

# JACC Instructions for Authors

## INTRODUCTION

The *Journal of the American College of Cardiology (JACC)* publishes peer-reviewed articles highlighting all aspects of cardiovascular disease, including original investigations, experimental investigations with clear clinical relevance, state-of-the-art papers, and viewpoints. All manuscripts must be submitted online at [www.jaccsubmit.org](http://www.jaccsubmit.org). Manuscript submissions should conform to the guidelines set forth in the “Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations),” available online at [www.icmje.org/recommendations](http://www.icmje.org/recommendations) and most recently updated in December 2019.

## ARTICLE TYPES

JACC publishes the following manuscript types: State-of-the-Art Reviews, Review Topics of the Week, Original Investigations, Cardiovascular Medicine and Society, Research Letters, Letters to the Editor, and Fellows-in-Training & Early Career Sections. We also publish Editorial Comments for each Original Investigation, although these are specifically invited by the editorial board and should not be submitted as unsolicited articles. In general, case reports will not be considered for publication.

Proposals for both State-of-the-Art Reviews and Review Topics of the Week should first be emailed to the editorial office at [jacc@acc.org](mailto:jacc@acc.org) to determine if the editor is interested in considering your review for publication. The majority of reviews are solicited by the editors; however, proposals may be considered.

**STATE-OF-THE-ART REVIEW.** The Present and Future: State-of-the-Art Review: As with all submissions to JACC, State-of-the-Art Reviews should focus on the patient. From basic mechanisms to clinical manifestations and interventional approaches to global health implications, such manuscripts will focus on a contemporary, controversial, or translational topic with 4 to 5 major sections written by multiple authors or author groups.

- Word count: no more than 10,000 words (text from the introduction to the conclusion, including references and figure legends)
- Authors: No more than two corresponding authors; no more than two joint authors in any position
- Abstract: Unstructured and no more than 150 words
- Condensed Abstract: No more than 100 words, stressing clinical implications
- Figure Limit: None
- Table Limit: None
- Central Illustration: Required
- Clinical Perspectives: Not applicable

Please provide a list of 3-4 brief (85 characters, 15 words or fewer per bullet) bullet points that highlight the main messages of the review. The first bullet should provide the translational/clinical context or background that establishes the relevance or need for this review. The second bullet should speak to the main message and focus of the review, including any recommendations made by the authors. The final bullet should summarize where the field needs to move forward from this point.

Example:

- Cardiovascular aging leads to a progressive decline in function and structure.
- Calorie reduction and adjusted diurnal rhythm of feeding may help to prevent cardiovascular disease.
- Lowered intake of protein and nutritional modulation of the gut microbiome can be cardioprotective.

- Regular exercise, stress-reduction programs, and calorie-restriction mimetic medications can impact a healthy diet.

Please be sure you have obtained or will obtain permission for previously published tables, figures, or any material for which you cannot grant copyright.

**REVIEW TOPIC OF THE WEEK.** The Present and Future: Review Topic of the Week: As with all submissions to JACC, Review Topics of the Week should focus on the patient. They provide a literature review on a contemporary topic of basic, translational, or clinical science. Such manuscripts may be written by a single author or an author group.

- Word count: no more than 5,000 words (text from the introduction to the conclusion, including references and figure legends)
- Authors: No more than two corresponding authors; no more than two joint authors in any position
- Abstract: Unstructured and no more than 150 words
- Condensed Abstract: No more than 100 words, stressing clinical implications
- Figure Limit: None
- Table Limit: None
- Central Illustration: Required
- Clinical Perspectives: Not applicable

Please provide a list of 3-4 brief (85 characters, 15 words or fewer per bullet) bullet points that highlight the main messages of the review. The first bullet should provide the translational/clinical context or background that establishes the relevance or need for this review. The second bullet should speak to the main message and focus of the review, including any recommendations made by the authors. The final bullet should summarize where the field needs to move forward from this point.

Example:

- Cardiovascular aging leads to a progressive decline in function and structure.
- Calorie reduction and adjusted diurnal rhythm of feeding may help to prevent cardiovascular disease.
- Lowered intake of protein and nutritional modulation of the gut microbiome can be cardioprotective.
- Regular exercise, stress-reduction programs, and calorie-restriction mimetic medications can impact a healthy diet.

**ORIGINAL INVESTIGATIONS.** JACC Original Investigations should relate to cardiovascular science and medicine that may include studies conducted in humans or analyses of human data, or novel translational studies with direct clinical relevance that significantly advance the field.

- Word count: No more than 5,000 words. The word count includes text from introduction through the conclusion, references, and figure legends. It excludes abstract, clinical perspectives, and tables.
- Authors: No more than two corresponding authors; no more than two joint authors in any position
- Abstract: Structured with the following headings and no more than 250 words: Background, Objectives, Methods, Results, Conclusions. The abstract should present essential data in 5 paragraphs. Use complete sentences. All data in the abstract also must appear in the manuscript text or tables. For general information on preparing structured abstracts, see “Haynes RB, Mulrow CD, Huth EJ, Altman DG, Gardner MJ. More informative abstracts revisited. *Ann Intern Med* 1990;113:69-76.”
- Condensed Abstract: Unstructured and no more than 100 words, stressing clinical implications

- Study limitations (required): Please include the limitations of your investigation at the end of the discussion section of your manuscript.
- Figure/Table Limit: None
- Central Illustration: Required
- Clinical Perspectives: Required

**CARDIOVASCULAR MEDICINE AND SOCIETY.** These submissions should focus on the impact that government policy (federal, state, and local) and social considerations have on cardiovascular care and its global delivery systems. Such manuscripts may be written by a single author or an author group.

- Word count: No more than 2,000 words (text from the introduction to the conclusion, including references and figure legends)
- Abstract: Not required
- Authors: No more than 10; no more than two corresponding authors; no joint authorship permitted
- References: No more than 10
- Figures/Tables: 1 simple table OR 1 figure (in no more than 2 parts). Note: No more than 2 figures including the Central Illustration
- Central Illustration: Not required
- Online or Supplemental Material: Not permitted.
- Clinical Perspectives: Not required

**RESEARCH LETTERS.** Both Research Letters and Letters to the Editor are published under the heading “Letters.”

You may submit original investigations of a focused nature as a research letter.

- Word count: No more than 800 words, including references and figure legend
- References: No more than 5
- Authors: No more than 10; no joint authorship permitted; no joint corresponding authors
- Figures/Tables: 1 simple figure (in no more than 2 parts) or 1 simple table (no larger than 1 page with 12-point Times New Roman font and 1-inch margins)
- Online or Supplemental Material: Not permitted.

**LETTERS TO THE EDITOR AND REPLIES.** Focus on a specific manuscript that has appeared in *JACC*. Letters must be submitted within 3 weeks of the print issue date of the article. We will seek a reply to your letter from the authors of the original paper and publish the letter and the reply together, when possible. Letters may be submitted about original investigation articles only. *JACC* does not consider letters to the editors on review articles, editorials, or any correspondence, including research letters. Letters to the editor on guidelines are also no longer considered.

- Word count: No more than 400 words, including references and a figure legend, if applicable
- References: No more than 5
- Figures/Tables: 1 simple figure (in no more than 2 parts) or 1 simple table (no larger than 1 page with 12-point Times New Roman font and 1-inch margins)
- Please include the cited article as the first reference
- Authors: No more than 5; no joint authorship permitted; no joint corresponding authors
- Title: Unique title of 15 words or less that does not include the title of the original investigation paper
- Title page: Required

**EDITORIAL COMMENTS.** The editors invite all Editorial Comments published in the Journal. If you are invited to write an editorial, specific requirements will be sent to you. Please do not submit unsolicited editorials.

**FELLOWS-IN-TRAINING & EARLY CAREER SECTION.** These articles focus on topics that are specifically germane to FITs and early career cardiologists, and carry a maximum of 1,500 words and no more than three authors. The submissions must be substantive, engaging in hard-hitting topics. In terms of style, they must be formal in their presentation, as these are not blogs, and include citations (if relevant). We would encourage specificity when choosing a topic on which to write, as opposed to something that is too broad. All authors must be within 7 years of medical training. Please note that these articles will be reviewed and may be rejected by the *JACC* Editors. These should NOT be submitted online but e-mailed to [jacc@acc.org](mailto:jacc@acc.org).

## MANUSCRIPT ORGANIZATION

- Cover Letter: A short paragraph telling the editors why the authors think their paper merits publication may be included in the cover letter. Potential reviewers may be suggested in the cover letter, as well as reviewers to avoid. However, final reviewer assignment is determined by the editors.
- Rebuttal Letter (revisions or appeals only)
- Manuscript file (see individual manuscript types and Manuscript Content for specific formatting, and you may also email [jacc@acc.org](mailto:jacc@acc.org) for a template on how to format your submission)
  - The entire manuscript (including tables) should be uploaded as a Microsoft Word document, with 1-inch margins and 12-point Times New Roman font. The title and abstract pages, including keywords and abbreviations, should be single-spaced. All text from the introduction to the end (including tables) should be double-spaced. Page numbering should start with the title page.
  - Page 1: Title page: See also Manuscript Content, below
  - Page 2: Abstract, Condensed Abstract, Key Words, Abbreviations list
  - Text
  - Perspectives: Core Clinical Competencies and Translational Outlook implications (on a separate page after the conclusions, and only for Original Investigation submissions) OR Highlight bullet points (for review articles only)
  - References
  - Figure titles and captions, including a title and caption for the Central Illustration (if applicable)
  - Tables, each on a separate page
- Figures
- Supplemental material
  - Please upload all online materials, with the exception of videos, as one separately uploaded Word document, labeled Supplemental Appendix. This should include all supplemental text, tables and figures, figure legends, etc.

## MANUSCRIPT CONTENT

The order in which these items appear should also be the order in which they appear in your submission.

### TITLE PAGE

- Title (no more than 15 words) and brief title of no more than 7 words
- Authors' names (including full first name, middle initial, last name, and degrees—MD, PhD, etc.)
- Total word count
- Departments and institutions with which the authors are affiliated. Indicate the specific affiliations if the work is generated from more than one institution (use superscript letters <sup>a</sup>, <sup>b</sup>, <sup>c</sup>, <sup>d</sup>, and so on). List only the departments and institutions for co-authors.
- Funding: Information on grants, contracts, and other forms of financial support. List the cities and states of all foundations, funds, and institutions involved in the work.

- Disclosures: State each author's disclosures (or lack thereof). This must include the full disclosure of any relationship with industry. (See Relationship with Industry section.) If there are no relationships with industry, this should be stated.
- Corresponding author contact information: Under the heading, "Address for correspondence," provide the full name and complete postal address of the author to whom communications should be sent. Also provide telephone and fax numbers, an e-mail address, and a Twitter handle, if available. Please also provide a short tweet summarizing your paper on your title page. The tweet should be approximately 150 characters, including spaces. Please note that the editors will review your content, and it may not ultimately be published on the @JACCJournals Twitter account. The corresponding author will be the sole contact for all submission queries.
- Acknowledgements: 100 words or less.

**ABSTRACT.** Provide a structured abstract of no more than 250 words for Original Investigations, presenting essential data in 5 paragraphs introduced by separate headings in the following order: Background, Objectives, Methods, Results, Conclusions. All data in the abstract also must appear in the manuscript text or tables. For general information on preparing structured abstracts, see "Haynes RB, Mulrow CD, Huth EJ, Altman DG, Gardner MJ. More informative abstracts revisited. *Ann Intern Med* 1990;113:69-76."

An unstructured 150-word abstract should be provided for either type of review article.

**KEYWORDS.** Immediately after the abstract, provide a maximum of 6 key words, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations. These key words will be used for indexing purposes, and therefore should be different than the terms/words already used in the title of the paper.

**ABBREVIATIONS.** Up to 10 abbreviations (e.g., ECG, PTCA, CABG) or acronyms (GUSTO, SOLVD) may be listed. On a separate page following the abstract, list the selected abbreviations and their definitions (e.g., TEE = transesophageal echocardiography). The editors will determine which lesser-known terms should not be abbreviated. Consult "Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations)," available at [www.icmje.org/recommendations](http://www.icmje.org/recommendations), for appropriate use of units of measure.

**TEXT.** Use Times New Roman 12-point font. The text should be structured as: Introduction, Methods, Results, Discussion, and Conclusions. Use headings and subheadings in the Methods, Results, and, particularly, in the Discussion sections. **Every reference, figure, and table should be cited in the text in numerical order according to order of mention.**

**CLINICAL PERSPECTIVES.** The authors should delineate clinical competencies and translational outlook recommendations for their manuscripts. These competencies should not restate the questions underlying the work but describe the implications of the study and how the new information can be integrated into current practice based on the 6 domains delineated by the Accreditation Council on Graduate Medical Education (ACGME) and adopted by the American College of Cardiology Foundation (ACCF). These should be listed in the manuscript after the text and before the references. Please review the examples provided below. The competencies describe the implications of the study for current practice. The translational outlook places the work in a futuristic context, emphasizing directions for additional research.

**CLINICAL COMPETENCIES.** Competency-based learning in cardiovascular medicine addresses the 6 domains promulgated by the ACGME and endorsed by the American Board of Internal Medicine (Medical Knowledge, Patient Care and Procedural Skills, Interpersonal and Communication Skills, Systems-Based Practice, Practice-Based Learning, and Professionalism) (<http://www.acgme.org/acgmeweb>). The ACCF has adopted this format for its competency and training statements, career milestones, lifelong learning, and educational programs. The ACCF also has developed tools to assist physicians in assessing, enhancing, and documenting these competencies ([www.acc.org/education-and-meetings/products-and-resources/competencies](http://www.acc.org/education-and-meetings/products-and-resources/competencies)). Authors are asked to consider the clinical implications of their report and identify applications in one or more of these competency domains that could be used by clinician-readers to enhance their competency as professional caregivers. This applies not only to physicians-in-training, but to the sustained commitment to education and continuous improvement across the span of their professional careers.

The ACCF has adopted this format for its competency and training statements, career milestones, lifelong learning, and educational programs. The ACCF also has developed tools to assist physicians in assessing, enhancing, and documenting these competencies ([www.acc.org/education-and-meetings/products-and-resources/competencies](http://www.acc.org/education-and-meetings/products-and-resources/competencies)). Authors are asked to consider the clinical implications of their report and identify applications in one or more of these competency domains that could be used by clinician-readers to enhance their competency as professional caregivers. This applies not only to physicians-in-training, but to the sustained commitment to education and continuous improvement across the span of their professional careers.

**TRANSLATIONAL OUTLOOK.** Translating biomedical research from the laboratory bench, clinical trials, or global observations to the care of individual patients can expedite discovery of new diagnostic tools and treatments through multidisciplinary collaboration. Effective translational medicine facilitates implementation of evolving strategies for prevention and treatment of disease in the community. The Institute of Medicine identified 2 areas needing improvement: testing basic research findings in properly designed clinical trials and, once the safety and efficacy of an intervention has been confirmed, more efficiently promulgating its adoption into standard practice (Sung NS, Crowley WF, Genel M. The meaning of translational research and why it matters. *JAMA* 2008;299:3140-8). The National Institutes of Health (NIH) has recognized the importance of translational biomedical research, emphasizing multifunctional collaborations between researchers and clinicians to leverage new technology and accelerate the delivery of new therapies to patients (<http://www.ncats.nih.gov/about/about.html>). Authors are asked to place their work in the context of the scientific continuum, by identifying impediments and challenges requiring further investigation and anticipating next steps and directions for future research.

#### CLINICAL TRIALS

**EXAMPLE 1: For a Clinical Trial** [*N Engl J Med* 2012;367:2375-84]:

##### PERSPECTIVES

**Competency in Medical Knowledge:** CABG surgery is the preferred method of revascularization for patients with diabetes and multivessel coronary artery disease.

**Competency in Patient Care:** The diabetic patient with coronary symptomatology, prior to the diagnostic catheterization, should be made aware that if multivessel disease is identified and intervention is indicated, surgical consultation should be entertained.

**Translational Outlook 1:** Although this is a relatively short-term study (median of 3.8 years), longer-term follow up of FREEDOM will lead to better understanding of the comparative benefit by CABG, specifically on mortality.

**Translational Outlook 2:** Compliance to medication is nonsatisfactory in patients with coronary artery disease. Comparing the compliance of FREEDOM patients taking a "polypill" approach (including aspirin, statin, and an angiotensin-converting enzyme inhibitor) with the compliance of patients treated conventionally with individual agents should be undertaken.

#### TRANSLATIONAL SCIENCE STUDIES

**EXAMPLE 2: For a Translational Science Study** [*Nat Med* 2014;20:215-9]:

##### PERSPECTIVES

**Competency in Medical Knowledge:** Inflammation is one of the major determinants of atherosclerotic plaque instability. Positron emission tomography with F18-labeled FDG has been employed for the identification of the macrophages in high-risk patients. Imaging with mannose, the isomer of glucose, may have an advantage because a subset of macrophages in high-risk plaques develop mannose receptors.

**Translational Outlook 1:** Although circulating biomarkers of inflammation, such as hs-CRP, provide reliable information of systemic inflammation, detection of inflammation at the plaque level may allow identification of the high-risk plaques.

**Translational Outlook 2:** Plaque imaging with sugars, although feasible, must in a randomized fashion investigate whether treatment of individual high-risk plaques would favorably influence major adverse outcomes in atherosclerotic disease.

#### REVIEW ARTICLE.

**EXAMPLE 3: For a Review Article** [Lancet 2014;383:955-62]:

#### PERSPECTIVES

**Competency in Medical Knowledge 1:** Selection of antithrombotic therapy for prevention of thromboembolism in patients with atrial fibrillation must consider several clinical factors, including the patient's values and preferences.

**Competency in Medical Knowledge 2:** The oral direct thrombin inhibitor, dabigatran, and factor Xa inhibitors, rivaroxaban, apixaban, and edoxaban (so-called novel oral anticoagulants or NOACs) avoid the dietary restrictions and need for routine coagulation monitoring that are cumbersome aspects of anticoagulation with vitamin K antagonists such as warfarin.

**Competency in Patient Care:** All 3 NOACs currently approved for clinical use in the United States represent advances over warfarin because of their more predictable pharmacological profiles, fewer drug interactions, and considerably lower risk of intracranial bleeding than warfarin, but these advantages come at greater monetary cost, and there is presently no approved antidote or validated strategy rapid reversal of anticoagulation induced by any of the NOACs.

**Competency in Interpersonal & Communication Skills:** It is important to discuss the available options with patients who are candidates for the newer agents.

**Translational Outlook 1:** The mechanism by which each of the NOACs evaluated to date cause less intracerebral hemorrhage than well-managed warfarin anticoagulation requires further investigation.

**Translational Outlook 2:** Additional research is needed to understand the safety and efficacy of the NOACs, alone or in combination in patients with mechanical prosthetic heart valves to overcome the toxicity of this type of anticoagulation in the limited studies undertaken to date that contraindicate their use in patients who have undergone heart valve replacement with mechanical prostheses.

#### REFERENCES

- Identify references in the text by numerals in parentheses on the line.
- The reference list should be double-spaced on pages separate from the text; references must be numbered consecutively in the order in which they are mentioned in the text. List all authors if 6 or fewer, otherwise list the first 3 and add "et al." Do not use periods after author initials.
- Do not cite personal communications, manuscripts in preparation, or other unpublished data in the references; these may be cited in the text in parentheses. Do not cite abstracts that are older than 2 years. Identify abstracts by the abbreviation "abstr" in parentheses. If letters to the editor are cited, identify them with the word "letter" in parentheses. Websites must be cited as references.
- Use Index Medicus (National Library of Medicine) abbreviations for journal titles. It is important to note that when citing an article from the *Journal of the American College of Cardiology*, the correct citation format is *J Am Coll Cardiol*.
- Use the following style and punctuation for references:

- Periodical. Do not use periods after the authors' initials. Please provide inclusive page numbers: Example: "5. Glantz SA. It is all in the numbers. *J Am Coll Cardiol* 1993;21:835-7."
- DOI-based citation for an article in press.
  - If the ahead-of-print date is known, please provide. EXAMPLE: "16. Winchester D, Wen X, Xie L, et al. Evidence for pre-procedural statin therapy: meta-analysis of randomized trials. *J Am Coll Cardiol* 2010 Sept 28 [E-pub ahead of print]; <https://doi.org/10.1016/j.jacc.2010.09.028>."
  - If the ahead-of-print date is unknown, please omit. EXAMPLE: "16. Winchester D, Wen X, Xie L, et al. Evidence for pre-procedural statin therapy: meta-analysis of randomized trials. *J Am Coll Cardiol* 2010 [E-pub ahead of print]; <https://doi.org/10.1016/j.jacc.2010.09.028>."
- Chapter in book. Provide author(s), chapter title, editor(s), book title, publisher location, publisher name, year, and inclusive page numbers. EXAMPLE: "27. Meidell RS, Gerard RD, Sambrook JF. Molecular biology of thrombolytic agents. In: Roberts R, editor. *Molecular Basis of Cardiology*. Cambridge, MA: Blackwell Scientific Publications, 1993:295-324."
- Book (personal author or authors.) Provide a specific (not inclusive) page number. EXAMPLE: "23. Cohn PF. *Silent Myocardial Ischemia and Infarction*. 3rd edition. New York, NY: Marcel Dekker, 1993:33."
- Online media. Provide specific URL address and date information was accessed. EXAMPLE: "10. Henkel J. Testicular Cancer: Survival High With Early Treatment. *FDA Consumer magazine* [serial online]. January-February 1996. Available at: [http://www.fda.gov/fdac/features/196\\_test.html](http://www.fda.gov/fdac/features/196_test.html). Accessed August 31, 1998."
- Material presented at a meeting but not published. Provide authors, presentation title, full meeting title, meeting dates, and meeting location. EXAMPLE: "20. Eisenberg J. Market forces and physician workforce reform: why they may not work. Paper presented at: Annual Meeting of the Association of Medical Colleges; October 28, 1995; Washington, DC."

**FIGURE LEGENDS.** Figure legends should be an in-depth explanation of each figure, including a figure TITLE and a CAPTION that includes the purpose of the figure, and brief method, results, and discussion statements pertaining to the figure. All abbreviations used in the figure should be identified either after their first mention in the legend or in alphabetical order at the end of each legend. All symbols used (arrows, circles, etc.) must be explained. Target length should be 50-100 words per figure.

- All figures must have a number, title, and caption.
- Figures should be cited in numerical order in the text.
- Supplemental figures should be cited as "Supplemental Figure 1, Supplemental Figure 2," etc.
- Figure titles should be short and followed by a 2 to 3 sentence caption.
- Your Central Illustration, if not an existing figure, should be listed last.
- If the figure has been previously published, cite the figure source in the legend.

**TABLES.** Each table should be on a separate page, with the table number and title centered above the table and explanatory notes below the table. Use Arabic numbers. Table numbers must correspond with the order cited in the text. Tables should be self-explanatory, and the data presented in them should not be duplicated in the text or figures.

- All tables must have a title.
- Abbreviations should be listed in a footnote under the table in alphabetical order.

- Footnote symbols should appear in the following order: \*, †, ‡, §, ||, #, \*\*, ††, etc.
- If previously published tables are used, written permission from the original publisher (or copyright holder, if not the publisher) is required.
- Cite the source of the table in the footnote.

**CENTRAL ILLUSTRATION.** All Original Investigations, State-of-the-Art Reviews, and Review Topics of the Week should develop at least 1 Central Illustration (that may be a hand-drawn figure), which summarizes the entire manuscript or at least a major section of the manuscript. Our in-house medical illustrators will create the final printable versions of these figures in consultation with the authors and the editors. The purpose of these illustrations is to provide a snapshot of your paper in a single visual, conceptual manner. This illustration must be accompanied by a legend (title and caption). The Central Illustration legend should be listed last in your list of figure legends, unless it is an existing figure. For best practices on creating Central Illustrations, please see The Art and Challenge of Crafting a Central Illustration or Visual Abstract at <http://www.onlinejacc.org/content/74/22/2816>.

#### FIGURES

- Figures and graphs should be provided in TIF format.
- Color and gray-scale images must be at least 300 DPI. Line art should be at least 1,200 DPI.
- All abbreviations used in the figure should be identified in alphabetical order at the end of each legend.
- All symbols used (arrows, circles, etc.) must be explained.
- Figure legends should be double-spaced on pages separate from the text.
- Figure numbers must correspond with the order in which they are mentioned in the text.
- If previously published figures are used, written permission from the original publisher (or copyright holder, if not the publisher) is required. See STM Guidelines for details: <https://www.stm-assoc.org/intellectual-property/permissions/permissions-guidelines/>.
- If the figure has been previously published, cite the figure source in the legend.

Graphics software, such as Photoshop and Illustrator, should be used to create the art, but not presentation software such as PowerPoint, CorelDraw, or Harvard Graphics. Line art (black and white or color) and combinations of gray scale images and line art should be at least 1200 DPI. Lettering should be of sufficient size to be legible after reduction for publication. The optimal size is 12 points. Symbols should be of a similar size. Figures should be no smaller than 13 cm × 18 cm (500 × 700). Decimals, lines, and other details must be strong enough for reproduction. Use only black and white—not gray—in charts and graphs. Place crop marks on photomicrographs to show only the essential field. Designate special features with arrows. All symbols, arrows, and lettering on half-tone illustrations must contrast with the background. There is no fee for the publication of color figures. Our editors encourage authors to submit figures in color, as we feel it improves the clarity and visual impact of the images.

#### VIDEOS

Inclusion of videos in the published paper is at the discretion of the Editors:

1. Video submissions for viewing online should be submitted as MP4 files only. The Journal office will not accept any other file formats.
2. Videos should be no larger than 15 MB. Larger videos will require longer download times and may have difficulty playing online.
3. A video legends page giving a brief description of the content of each video must be included in the manuscript. Please list the video legends page *immediately after* the figure legends page in the manuscript.

4. Authors should submit a thumbnail image for each video, cropped to W 200 X H 150, and uploaded as a tiff file.

#### EDITORIAL POLICIES

All manuscripts must be submitted online at <http://www.jaccsubmit.org>. By submitting an article to the journal, all authors of the submission agree to receive emails from all the American College of Cardiology's JACC Journals regarding the manuscript, including editorial queries while the manuscript is under review and emails from the publisher should the paper be accepted for publication. The contact information provided by the corresponding author will be included in the galley proofs, the published PDF version of the manuscript, and the online version of the manuscript.

**ETHICS.** Manuscript submissions should conform to the guidelines set forth in the "Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations)," available online at [www.icmje.org/recommendations](http://www.icmje.org/recommendations) and most recently updated in December 2019.

Studies should be in compliance with human studies committees and animal welfare regulations of the authors' institutions and the U.S. Food and Drug Administration guidelines. Human studies must be performed with the subjects' written informed consent. Authors must provide the details of this procedure and indicate that the institutional committee on human research has approved the study protocol. If radiation is used in a research procedure, the radiation exposure must be specified in the Methods.

Studies on patients or volunteers require ethics committee approval and informed consent, which should be documented in your paper. Patients have a right to privacy. Therefore, identifying information, including patients' images, names, initials, or hospital numbers, should not be included in videos, recordings, written descriptions, photographs, and pedigrees unless the information is essential for scientific purposes, and you have obtained written informed consent for publication in print and electronic form from the patient (or parent, guardian, next of kin, or other legally authorized representative). If consent is subject to conditions, the editorial office must be informed.

Written consents must be provided to the editorial office on request. Even where consent has been given, identifying details should be omitted if they are not essential. If identifying characteristics are altered to protect anonymity, such as in genetic pedigrees, authors should provide assurance that alterations do not distort scientific meaning and editors should so note. If such consent has not been obtained, personal details of patients included in any part of the paper and in any supplementary materials (including all illustrations and videos) must be removed before submission. Animal investigation must conform to the "Position of the American Heart Association on Research Animal Use," adopted by the AHA on November 11, 1984. If equivalent guidelines are used, they should be indicated. The AHA position includes: 1) animal care and use by qualified individuals, supervised by veterinarians, and all facilities and transportation must comply with current legal requirements and guidelines; 2) research involving animals should be done only when alternative methods to yield needed information are not possible; 3) anesthesia must be used in all surgical interventions, all unnecessary suffering should be avoided and research must be terminated if unnecessary pain or fear results; and 4) animal facilities must meet the standards of the American Association for Accreditation of Laboratory Animal Care (AAALAC).

The JACC Journals have an ethics committee comprised of 7 members, which oversees quality control and will look into the issues of concern, if any.

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