate data repository, and enables you to interlink the data with your published articles. If you are sharing data, 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.

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.

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.

Submission Checklist
The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

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
• Phone numbers
All necessary files have been uploaded, and contain:
• Keywords
• All figure captions
• All tables (including title, description, footnotes)
• Appropriate completed study-type checklist (i.e., STROBE, STREGA, CONSORT, STARD, PRISMA)
• Statement of Authorship Form
• ICMJE Conflict of Interest Disclosure Form for each author
Further considerations:
- Manuscript has been 'spell-checked' and 'grammar-checked'
- References are in the correct format for this journal
- 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 Web). Provide copies of the permissions for journal records.
- Color figures are clearly marked as being intended for color reproduction on the Web (free of charge) and in print, or to be reproduced in color on the Web (free of charge) and in black-and-white in print
- If only color on the Web is required, black-and-white versions of the figures are also supplied for printing purposes

For any further information please visit our customer support site at https://service.elsevier.com.

AFTER ACCEPTANCE

Proofs
One set of page proofs (as PDF files) will be sent by e-mail to the corresponding author (if we do not have an e-mail address then paper proofs will be sent by post) or, a link will be provided in the e-mail so that authors can download the files themselves. Elsevier now provides authors with PDF proofs which can be annotated; for this you will need to download the free Adobe Reader, version 9 (or higher). Instructions on how to annotate PDF files will accompany the proofs (also given online). The exact system requirements are given at the Adobe site.
If you do not wish to use the PDF annotations function, you may list the corrections (including replies to the Query Form) and return them to Elsevier in an e-mail. Please list your corrections quoting line number. If, for any reason, this is not possible, then mark the corrections and any other comments (including replies to the Query Form) on a printout of your proof and scan the pages and return via e-mail. 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. We will do everything possible to get your article published quickly and accurately. 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
Offprints may be ordered from Elsevier Inc.

Standards for reporting research
Incomplete or inadequate reporting of research complicates the identification of the strengths and weaknesses of the studies reported in the medical literature. To solve this problem, several sets of guidelines have been developed in order to guarantee that the required information is available in a manuscript, to improve the accuracy and completeness of reporting of studies, and to allow readers to assess the potential for bias in the study (internal validity) and to evaluate its applicability to other environments (external validity).

Authors are strongly encouraged to consult the widely-accepted checklists below for each study type. Their application will increase the chances of acceptance by ensuring that important information will not be missed, producing a homogeneous and structured medical report, permitting fair and objective refereeing, and simplifying future corrections and revisions.

Reports of randomized trials: CONSORT
http://www.consort-statement.org/

Studies of diagnostic accuracy: STARD
http://www.equator-network.org/reporting-guidelines/stard/

Observational studies (cohort, case-control, or cross-sectional designs): STROBE
http://www.strobe-statement.org/

Genetic association: STREGA
http://www.equator-network.org/reporting-guidelines/strobe-strega/

Systematic review/meta-analysis: PRISMA
http://www.prisma-statement.org/
GENERAL INFORMATION

Change of Address
Society members should forward their change of address to:

The American Society for Reproductive Medicine
1209 Montgomery Highway
Birmingham, AL 35216-2809

Change of address for all other subscribers should be forwarded to:

Customer Support Department
Elsevier Inc.
3251 Riverport Lane
Maryland Heights, MO 63043

Single copies and back issues are available from:

Elsevier Health Sciences Division
Subscription Customer Service
3251 Riverport Lane
Maryland Heights, MO 63043
Telephone (U.S. and Canada): 1-800-654-2452
Telephone (outside U.S. and Canada): 314-447-8871
Fax: 314-447-8029
E-mail: journalscustomerservice-usa@elsevier.com

Claims received within 12 months of loss will be honored on a journal availability basis. Account number must be included with claim.

Reprints in quantity must be purchased from:

Commercial Reprints Sales
Attn: Derrick Imasa
Elsevier Inc.
230 Park Avenue
New York, NY 10169
Telephone: 212-633-3874
Fax: 212-633-3820
E-mail: d.imasa@elsevier.com

Advertising inquiries should be addressed to:

Jessica Sneathen
Elsevier
230 Park Avenue
New York, NY 10169
Telephone: 267-226-8166
Fax: 212-633-3846
E-mail: j.sneathen@elsevier.com

For recruitment advertising in North and South America:

Classified Advertising Department
Elsevier Inc.
230 Park Avenue
New York, NY 10169
Telephone: 212-633-3721
Fax: 212-633-3820
E-mail: usclassifieds@elsevier.com
For International (excluding Japan) recruitment advertising:

Advertising Department
Elsevier
The Boulevard
Langford Lane
Kidlington, Oxford, OX5 1GB, UK
Telephone: 44-1865-843565
Fax: 44-1865-843976
E-mail: media@elsevier.co.uk

For recruitment advertising in Japan:

Advertising Department
Elsevier Japan
Telephone: 81-3-5561-5033
Fax: 81-3-5561-5047

Permissions:

Elseviers Rights Department
Philadelphia, PA, USA
Telephone: 215-238-7869
Fax: 215-238-2239
E-mail: healthpermissions@elsevier.com

ASRM Membership:

Active - Doctoral, $225.00 per year
Nondoctoral, $125.00 Nurses, $125.00 per year
Associate (Residents/Interns), $125.00 per year
Life, $40.00 per year (includes subscription to Fertility and Sterility®, (outside of North America, optional add $150.00 air postage), quarterly newsletter, and reduced registration at the Annual Meeting of the American Society for Reproductive Medicine.

Business communications should be addressed to:

Fertility and Sterility®
Elsevier Inc.
230 Park Avenue
New York, NY 10169
Telephone: 212-633-3936
Fax: 212-633-3977

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