The Canadian Journal of Cardiology (CJC) is an official journal of the Canadian Cardiovascular Society (CCS) and a companion title to CJC Open and CJC Pediatric and Congenital Heart Disease. The CJC is a vehicle for the international dissemination of new knowledge in cardiology and cardiovascular science, particularly serving as the major venue for Canadian cardiovascular medicine. The CJC publishes original reports of clinical and basic research relevant to cardiovascular medicine, as well as editorials, review articles, and case reports. Papers on health outcomes, policy research, ethics, medical history, and political issues affecting practice, as well as letters to the editor, are welcomed. The CJC accepts and publishes articles in the English language only. Manuscripts are received with the understanding that they are submitted solely to the Canadian Journal of Cardiology and that none of the material contained in the manuscript has been published previously or is under consideration for publication elsewhere, with the exception of abstracts. Redundant or duplicate publications will not be considered. All statements and opinions are the responsibility of the authors. The CCS reserves copyright on all published material, and reproduction of the material, even by the authors, requires written permission. With submission of a manuscript, a letter of transmittal must indicate that all authors have participated in the research and that they have reviewed and agree with the content of the article. You are also welcome to submit to the CJC’s open access companion titles, CJC Open and CJC Pediatric and Congenital Heart Disease.

2022: 6.200 © Clarivate Analytics Journal Citation Reports 2023
EDITORIAL BOARD

Editor-in-Chief
Stanley Nattel, University of Montreal, Montreal Heart Institute, Montreal, Quebec, Canada

Associate Editors
Jonathan Afilalo, Montréal, Quebec, Canada
Robert Beanlands, Ottawa, Ontario, Canada
James Brophy, Montréal, Quebec, Canada
Ross Feldman, Winnipeg, Manitoba, Canada
John Floras, Toronto, Ontario, Canada
Stephen E. Fremes, Toronto, Ontario, Canada
Michelle Graham, Edmonton, Alberta, Canada
Kevin C. Harris, Vancouver, British Columbia, Canada
Robert Hegele, London, Ontario, Canada
Marc E. Jolicouer, Montréal, Quebec, Canada
Merril Knudtson, Calgary, Alberta, Canada
Guillaume Marquis-Gravel, Montreal, Quebec, Canada
Gavin Oudit, Edmonton, Alberta, Canada
Varinder Randhawa, Cleveland, Ohio, United States of America
Allan Skanes, London, Ontario, Canada
Bradley Strauss, Toronto, Ontario, Canada
Eric Thorin, Montréal, Quebec, Canada

Editor Emeritus
Eldon Smith, Calgary, Alberta, Canada

Editorial Board
Martin Aguilar, Montréal, Quebec, Canada
Katherine Allan, Toronto, Ontario, Canada
Gregor Andelfinger, Montréal, Quebec, Canada
Robert H. Anderson, Newcastle Upon Tyne, United Kingdom
Todd Anderson, Edmonton, Alberta, Canada
Jason Andrade, Vancouver, British Columbia, Canada
Rakesh C. Arora, Winnipeg, Manitoba, Canada
Anita Asgar, Montréal, Quebec, Canada
Robert Avram, San Francisco, California, United States of America
Rabib Azar, Beirut, Lebanon
Lorenzo Azzalini, Seattle, Washington, United States of America
Matthew Bates, Middlesbrough, United Kingdom
Emilie Belley-Cote, Hamilton, Ontario, Canada
David Bewick, Halifax, Nova Scotia, Canada
Michael Bourke, North Bay, Ontario, Canada
Liam Brunham, Vancouver, British Columbia, Canada
Daniel J. P. Burns, Cleveland, Ohio, United States of America
Ian Burwash, Ottawa, Ontario, Canada
Warwick Butt, Parkville, Australia
Kwan Chan, Ottawa, Ontario, Canada
Vincent Chan, Ottawa, Ontario, Canada
Vijay Chauhan, Toronto, Ontario, Canada
Christopher C. Cheung, Vancouver, British Columbia, Canada
Aun Yeong Chong, Ottawa, Ontario, Canada
Benjamin Chow, Ottawa, Ontario, Canada
Sebastian Clausse, München, Germany
Fiona Clement, Calgary, Alberta, Canada
Kim Connelly, Toronto, Ontario, Germany
Anita Cote, Vancouver, British Columbia, Canada
Thais Coutinho, Ottawa, Ontario, Canada
Jafna Cox, Halifax, Nova Scotia, Canada
Bibiana Cujec, Edmonton, Alberta, Canada
Christine D’Arsigny, Kingston, Ontario, Canada
Nagib Dahdah, Montréal, Quebec, Canada
Dawood Darbar, Chicago, Illinois, United States of America
Darryl Davis, Ottawa, Ontario, Canada
Yvan Devaux, Strassen, Luxembourg
Marc Deyell, Vancouver, British Columbia, Canada
<table>
<thead>
<tr>
<th>Author</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sean van Diepen</td>
<td>Edmonton, Alberta, Canada</td>
</tr>
<tr>
<td>Sharmila Dorbala</td>
<td>Boston, Massachusetts, United States of America</td>
</tr>
<tr>
<td>Paul Dorian</td>
<td>Toronto, Ontario, Canada</td>
</tr>
<tr>
<td>Jean-François Dorval</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Anique Ducharme</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Hank Duff</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Jocelyn Dupuis</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Jason Dyck</td>
<td>Edmonton, Alberta, Canada</td>
</tr>
<tr>
<td>Joachim Ehrlich</td>
<td>Frankfurt am Main, Germany</td>
</tr>
<tr>
<td>Justin Ezekowitz</td>
<td>Edmonton, Alberta, Canada</td>
</tr>
<tr>
<td>Paul W. M. Fedak</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Nowell Fine</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Anne Fournier</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Benjamin Fox</td>
<td>Be’er Ya’akov, Israel</td>
</tr>
<tr>
<td>Jacques Genest</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Chris Glover</td>
<td>Ottawa, Ontario, Canada</td>
</tr>
<tr>
<td>Michael Goldfarb</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Michael Gollob</td>
<td>Ottawa, Ontario, Canada</td>
</tr>
<tr>
<td>Martin Green</td>
<td>Ottawa, Ontario, Canada</td>
</tr>
<tr>
<td>Dina Greene</td>
<td>Seattle, Washington, United States of America</td>
</tr>
<tr>
<td>Steven Greenway</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Jasmine Grewal</td>
<td>Vancouver, Washington, Canada</td>
</tr>
<tr>
<td>Eduard Guasch</td>
<td>Barcelona, Spain</td>
</tr>
<tr>
<td>Lorne Gula</td>
<td>London, Ontario, Canada</td>
</tr>
<tr>
<td>Milan Gupta</td>
<td>Hamilton, Ontario, Canada</td>
</tr>
<tr>
<td>Daniel Hackam</td>
<td>London, Ontario, Canada</td>
</tr>
<tr>
<td>Robert Hamilton</td>
<td>Toronto, Ontario, Canada</td>
</tr>
<tr>
<td>Camille L. Hancock-Friesen</td>
<td>Dallas, Texas, United States of America</td>
</tr>
<tr>
<td>Bryan Har</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Jeffrey S. Healey</td>
<td>Hamilton, Ontario, Canada</td>
</tr>
<tr>
<td>George Heckman</td>
<td>Waterloo, Ontario, Canada</td>
</tr>
<tr>
<td>Christine Henri</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Swapnil Hiremath</td>
<td>Ottawa, Ontario, Canada</td>
</tr>
<tr>
<td>Imo Hoefer</td>
<td>Utrecht, Netherlands</td>
</tr>
<tr>
<td>Kathryn Hong</td>
<td>Toronto, Ontario, Canada</td>
</tr>
<tr>
<td>Junko Honye</td>
<td>Yokohama-shi, Japan</td>
</tr>
<tr>
<td>Andrew Howarth</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Jonathan Howlett</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Karin Humphries</td>
<td>Vancouver, British Columbia, Canada</td>
</tr>
<tr>
<td>Frederic Jacques</td>
<td>Quebec, Quebec, Canada</td>
</tr>
<tr>
<td>Davinder Jassal</td>
<td>Winnipeg, Manitoba, Canada</td>
</tr>
<tr>
<td>Michal Kantoch</td>
<td>Edmonton, Alberta, Canada</td>
</tr>
<tr>
<td>Zamaneh Kassiri</td>
<td>Edmonton, Alberta, Canada</td>
</tr>
<tr>
<td>Sanjay Kaul</td>
<td>Los Angeles, California, United States of America</td>
</tr>
<tr>
<td>Katherine Kavanagh</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Peter Kavsak</td>
<td>Hamilton, Ontario, Canada</td>
</tr>
<tr>
<td>Michelle Keir</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Michael Khoury</td>
<td>Edmonton, Alberta, Canada</td>
</tr>
<tr>
<td>Kathryn King-Shier</td>
<td>Calgary, Alberta, Canada</td>
</tr>
<tr>
<td>Dennis Ko</td>
<td>Toronto, Ontario, Canada</td>
</tr>
<tr>
<td>Grzegorz Kopec</td>
<td>Kraków, Poland</td>
</tr>
<tr>
<td>Andrew D. Krahn</td>
<td>Vancouver, British Columbia, Canada</td>
</tr>
<tr>
<td>Yoan Lamarche</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Shahar Lavi</td>
<td>London, Ontario, Canada</td>
</tr>
<tr>
<td>Carl (Chip) J. Lavie</td>
<td>New Orleans, Louisiana, United States of America</td>
</tr>
<tr>
<td>Harold L. Lazar</td>
<td>Boston, Massachusetts, United States of America</td>
</tr>
<tr>
<td>Jonathan A. Leipsic</td>
<td>Vancouver, British Columbia, Canada</td>
</tr>
<tr>
<td>Howard Leong-Poi</td>
<td>Toronto, Ontario, Canada</td>
</tr>
<tr>
<td>Ren-Ke Li</td>
<td>Toronto, Ontario, Canada</td>
</tr>
<tr>
<td>Dominik Linz</td>
<td>Adelaide, Australia</td>
</tr>
<tr>
<td>Gregory Y. H. Lip</td>
<td>London, United Kingdom</td>
</tr>
<tr>
<td>Gary Lopaschuk</td>
<td>Edmonton, Alberta, Canada</td>
</tr>
<tr>
<td>Marie Lordkipanidzé</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Jessica G.Y. Luc</td>
<td>Vancouver, British Columbia, Canada</td>
</tr>
<tr>
<td>Laurent Macle</td>
<td>Montréal, Quebec, Canada</td>
</tr>
<tr>
<td>Micha Maeder</td>
<td>St Gallen, Switzerland</td>
</tr>
<tr>
<td>Susanna Mak</td>
<td>Toronto, Ontario, Canada</td>
</tr>
</tbody>
</table>
Rhian Touyz, Glasgow, United Kingdom
Ricky Turgeon, Vancouver, British Columbia, Canada
Daniel Vaiman, Paris, France
Dominique Vervoort, Toronto, Ontario, Canada
Josef Veselka, Prague, Czechia
Isabelle Vonder Muhll, Edmonton, Alberta, Canada
David R. van Wagoner, Cleveland, Ohio, United States of America
Rachel Wald, Toronto, Ontario, Canada
Zhiguo Wang, Haerbin, China
Robert Welsh, Edmonton, Alberta, Canada
Harindra Wijeyssundera, Toronto, Ontario, Canada
Arthur A. M. Wilde, Amsterdam, Netherlands
Lynne Williams, St Neots, United Kingdom
Steve Wilton, Calgary, Alberta, Canada
Graham Wong, Vancouver, British Columbia, Canada
David Wood, Vancouver, British Columbia, Canada
Bobby Yanagawa, Toronto, Ontario, Canada
Raymond Yee, London, Ontario, Canada

Trainee Editorial Board Members
Sanaz Hatami, Edmonton, Alberta, Canada
Adrian Noriega de la Colina, Montréal, Quebec, Canada
Shubham Soni, Edmonton, Alberta, Canada
Evan Wiens, Winnipeg, Manitoba, Canada
Tiffany Yuen, Edmonton, Alberta, Canada

Trainee Assistant Editors
Vincent Chauvette, Montreal, Quebec, Canada

Trainee Assistant Editors – Mentors
Nicolas Thibodeau-Jarry, Montreal, Quebec, Canada
INTRODUCTION

CANADIAN JOURNAL OF CARDIOLOGY INSTRUCTIONS FOR AUTHORS

The Canadian Journal of Cardiology (CJC) is the official journal of the Canadian Cardiovascular Society (CCS). The CJC is a vehicle for the international dissemination of new knowledge in cardiology and cardiovascular science, particularly serving as the major venue for Canadian cardiovascular medicine. The CJC publishes original reports of clinical and basic research relevant to cardiovascular medicine, as well as editorials, review articles, and case reports. Papers on health outcomes, policy research, ethics, and political issues affecting practice, as well as letters to the editor, are also welcome. The CJC accepts and publishes articles in the English language only. Manuscripts are received with the understanding that they are submitted solely to the CJC and that none of the material contained in the manuscript has been published previously or is under consideration for publication elsewhere, with the exception of abstracts. Redundant or duplicate publications will not be considered. Duplicate submission is a significant breach of scientific ethical principles and may result in sanctions. All statements and opinions are the responsibility of the authors. The CCS reserves copyright on all published material, and reproduction of the material, even by the authors, requires written permission. With submission of a manuscript, a letter of transmittal must include the following 4 statements:

1. All authors have participated in the work and have reviewed and agree with the content of the article.

2. None of the article contents are under consideration for publication in any other journal or have been published in any journal.

3. No portion of the text has been copied from other material in the literature (unless in quotation marks, with citation).

4. I am aware that it is the author's responsibility to obtain permission for any figures or tables reproduced from any prior publications, and to cover fully any costs involved. Such permission must be obtained prior to final acceptance.

Editorial Policy

Each issue of the CJC carries the following statement, to which the authors agree when they submit a manuscript for consideration:

Statements and opinions expressed in the articles and communications herein are those of the author(s) and not necessarily those of the Editor(s), Society, or publisher, and the Editor(s), Society, and publisher disclaim any responsibility or liability for such material.

Article Classifications

Word count limits (see below) generally refer to all elements of the article, including the abstract, references, tables, and figure legends, unless stated otherwise.

Original Papers (Clinical and Basic Research) are generally limited to 6000 words, including all elements (title page, structured abstract, text, references, tables, and figure legends) in the principal Microsoft Word file, except for word count and short title. Rare exceptions to the word length limit may be granted by the Editor-in-Chief for specific reasons. Include a short title of 50 characters or less on your title page.

Please see requirements for clinical trial papers in the Clinical Trial Results section.

Editorials and Viewpoint Papers. Editorials are normally invited. However, unsolicited Editorials and Viewpoint articles are considered and will be submitted for peer review if appropriate. The distinction between Editorials and Viewpoints is that an Editorial will often present comments on an article (usually accompanying it in the same issue of the journal), whereas Viewpoints will present comments on a topical and/or controversial issue in clinical or basic cardiovascular medicine. Editorial comments on papers should cite the article commented on as one of the references in the paper. Length for both Editorials and Viewpoint papers should be no more than 2000 words including all
elements (title page, text, references, tables, and figure legends). No abstract should be provided for Editorials. Viewpoint articles should include a 250-word unstructured abstract. Include a short title of 50 characters or less on your title page. Conflict of interest guidelines apply.

**Review Articles** may be invited but unsolicited articles are also welcome. Reviews should not exceed 8000 words including all elements (title page, abstract, text, references, tables, and figure legends). They should include a 250-word unstructured abstract. Include a short title of 50 characters or less on your title page.

**Systematic Review/Meta-analysis** papers follow the same length and structure guidelines as Review articles, except that their abstract should be structured (Background, Methods, Results, Conclusions), and they are executed according to standards for the appropriate article type.

**Methods in Cardiovascular Research and Practice.** This category will include reviews of important current methods as well as newly developed techniques and approaches. The focus will be mostly on new and evolving methods in clinical research and/or practice (eg, new forms of trial design, biostatistical approaches, etc) but may also include fundamental work.

The guidelines will follow those for original articles if the manuscript describes the development of a specific new technique or method (see Original Articles in Article Classifications section). If the article is a literature review of a method(s) used, it will follow guidelines for review articles (see Review Articles in Article Classifications section). These articles are generally invited, but the editors will also consider author-initiated submissions.

**Study Design.** *CJC* publishes Study Design papers that deal with studies incorporating novel design or organization elements, or that examine questions of major importance and/or clinical impact. These papers are as well as 6000 words including Abstract, Main Text, References, Figure legends, and Tables. They should include a 250-word unstructured abstract. Rare exceptions to the word length limit may be granted by the Editor-in-Chief for specific reasons.

**CCS Guidelines** are papers arising from definitive best-practice recommendation exercises undertaken by CCS-mandated committees on areas of clinical importance for which there is a need of guidance on diagnostic and therapeutic management. The word limit is generally 12,000 words, including all elements (title page, abstract, text, references, tables, and figure legends). However, for particularly extensive areas the word count limits may need to be liberalized and this is certainly possible. For any questions, contact the Editor-in-Chief. Additional materials can be included as Online Supplementary Materials (see below). All CCS Guidelines published in the *CJC* should have an unstructured 250-word abstract and a short title of 50 characters or less on the title page. Because of the extensive review that CCS Guidelines and Position Statements undergo at the level of the Secondary Review Panel and the CCS Guidelines Committee, these papers will often be reviewed by the Editor-in-Chief and his/her designate rather than being sent to external peer-reviewers.

**Guidelines and Position Statements from other societies and groups.** These must deal with an issue of interest in cardiovascular medicine and can be considered for publication in the *CJC* based on scientific merit and pertinence to the mission of the *CJC*. The word limit is 8000 words including all elements (title page, abstract, text, references, tables, and figure legends). If the organizers of the document need to produce a larger document, they should consult with the Editor-in-Chief. Additional materials can be included as Online Supplementary Materials (see below). Additional options for publication of more extensive documents that must be approved prior to submission are: 1) publication of the Executive Summary in the journal with the full document available as an externally funded journal supplement, which will generally be industry-sponsored (see guidelines for *CJC* supplements at www.onlinecjca.ca); 2) publication of the full article with costs (established by the *CJC* publisher Elsevier in consultation with CCS) defrayed by the submitting society or body. All Guidelines and Position Statements published in the *CJC* should have an unstructured 250-word abstract and a short title of 50 characters or less on the title page. Depending on the internal review process that these Guidelines and Position Statements undergo (eg, Secondary Review Panel, etc), these papers may be reviewed by the Editor-in-Chief and his/her designate rather than being sent to external peer-reviewers. The final decision on review process will be made by the Editor-in-Chief, based on information provided at submission.
Co-publication with other journals of Guidelines and Position Statements. In general, the CJC does not favour co-publication. In instances in which another society or organization is involved intimately and officially with CCS in elaboration of the Guidelines or Position Statements, co-publication will be considered. In such instances, agreements regarding co-publication should be made by the parties concerned (CCS, CJC, and other participating societies/journals) at the onset of Guidelines/Position Statement Committee deliberation.

CCS Clinical Practice Updates (CPUs) are the results of reflections undertaken by writing groups mandated by the Canadian Cardiovascular Society in areas of clinical importance for which there is a need for guidance on diagnostic and/or therapeutic management, but for which the evidence base is less developed and/or is insufficient for a formal Guidelines reflection. In many instances, these will be rapidly emerging areas for which clinical guidance is needed but for which extensive randomized trials are lacking. CPUs are evidence-based but are more narrowly focused and more concise than guidelines, do not have formally-voted recommendations and may have time sensitive elements that warrant "fast track" translation into clinical practice. In some cases, they may be documents presenting an approach to a particular clinical problem, based on the expert opinion of the writing group, in situations where either the evidence base is extensive and well-known but summary clinical guidance would be useful, or where there is no clear evidence (generally for very new approaches and/or techniques) and expert opinion is needed.

All CPUs must be approved and guided by the CCS Guidelines committee, but CPUs do not include formally voted guideline recommendations or the use of the GRADE system. CPUs should be carefully evidence based, and the evidence base should be clear in the published document in the CJC. Rather than having formal recommendations, CPUs will have expert advisory suggestions for clinical practice.

Depending on the nature of the material covered, CPUs will be published in one of 3 general formats: 1) General CPUs, covering a specific area, will have a word count limit of 10,000 words, including all elements (title page, abstract, text, references, boxes, tables, and figure legends); 2) Focused CPUs, dealing with more focused/better circumscribed areas, will have a word count limit of 8000 words, including all elements (title page, abstract, text, references, tables, boxes, and figure legends); 3) Practical CPUs, with an overall maximum of 4000 words, including all elements (title page, text, references, boxes, tables, and figure legends; strict maximum of 5 references and 2 display items [figures, tables, and/or boxes]), providing practical instruction in well recognized and documented areas for which expert guidance would be helpful, are submitted as Contemporary Issues in Cardiology Practice or Health Promotion and Policy papers. The latter are described in detail elsewhere in the Instructions for Authors, but in brief have a maximum of 1500 words of text in the main section, 5 references and 2 display items (figures, tables, and/or boxes). The specific format appropriate for a given CPU will be defined early in the process for each CPU, based on discussions between the chair(s) of the specific CPU committee and the chair of the CCS Guidelines Committee.

General and Focused CPUs should have an unstructured 250-word abstract. Practical CPUs no longer include a formal abstract. The first paragraph of the text should provide a summary of the background and key observations (not included in word count restrictions). This paragraph should not exceed 100 words in length and should be in bold. CPUs should include a short title of 50 characters or less on the title page. CPUs will generally be sent for evaluation by external peer reviewers, like virtually all other CJC papers.

CJC White Papers. CJC publishes occasional White Papers, which are targeted analyses of topical areas that are intended to inform our readership about a complex issue from the perspective of an Expert Writing Group. White Papers can be initiated by either an Expert Writing Group or by the CJC Editorial Executive Committee (EEC: Editor-in-Chief (EIC)+Associate Editors of CJC). Any Writing Group that wants to suggest a White Paper must provide a formal proposal to the EIC, including the names of potential writing group members and Chairs, the topic, an explanation of the rationale/ basis for the paper and its objectives. In addition to expertise in the area, Chairs of potential Writing Groups should aim to address considerations like gender, geographical and ethnic/racial diversity in their membership, and to the extent possible address these areas in their document. The CJC EEC will consider the proposal and approve or reject it; approval may be contingent on revisions to the concept suggested by the CJC EEC.
The paper will have an unstructured Abstract and maximum Word Count of 12,000 words (including all elements of the paper except for the title page); the Word Count limit can exceptionally be modified following consultation with the EIC or their designate. Writing Groups are reminded that high-quality display materials (figures, tables, and/or boxes) are essential to effective communication of key messages and reference value. All White Papers will be subject to full external peer review and ultimate acceptance can never be guaranteed. A statement will be included in the published paper indicating that the concept for the White Paper and the composition of the Expert Writing Group were approved by the CJC Editorial Executive Board, but that the authors are solely responsible for the contents of the article, which underwent full peer review.

**Case Reports** must be informative to those in clinical practice. Case Reports should address uncommon presentations and/or treatments of common conditions, provide new insights into pathogenesis, or represent a newly recognized condition. The author(s) should explicitly provide the key teaching point(s) in the concluding paragraph. The author(s) should provide sufficient literature review to place the report into context. No more than 5 references and 2 display items (figures, tables, and/or boxes) will be accepted, and the length should not exceed 1000 words including text, references, boxes, tables, and figure legends. **Case Reports no longer include a formal abstract. Rather, the first paragraph of the text should provide a summary of the background and key observations. This paragraph should not exceed 100 words in length and should be in bold (not included in word count restrictions).** Include a short title of 50 characters or less on the title page. For all Case Reports, conclude the Discussion with a concise statement of the Novel Teaching Point(s) emerging from the case.

**Images in Cardiology** papers demonstrate particularly insightful images used in the detection of cardiovascular disease. The imaging modality may be old or new. The text of submissions for this section should be limited to that necessary to describe the context and importance of the image(s) and should not exceed 500 words including all elements (title page, text, references, and figure legends). No more than 5 references and 2 display items (figures, tables, and/or boxes) will be accepted. No abstract should be included. Include a short title of 50 characters or less on the title page. For all Images in Cardiology manuscripts, conclude the text with a concise statement of the novel element(s) or teaching point(s) that the image report adds to the literature.

For both Case Reports and Images in Cardiology articles, if the authors would like to make available materials that they cannot include within the word count/figure limits (additional figures, tables, text, etc), these can be provided in a Supplementary Material section (see below).

**Journal News and Commentary** papers are short non-scholarly papers that comment on a topical aspect related to cardiovascular medicine, the state of the journal, or an issue. For example, this would include comments on major new studies or developments relating to cardiology, brief Forewords to supplement issues or comments by the editor about progress of the journal, new features being planned, changes to policies, etc. In addition to this, they may comment on health policy issues or important new findings in the literature. Such papers are limited to a maximum of 1200 words of text and 5 references. A maximum of 1 display item (figure, table, or box) can be included. No abstract is to be included. Include a short title of 50 characters or less on the title page. Journal News and Commentary papers also have a subsection, Trainee Matters, for CCS Trainees only.

**Trainee Matters papers**, following the format guidelines of regular Journal News and Commentary papers and dealing with aspects specifically related to trainee life issues, training opportunity and job market discussions, etc. Trainees interested in submitting to the Trainee Matters section need to email a topic proposal to the editorial office at cjc.editorialoffice@icm-mhi.org.

**Training/Practice** papers present information of interest to practitioners, such as practical technical and patient management instruction or matters relating to health policy and promotion, or guidelines for Canadian cardiovascular training programs. These papers are primarily intended for guidance in practice, health promotion, and/or training and are not detailed scholarly items—scholarly analyses should be submitted in the appropriate category (Clinical Research, Systematic Review/Meta-analysis, Review, or Viewpoint). The text of submissions for this section should be no more than 1500 words (excluding the introductory paragraph). No more than 5 references and 2 display items (figures, tables, and/or boxes) will be accepted. **Training/Practice articles have no formal abstract, rather, the first paragraph of the text should provide a summary of the background and key observations. This paragraph should not exceed 100 words in length and should be in**
bold (it is not included in the 1500 word limit for the main text). Include a short title of 50 characters or less on the title page. Submissions are divided into 3 subsections: 1) Contemporary Issues in Cardiology Practice, which will highlight issues of relevance to clinical practice in the face of rapidly-advancing technologies and new medical knowledge, 2) Training in Cardiovascular Medicine and Research, which deal aspects relevant to cardiovascular clinical and research training programs, and 3) Health Policy and Promotion, which deal with matters relating to health policy and promotion.

Training Program Initiative papers are invited articles for CCS Trainees only. These papers follow the same guidelines as regular Training/Practice papers, and submissions are divided into the same 3 subsections: i) Contemporary Issues in Cardiology Practice, ii) Training in Cardiovascular Medicine and Research, and iii) Health Policy and Promotion. The Training Program Initiative is limited to CCS Trainee members. Registration as a CCS Trainee follows the process delineated at the link below, and is free of charge.

How to become a CCS Trainee: Please find more information here: https://ccs.ca/become-a-ccs-member-today/.

Research Letters. These are brief papers reporting the results of clinical or basic research that is limited in scope but time-sensitive and of unusual interest. Articles for this section will receive rapid editorial attention, with a decision generally provided within 2 weeks of submission, rapid (within 6 weeks of acceptance) online publication, and publication in the next available issue. The submission cover letter should explain why the article is considered appropriate for this category. Maximum length is 800 words in the main text, with no abstract, up to 5 references and single display item (figure, table, or box). Include a short title of 50 characters or less on the title page.

Letters to the Editor may deal with any subject of current interest to cardiovascular medicine. If the subject concerns a recent publication in the CJC, the letter will normally be forwarded to the authors for comment. Both the letter and the response may be edited for clarity or brevity. Letters should not exceed 400 words of text, with no more than 4 references and 1 display item (figure, table, or box). Conflict of interest guidelines apply. At most, one institutional affiliation should be listed on Letters to the Editor or none at all.

Contact details for submission
Stanley Nattel, MD
Editor-in-Chief
Professor of Medicine and Paul-David Chair in Cardiovascular Electrophysiology, University of Montreal Cardiologist and Director of Electrophysiology Research Program, Montreal Heart Institute 5000 Belanger St. E. Montreal, Quebec Canada H1T 1C8 T: +1-514-376-3330 ext 3990 F: +1-514-593-2493 E-mail: stanley.nattel@icm-mhi.org

BEFORE YOU BEGIN
Ethics in publishing
Please see our information on Ethics in publishing.

Ethics statement
All manuscripts must include a statement stating that the research reported has adhered to the relevant ethical guidelines ("The research reported in this paper adhered to X guidelines." Examples of relevant guidelines are: Clinical trials: CONSORT guidelines - https://www.goodreports.org/reporting-checklists/consort/ Animal studies: ARRIVE guidelines - https://www.nc3rs.org.uk/arrive-guidelines Genomic data: MIAME guidelines - https://www.fged.org/projects/miame/

Peer Review
This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper, frequently under the direction of a section editor with expertise in the manuscript topic. The
Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. For more information on the types of peer review, please visit: https://www.elsevier.com/reviewers/peer-review.

Editors are not involved in decisions about papers that they have written themselves or that have been written by family members or colleagues or that relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and the editor's research groups.

**Informed consent and patient details**

Studies on patients or volunteers require ethics committee approval and informed consent, which should be documented in the paper. Appropriate consents, permissions and releases must be obtained where an author wishes to include case details or other personal information or images of patients and any other individuals in an Elsevier publication. Written consents must be retained by the author but copies should not be provided to the journal. Only if specifically requested by the journal in exceptional circumstances (for example if a legal issue arises) the author must provide copies of the consents or evidence that such consents have been obtained. For more information, please review the Elsevier Policy on the Use of Images or Personal Information of Patients or other Individuals. Unless you have written permission from the patient (or, where applicable, the next of kin), the personal details of any patient included in any part of the article and in any supplementary materials (including all illustrations and videos) must be removed before submission.

**Experimental studies in humans and animals**

If experimental animals are used, provide a statement in the text to indicate that all procedures followed were approved by an institutional animal research ethical review board, and provide the name of the board. (This is a requirement for such studies to be published in the CJC). If human subjects are involved, the text must indicate that all gave informed consent and that the protocol was approved by the institutional human research ethics review committee (while providing the name of the committee). Any prospective trial should be registered with an appropriate registration body and the study registration number (eg, NCT number) provided in the Methods section of the manuscript.

**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.

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 compliance, your article may be checked by Crossref Similarity Check and other originality or duplicate checking software.

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. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". 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.
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 should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

**Clinical trial results**

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

**Reporting clinical trials**

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

**Registration of clinical trials**

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

**Copyright**

This journal offers authors a choice in publishing their research: open access and subscription.

**For subscription articles**

Upon acceptance of an article, authors will be asked to transfer copyright to the CCS by completing a 'Journal Publishing Agreement' (for more information on this and copyright, see https://www.elsevier.com/copyright). 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 (please consult https://www.elsevier.com/permissions). 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: please consult https://www.elsevier.com/permissions. Copies of letters granting permission must be submitted with the manuscript. Copyright fees, if any, are the responsibility of the author(s).

**For open access articles**
Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (for more information see https://www.elsevier.com/OAauthoragreement). Permitted reuse of open access articles is determined by the author's choice of user license (see https://www.elsevier.com/openaccesslicenses).

Retained author rights
As an author you (or your employer or institution) retain certain rights. For more information on author rights for:
Subscription articles please see https://www.elsevier.com/journal-authors/author-rights-and-responsibilities.
Open access articles please see https://www.elsevier.com/OAauthoragreement.

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 for more information about open access publishing in this journal.

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.

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

Submit your article
Please submit your article via https://www.editorialmanager.com/CJC/.

PREPARATION

General Guidelines

Manuscript Preparation
The CJC will accept online submissions of original manuscripts through the Editorial Manager at https://www.editorialmanager.com/CJC/. Manuscripts submitted through this online system can easily be tracked by the authors, editors, and reviewers through final disposition. The corresponding author of the manuscript will receive automatic email notifications as the manuscript proceeds through the system. To begin using this system, go to https://www.editorialmanager.com/CJC/. Click the "Register" link on the toolbar at the top left to input author demographics and set up an account. After registration is complete, a notice will be sent via email indicating a user ID and password. Use this information to log in as an author by choosing the "Login" link on the toolbar, and select "Submit A Manuscript." Follow the prompts to complete the submission according to the specifications below. Be aware that the manuscript (with abstract included within), each table, and each figure need to be prepared as separate files following the guidelines listed below. Contact the editorial office if you have any problems or questions. Your user ID and password can be changed at any time by logging into https://www.editorialmanager.com/CJC/ with your user ID and password and then clicking the "Update My Information" link at the top of the page.
Use of word processing software

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Article structure

Manuscript Text

Text files must be saved as Microsoft Word files. To ensure that the final, published version matches the electronic file, use one of the following fonts: Arial, Courier, or Times. The use of other fonts may result in missing symbols. The font size should be 12 points. Abbreviations must be defined at first mention in the text and should follow the form recommended in "Uniform Requirements for Manuscripts Submitted to Biomedical Journals." Appropriate headings and subheadings should be provided in the Methods, Results, and Discussion sections. References, boxes, tables, and figures should be numbered in the order of mention in the text. Sections should not be numbered. Authors should conclude the Discussion with a brief Conclusions paragraph summarizing the most important novel elements of the study and their relevance to cardiovascular medicine.

Subdivision - unnumbered sections

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

Introduction

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

Material and methods

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

Results

Results should be clear and concise. Figures should have clear legends and titles. Authors are encouraged to use colour to enhance readability and aesthetic appeal; there are no colour charges. Care should be taken to ensure adequate font size and line thickness, bearing in mind that figure size is often reduced in the publication. Multipanel figures should be composed by authors to ensure adequate readability, rather than submitting each figure panel separately.

Western Blots

For all papers given the opportunity to resubmit their work to the journal, authors need to provide full-length, unmanipulated images of all Western blots including molecular weight markers used in all figures. These should be incorporated within the Online Supplementary Material and any bands shown in the paper should be clearly identified on the original images in the supplement, along with the corresponding Figure number for reference. Each individual Western blot should not be called out in the text but a main statement should mention that Western blots are available in the online supplement. If the supplementary material includes other information (text, figures, tables, etc.) in addition to Western blots, this information should appear ahead of the Western blot portion.

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

Cover Page
With submission of a manuscript, a letter of transmittal must be provided, including the following
4 statements: 1. All authors have participated in the work and have reviewed and agree with the
content of the article. 2. None of the article contents are under consideration for publication in any
other journal or have been published in any journal. 3. No portion of the text has been copied from
other material in the literature (unless in quotation marks, with citation). 4. I am aware that it is
the author's responsibility to obtain permission for any figures or tables reproduced from any prior
publications, and to cover fully any costs involved. Such permission must be obtained prior to final
acceptance.

Title Page
Include the title (up to 150 characters in length, including spaces), authors' names (including full
first name, middle initial, and family name), academic degrees and academic affiliations, and a short
title of up to 50 characters (including spaces). Be sure that authors' names are listed as they should
appear in MEDLINE. Provide the word count on a separate line. Provide the full name, exact mailing
address with postal code, telephone and fax numbers, and email address of the corresponding author
to whom communication, proofs, and requests for reprints should be sent. We allow maximum two
corresponding authors for any given paper.

Abstract
Please note that the Abstract is the only part of most papers that is seen by over 95% of readers,
and it often determines whether a reader will bother downloading or citing a paper. It is therefore in
the author's interest to make the Abstract as informative and interesting as possible.

On a separate page, provide an abstract of no more than 250 words (for Original Papers, CCS
Guidelines, Clinical Practice Updates, and Review articles) that summarizes the study and conclusions,
with clinical implications indicated as appropriate. Original Papers should have a structured abstract,
with the following sections: Background, Methods, Results, Conclusions. Abstracts for CCS Guidelines,
Clinical Practice Updates, and Review articles, while the same length (250 word maximum) as those
for Original Papers, should be unstructured (no Background, Methods, Results, Conclusions headings).
In all cases, conclude the abstract with a succinct sentence that summarizes the most novel
finding(s) and/or contributions of the paper and its (their) relevance.

Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online
article. The graphical abstract should summarize the contents of the article in a concise, pictorial form
designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a
separate file in the online submission system. The minimum resolution should be 300 dpi. Preferred
file types: TIFF, JPEG, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our
information site.

Graphical abstracts are supported for the following article types: Original Papers (Clinical Research
and Basic Research), Special Articles, Reviews, Systematic Review/Meta-analysis, and Study
Design articles. Graphical abstracts should not include a legend, nor should they be called out in the
text. Graphical abstracts should be original work that has not been previously published.

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

Patient Consent Statement
Patient Consent Statements are required on every article. One of the following statements
needs to be included in the manuscript: The authors confirm that patient consent forms have been
obtained for this article.

OR
The authors confirm that patient consent is not applicable to this article. Option 2 needs to include a
brief statement explaining why patient consent was not needed.
**Example:** *This is a retrospective case report using de-identified data; therefore the IRB did not require consent from the patient.*

For the full information about patient consent, please see Elsevier's patient consent policy at https://www.elsevier.com/about/policies/patient-consent.

**Funding Sources**

Any and all relevant funding sources for the study should be listed, including funding from industry and peer-review funding (with grant numbers if available). Funding Sources should be indicated in a separate paragraph after the Acknowledgements section.

**Disclosures**

All potential conflicts of interest must be identified in this section. Potential conflicts of interest that should be disclosed include: relationships with pharmaceutical and biomedical device companies or other corporations whose products or services are related to the subject matter of the article, from which any of the authors may obtain potential financial benefits. Such relationships include, but are not limited to, employment by an industrial concern, equity or stock ownership by authors or family members, membership on a standing advisory council or committee, being on the board of directors or publicly associated with the company or its products, where the concern produces products whose value or perception could be influenced by the content of the article. Other areas of real or perceived conflict of interest could include receipt of honoraria or consulting fees or receiving grants or funds from such corporations or individuals representing such corporations. Intellectual property rights held by the authors for inventions relevant to the subject of the article should also be declared. Funding by peer-review grant agencies does not generally constitute a conflict of interest, unless the funding is for intellectual property development related to the material covered in the paper from which the authors stand to obtain potential financial gain. Peer-review funding relevant to the material covered in the paper that does not constitute a conflict of interest should be indicated in the Funding Sources section that precedes the Disclosures section. If there are no potential conflicts of interest, this should be designated by indicating "none" in the Disclosures section. Disclosures should be indicated in a separate paragraph after the Funding Sources section.

**Math formulae**

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

**Artwork**

Figure artwork must be submitted in electronic format.

**Electronic artwork**

**General points**

- Make sure you use uniform lettering and sizing of your original artwork.
- Embed the used fonts if the application provides that option.
- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the published version.
- Submit each illustration as a separate file.
- Ensure that color images are accessible to all, including those with impaired color vision.

A detailed guide on electronic artwork is available.

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

**Formats**

If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.

Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

- EPS (or PDF): Vector drawings, embed all used fonts.
- TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

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

Color artwork
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF) or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) in addition to color reproduction in print. Further information on the preparation of electronic artwork.

Figure Legends
Figure legends should follow the References and tables in the same Microsoft Word file as the text of the paper. Type figure legends double-spaced, with figure numbers corresponding to the order in which the figures are presented in the text. Identify all abbreviations appearing in figures in alphabetical order at the end of each legend. Provide enough information to allow interpretation of the figure without reference to the text. Written permission must be obtained from the copyright holder (usually the publisher) to reproduce any previously published figures. Cite the source of the figure in the legend. Figure legends should not appear in the figures themselves.

Tables
Tables should follow the References and precede the figure legends in the same Microsoft Word file as the text of the paper. Tables must be created using Microsoft Word (.doc) or Excel (.xls). Type tables double-spaced on a separate sheet for each table, with the table number and title above the table and explanatory notes below. Table numbers should appear in Arabic numerals and should correspond to the order of the tables in the text. In a footnote to each table provide an alphabetical listing of all abbreviations used. Written permission must be obtained from the copyright holder (usually the publisher) to reproduce any previously published table or adapted table.

Boxes
Boxes should precede the Tables and Figure legends in the same Microsoft Word file as the text of the paper. Boxes contains words, phrases, or sentences, often in list form. They are used to emphasize key points, summarize information, and/or reduce the narrative text. Boxes should have a number and title, but they should not include a legend.

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.

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.
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
Identify references in the text by Arabic numerals set as superscript. Type the reference list double-spaced, on pages separate from and following the text, with each reference numbered consecutively in the order in which it is mentioned in the text. (References cited in tables and figures, but not in the text, should also be numbered following the text references.) Personal communications, manuscripts in preparation, and other unpublished data should not be cited in the reference list but may be mentioned in the text in parentheses. Identify abstracts with the abbreviation "Abst" and letters to the editor by "Lett" in parentheses; in general, abstracts should not be cited if more than two years old.

The reference style is that of Index Medicus. Journal references should contain inclusive page numbers; book references specific page numbers; and website references the date of access (references to other types of electronic documents should include format of the document). Journal abbreviations should conform to those used in Index Medicus, National Library of Medicine. The style and punctuation of references are as follows:

Periodical
List all authors if six or less; otherwise list first three and add "et al." Do not use periods after authors' initials. Kohl P, Day K, Noble D. Cellular mechanisms of cardiac mechano-electric feedback in a mathematical model. Can J Cardiol 1998;14:111-9.

Book

Chapter in Book

Website

Videos
Videos may be submitted for publication online, at no cost to the author(s). Video clips should be submitted as MPG, MOV, AVI, or GIF files. The author(s) should verify that all video clips take less than one minute to load and that they play properly. The file size should be less than 1.5 MB. Larger clips are permissible with 3-D images.

Supplementary Material for Online Publication
In cases where information associated with an article is too extensive for publication in the Main Paper (e.g., detailed methods, data sets, additional figures or tables), this content can be included as Supplementary Material. All supplementary material (other than videos) should be incorporated in a single PDF file at the time of manuscript submission. The materials should amplify the information in the article and must be called out sequentially in the text (e.g., Supplemental Methods, Supplemental Table S1, Supplemental Figure S1, etc.). Each component of supplemental information should be numbered beginning with S1, and continuing as S2, S3, etc. Titles and/or legends for each supplemental figure or item should be included within the supplemental table or figure so that it appears in the appropriate place in the PDF file. Supplementary Material will not be copyedited or typeset.
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).

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.

Checklist
Cover letter
Title page:
Article title
Short title for running head
Full names, degrees, and affiliations of all authors
Name, mailing address, telephone and fax numbers, and email address of corresponding author
Abstract
CONSORT checklist and flow diagram for clinical trial articles
Article main text (including Acknowledgements, Ethics Statement, Patient Consent Statement, Funding Sources, and Disclosures sections at end)
References
Boxes
Tables
Figure legends
Figures (in a separate file(s))
Permission to reproduce previously published materials
Permissions for patient photographs

AFTER ACCEPTANCE
Availability of accepted article
This journal makes articles available online as soon as possible after acceptance. This concerns the Journal Pre-proofs (both in HTML and PDF format), which have undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but are not yet the definitive versions of record. A Digital Object Identifier (DOI) is allocated, thereby making it fully citable and searchable by title, author name(s) and the full text. The article's PDF also carries a disclaimer stating that it is an unedited article. Subsequent production stages will simply replace this version.

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.

**Reprints**
A reprint order form will be sent to the corresponding author when the article is accepted and submitted to the publisher.

**Copyright Agreement**
The corresponding author must sign a copyright agreement, which will be sent to the author when the manuscript is accepted for publication.

**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