

JACC: Basic to Translational Science Instructions for Authors

JACC: Basic to Translational Science, an open access journal, serves a forum for advancing the field Translational Cardiovascular Medicine, and as a platform for accelerating the translation of novel scientific discoveries into new therapies that improve clinical outcomes for patients affected with or at risk for Cardiovascular Disease. Thematic areas of interest include pre-clinical research; clinical trials; personalized medicine; novel drugs, devices, and biologics; proteomics, genomics and metabolomics; and early phase clinical trial methodology. We request that all manuscripts be submitted online at <https://www.jaccsubmit-basicts.org>.

ARTICLE TYPES

ORIGINAL RESEARCH PAPERS. *JACC: Basic to Translational Science* publishes original research articles that involve novel methodology (novel translational methods), preclinical studies (i.e., not involving human samples), and clinical studies that involve analysis of human samples or studies performed in human subjects. The guidelines for submission are identical for each category. The Journal also publishes original research articles in the leading edge translational research category. These articles are discrete, highly significant, innovative, or novel findings reported in a shorter format of 3,500 words or fewer in length. Editors will review for interest within seven (7) days of submission. These may be invited or submitted by the authors.

JACC: Basic to Translational Science is not restricted to page length, however the Editors prefer that manuscripts not exceed 8,000 words (including references and figure legends). Note that if you are asked to revise your paper an alternate word limit may be specified by the Editors. Illustrations and tables should be limited to those necessary to highlight key data. Please provide gender-specific data, when appropriate, in describing outcomes of epidemiologic analyses or clinical trials; or specifically state that no gender-based differences were present.

- 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 and Conclusions. The abstract should present essential data in 5 paragraphs. Use complete sentences. All data in the abstract also must appear in the manuscript texts or tables.
- Condensed Abstract: Unstructured and no more than 150 words
- Results: Please report all P-values to three digits to the right of the decimal point for P-values <0.10, and 2 digits to the right of the decimal point for P-values >0.10 within the manuscript text.
- Study limitations (required): Please include the limitations of your investigation at the end of the discussion section of your manuscript.
- Figure/Table Limit: None
- Visual Abstract: Required (See Manuscript Content section for more information about Visual Abstracts)
- Highlights: Required (See Manuscript Content section for more information about Highlights)
- Clinical Perspectives: Required (See Manuscript Content section for more information about Clinical Perspectives)
- Ethical Approval (required): Please denote that your study received proper ethical oversight in both your cover letter and Methods section. For manuscripts reporting data on human subjects, note institutional review board/ethics committee approval (or formal review and exemption), including the specific name of the board or

committee. For studies involving animal experiments, note that the study complied with all institutional and national requirements for the care and use of laboratory animals and, if applicable, received approval from an animal care and use committee approval. State the animal-handling protocol in your Methods.

STATE-OF-THE-ART REVIEWS. The Editors will consider both invited and volunteered review articles. Manuscripts should be no more than 7,500 words (including text, references and, figure legends). Authors should detail in their cover letters how their submission differs from existing reviews on the subject.

- Authors: No more than two corresponding authors; no more than two joint authors in any position
- Abstract: Unstructured and no more than 150 words
- Figure Limit: None
- Table Limit: None
- Central Illustration: Required (See Manuscript Content section for more information about Central Illustrations)
- Highlights: Required (See Manuscript Content section for more information about Highlights)
- Clinical Perspectives: Not applicable

Please be sure you have obtained or will obtain permission for previously published tables, figures, or any material for which you cannot grant copyright. Please contact us with suggestions before you start to prepare such review articles.

TRANSLATIONAL PERSPECTIVES. Although usually invited, succinct opinion pieces relevant to a specific aspect of translational medicine will also be considered for *JACC: Basic to Translational Science*. They should not exceed 1,500 words and should have no more than a total of 2 figures and tables, and no more than 5 references.

RESEARCH LETTERS. This section is intended to highlight recent development or other important pieces of information. You may submit original reports of preliminary data and findings or studies with small numbers demonstrating the need for further investigation as Research Letters, which are published as such in the Letters to the Editor section. These can include scientific studies with brief content and results such as phase II trial results, investigator-initiated studies funded by federal or society research grants (NIH K, R grant recipients), and/or emerging investigators. Research Letters should be \leq 1,000 words (including text, references, and figure legend).

- Abstract: Not applicable
- Authors: No more than 10; no joint authorship permitted
- References: No more than 5
- Figures/Tables: No more than 1 simple figure (in no more than 2 parts) or 1 simple table
- Central Illustration: Not applicable
- Clinical Perspectives: Not applicable
- Supplemental Material: Not permitted
- Ethical Approval (required): Please denote that your study received the proper ethical oversight in both your cover letter and the body of the article. For manuscripts reporting data on human subjects, note approval from institutional review board/ethics committee (or formal review and exemption), including the specific name of the board or committee. For studies involving animal experiments, note that the study complied with all institutional and national requirements

for the care and use of laboratory animals and, if applicable, received animal care and use committee approval. State the animal-handling protocol in the body of your article.

LETTERS TO THE EDITOR AND REPLIES. We welcome readers to submit formal comments on the content of articles published in *JACC: Basic to Translational Science*. Such comments should provide constructive scientific remarks. Readers may submit these comments as a Letter to the Editor within 3 months of the article's online publication date. Letters should be ≤500 words (including text and references). Replies will be solicited by the Editors and study authors will have 10 days to respond. The author's reply should be ≤500 words (including text and references) unless the author is responding to multiple letters in which case the reply should be ≤800 words (including text and references). Titles must be ≤15 words (not including the labels "To the Editor" and "Reply"). Replies to multiple letters need a title that is generic and encompasses all of the letters to which they are responding. Both letters and replies are limited to 5 authors, 5 references, and 1 table OR 1 figure in 1 or 2 panels. Please include the cited article as the first reference.

EDITORIAL COMMENTS. All Editorial Comments published in *JACC: Basic to Translational Science* are invited by the Editors. If you are invited to write an editorial, specific requirements will be sent to you. Papers should be ≤1,500 words (including text, references, and figure legends) and must include the cited article as a reference. In some cases, a table or figure may be helpful and appropriate. Please do not submit unsolicited editorials.

CLINICAL TRIAL REGISTRATION

1. Consistent with the recommendations provided by the International Committee of Medical Journal Editors for Clinical Trial Registration (ICMJE) (https://www.icmje.org/news-and-editorials/clinical_trial_reg_jun2007.html), *JACC: Basic to Translational Science* will require, as a pre-condition of consideration for publication, registration in a public trials registry. Trials must register at or before the onset of patient enrollment. This policy applies to any clinical trial starting enrollment after July 1, 2005.
2. The ICMJE defines a clinical trial (<https://www.icmje.org/about-icmje/faqs/clinical-trials-registration>) as "any research project that prospectively assigns human subjects to intervention or comparison groups to study the cause-and-effect relationship between a medical intervention and a health outcome." Phase 0 clinical trials (e.g., exploratory clinical trials not designed to evaluate therapeutic or diagnostic intent) and phase 1 clinical trials do not meet the FDA definition of an Applicable Clinical Trial (21 CFR312.21), and therefore, are generally, not required to be registered.
3. A list of the ICMJE accepted registries can be found at the following URL: <https://www.icmje.org/about-icmje/faqs/clinical-trials-registration>.

PREPRINT DEPOSITION

JACC: Basic to Translational Science is now offering authors the opportunity to post their manuscripts on a SSRN preprint server (<https://www.ssrn.com/link/JACC-Basic-Translational-Science-FL.html>). Preprints are research papers that are at the early submission stage that have not gone through peer review nor editorial oversight and guidance, and are primarily intended for research use. All papers on the "JACC: Basic to Translational Science First Look" server will be free to upload and download.

Authors may post a preprint of their manuscript during the journal submission process and in advance of manuscript decision. This service is not a requirement to submit to the Journal and has no bearing on the peer review process. Authors who wish to opt in and have their paper

considered for posting should answer "Yes" in the Preprint Deposition section of the submission site. Please note that agreeing to post a manuscript to SSRN does not guarantee it will be posted. Only manuscripts sent out for peer review (at the editors' discretion) will be posted to SSRN. Papers that are accepted for publication will remain on the "JACC: Basic to Translational Science First Look" server indefinitely, whereas papers that are ultimately rejected will be archived on a different site on the SSRN preprint server.

MANUSCRIPT ORGANIZATION

1. Cover Letter (not required for Editorial Comments)
2. Rebuttal Letter (revision or appeal only)
3. Manuscript File
 - a) Title Page with title (≤15 words), author names, author affiliations, author/funding disclosures, running title (≤7 words), corresponding author contact information (including mailing address, phone, fax, and email address), and word count (beginning with text and ending with the last figure legend; not including tables)
 - b) Abstract (Structured Abstract of ≤250 words for Original Research Papers, Unstructured Abstract of ≤150 words); Clinical Trial Registration (if applicable); Key Words, 3-6; Abbreviations List, ≤10 Abbreviations
 - c) Text
 - d) Clinical Perspectives (core clinical competencies and translational outlook implications on a separate page after the conclusions, and only for Original Research Papers)
 - e) Acknowledgments (if appropriate)
 - f) References
 - g) Figure Titles and Legends
 - h) Tables (each on a separate page)
4. Figures/Visual Abstract (Original Research Papers only)/Central Illustration (State-of-the-Art Reviews only)
5. Supplemental Material (uploaded as one single Microsoft Word document containing all supplemental figures and tables)

FORMATTING

Please use Times New Roman 12-point font with 1-inch margins. The Title Page, Abstract(s), Key Words, and Abbreviations should be single-spaced. The remaining text should be double-spaced. Page numbering should begin with the Title Page.

REPORTING SEX- AND GENDER-BASED ANALYSES

REPORTING GUIDANCE. For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research's generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below). Authors can refer to the [Sex and Gender Equity in Research \(SAGER\) guidelines](#) and the [SAGER guidelines checklist](#). These offer systematic approaches to the use and editorial review of sex and gender information in study design,

data analysis, outcome reporting and research interpretation—however, please note there is no single, universally agreed-upon set of guidelines for defining sex and gender.

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

MANUSCRIPT CONTENT

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. The corresponding author should be specified in the cover letter and on the title page. All editorial communications and submission queries will be sent to this author. Cover letters must include the following 4 ICJME Statements:

1. The paper is not under consideration elsewhere;
2. None of the paper’s contents have been previously published;
3. All authors have read and approved the manuscript;
4. The full disclosure of any potential conflict of interest (see “Relationship with Industry Policy”) or that no such relationship exists. Exceptions must be explained. If there is no conflict of interest, this should also be stated in the cover letter.
5. Ethical Approval (required): Please denote that your study received the proper ethical oversight in both your cover letter and the body of the article. For manuscripts reporting data on human subjects, note institutional review board/ethics committee approval (or formal review and exemption), including the specific name of the board or committee. For studies involving animal experiments, note that the study complied with all institutional and national requirements for the care and use of laboratory animals and, if applicable, received approval from animal care and use committee. State the animal-handling protocol in the body of your research correspondence or the Methods section of your manuscript.

TITLE PAGE. Include the full title (no more than 15 words), authors’ names (full given name, middle initial, and surname), degree, total word count, and a running title of #7 words. List the departments and institutions with which the authors are affiliated, and indicate the specific affiliations if the work is generated from more than one institution (use superscript letters ^{a, b, c, d}, and so on). Provide information on clinical trials, grants, contracts, and other forms of financial support, and list the cities and states of all foundations, funds and institutions involved in the work. This must include the full

disclosure of any relationship with industry (see “Relationship with Industry Policy”). 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 email address, and a Twitter handle, if available. Please also provide a short tweet summarizing your paper to your title page. The tweet should be approximately 280 characters, including spaces. Please include up to three hashtags with your tweet (Example: #ACCIntl, #ACCFIT, #WomenInCardiology, #CVD, #Heart-Failure). You may also review our [hashtag guide](#). 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.

Word Count: Word count should include text, references, and figure legends.

ABSTRACT. Provide a structured abstract of no more than 250 words for Original Research Papers, 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 State-of-the-Art Reviews.

KEY WORDS. 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’). 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. The abbreviations of common terms (e.g., ECG, PTCA, CABG) or acronyms (GUSTO, SOLVD, TIMI) may be used in the manuscript. On a separate page following the Abstract, list the selected abbreviations and their definitions (e.g., TEE = transesophageal echocardiography). The Editors may determine which lesser-known terms should not be abbreviated. Please consult “Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations),” available from www.icmje.org for appropriate use of units of measure.

TEXT. All text should be double-spaced. Page numbering should start with the Title Page. The text for Original Research Papers should be structured as Introduction, Methods, Results, Discussion, and Conclusions. Use headings and subheadings in the Methods, Results, and particularly, Discussion sections. Every reference, figure, and table should be cited in the text in numerical order according to order of mention. All supplemental figures, tables, and appendices should also be cited in the text.

CLINICAL PERSPECTIVES. These are for Original Research Papers only. The authors should delineate clinical implications and translational outlook recommendations for their manuscripts. These should be listed in the manuscript after the Text and before the Acknowledgments and References. The competencies describe the implications of the study for current practice. The translational outlook identifies the potential barriers to clinical translation, emphasizing directions for additional research.

Clinical Competencies. Competency-based learning in cardiovascular medicine addresses the 6 domains promulgated by the Accreditation Council on Graduate Medical Education (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) (www.acgme.org). 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).

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 two areas in need of 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;299:3140-3148).

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 (<https://ncats.nih.gov/translation>).

Authors are asked to position 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.

HIGHLIGHTS. These are required for Original Research Papers and State-of-the-Art Reviews. These will be placed next to your Visual Abstract (for Original Research Papers) or Central Illustration (for State-of-the-Art Reviews) in the final version of your manuscript.

Please provide a list of 3-4 brief bullet points that highlight the main messages of the review. The highlights should be between about 75 to 120 words in length. 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:

- The acute inflammatory response is a critical mechanism for host defense, whereas the resolution of inflammation is equally important for tissue homeostasis by delimiting the destructive effects of chronic inflammation.
- This review will discuss the role of the activation of the G-protein coupled formyl peptide receptor 2 (ALX/FPR2) in terms of regulating the resolution of inflammation following tissue injury, and will specifically focus on the role of lipid mediators in activating the ALX/FPR2 receptor.
- Additional studies will be required to clarify whether activation of the ALX/FPR2 receptor can be used therapeutically to prevent chronic inflammation, scar tissue formation following acute tissue injury.

ACKNOWLEDGEMENTS. Acknowledgments should contain 100 words or less. Signed letters of permission from all individuals listed in the acknowledgments must be submitted to *JACC: Basic to Translational Science*.

REFERENCES

- Identify references in the text with superscript numerals. Do not use EndNote.
- The reference list should be double-spaced on pages separate from the text; journal titles should be italicized. 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 by name rather than by number. 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 (i.e., any URLs cited in the text or tables must be included as references rather than in the text or table).
- Use Index Medicus (National Library of Medicine) abbreviations for journal titles. It is important to note that when citing an article from the *JACC: Basic to Translational Science*, the correct citation format is *J Am Coll Cardiol Basic Trans Science*.
- Use the following style and punctuation for references:
 - Periodical. Do not use periods after the authors’ initials. Please provide all page numbers: Example: “5. Glantz SA. It is all in the numbers. *J Am Coll Cardiol*. 1993;21:835-837.”
 - 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 preprocedural statin therapy: meta-analysis of randomized trials. *J Am Coll Cardiol*. 2010. <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 preprocedural statin therapy: meta-analysis of randomized trials. *J Am Coll Cardiol*. <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. Accessed August 31, 1998. http://www.fda.gov/fdac/features/196_test.html.”
 - 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.”

AMA Manual of Style. The *JACC Journals* follow the *AMA Manual of Style* with minor modifications. This guide provides guidance on usage, including but not limited to sociodemographic descriptors and nomenclature. For more detailed information on what’s new in the 11th edition, see the slide set here: <https://www.amamanualofstyle.com/page/aboutAMAMOS11>.

FIGURES

- All figures must have a number, title, and caption.
- TIF figures are preferred.
- Typeset figures should be no smaller than 7 inches wide.
- Lettering should be of sufficient size to be legible after reduction for publication; the optimal size is 12 points but should be no less than 10 points. Symbols should be of a similar size.
- Color and gray scale images must be at least 300 DPI. Line art should be at least 1200 DPI.
- All abbreviations used in the figure should be identified in an alphabetical order at the end of each legend.
- All symbols used (arrows, circles, etc.) must be explained.
- 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.
- Do not include trial logos in figures.

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.

FIGURE LEGENDS. Figure legends should be an in-depth explanation of each figure, including a figure a **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, with the title no more than 10 words. Legends should not exceed 150 words.**

- All figures must have a number, title, and caption.
- Figure legends should be double-spaced on pages separate from the text.
- Figures should be cited in numerical order in the text with each figure called out individually, rather than using a range (for instance, Figures 1, 2, and 3, rather than Figures 1–3). 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 Visual Abstract (or Central Illustration) should be listed last.
- If the figure has been previously published, cite the figure source in the legend.

VISUAL ABSTRACTS AND CENTRAL ILLUSTRATIONS. All Original Research Papers should develop at least 1 **Visual Abstract** drawing or figure (that may be a hand-drawn figure), which summarizes the entire manuscript or at least a major section of the manuscript. All State-of-the-Art Reviews must 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 both illustrations is to provide a snapshot of your paper in a single visual, conceptual manner. Trial logos should not appear in Visual Abstract or Central Illustrations.

The Central Illustration should be labeled as “Central Illustration,” rather than as a numbered figure, and it must not duplicate content from other figures in the manuscript. This illustration must be called out in the body of the article. It must be accompanied by a legend (title and caption). The Central Illustration legend should be listed last in your list of figure legends. The Central Illustration must be an original image and, for copyright reasons, cannot be adapted or reprinted from another source.

For best practices on creating visual abstracts, please see *The Art and Challenge of Crafting a Central Illustration or Visual Abstract* at <https://www.jacc.org/doi/full/10.1016/j.jacc.2019.10.035>.

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 of up to 15 words.
- Each table may include a caption of up to 100 words. Abbreviations, which do not count toward the caption word limit, should be listed in a footnote under the table in alphabetical order.
- Footnote symbols should use lowercase, superscript letters, in alphabetical order: ^a, ^b, ^c, 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.

SUPPLEMENTAL MATERIAL. Authors may submit supplemental material to accompany their article. The supplemental material should be essential to the understanding and interpretation of the primary manuscript and should contain original content that has not been previously published. The supplemental material will be posted online at the same time of publication of the article.

Please upload all supplemental materials, with the exception of videos and large data sets (see below), as one separately uploaded Word document that is labeled “Supplemental Appendix.” This should include all supplemental text, tables and figures, figure legends, etc. If there are investigator names in the supplemental material that need to be captured as collaborators for PubMed, please indicate this in your Cover Letter. Investigator names in a supplemental appendix will be included as collaborators by request and at the editor’s discretion. The pages of the Supplemental Appendix should be numbered consecutively. The first page of the Supplemental Appendix

should list the title and page number of each element included in the document.

The Supplemental Appendix document may include the following elements:

- Supplemental methods
- Supplemental results
- Supplemental tables (e.g., Supplemental Table 1, Supplemental Table 2)
- Supplemental figures with accompanying figure legends (e.g., Supplemental Figure 1, Supplemental Figure 2)
- All references that are cited within supplemental material should be placed in a separate reference section that is at the end of the supplemental material. The references should be formatted just as in the main manuscript and numbered and cited consecutively in the Supplemental Appendix.

All supplemental material will undergo editorial and peer review at the same time as the main manuscript is being evaluated. **Once the manuscript is accepted for final publication, the content of the supplemental material cannot be changed.**

LARGE DATA SETS. Large data sets for gene expression microarrays, SNP arrays, proteomics data, and high-throughput sequencing studies should be deposited in a public data repository (1,2). Microarray data must be deposited in a public database that is compliant with Minimum Information About a Microarray Experiment (MIAME) guidelines (e.g., GEO). High-throughput sequencing data must be deposited in a public database that is compliant with Minimum Information About a Next-generation Sequencing Experiment (MINSEQE) guidelines. For proteomics data, the ProteomeXchange Consortium (<http://www.proteomexchange.org/>) provides data submission and dissemination pipelines involving the main proteomics repositories, including PRIDE, PeptideAtlas, MAssIVE, iProX, and Panorma Public. Please provide the relevant accession numbers in the text of the main manuscript.

1. Wheeler DL, Barrett T, Benson DA, et al. Database resources of the National Center for Biotechnology Information. *Nucleic Acids Res.* 2007;35:D5-12.
2. Edgar R, Barrett T. NCBI GEO standards and services for microarray data. *Nat Biotechnol.* 2006;24:1471-2.

VIDEO REQUIREMENTS. Inclusion of videos in the published paper is at the discretion of the Editors.

- Video submissions for viewing online view should be submitted as MP4 files only. The Journal office will not accept any other file formats.
- Videos should be brief (2-4 minutes). Longer videos will require longer download times and may have difficulty streaming online. Videos should be restricted to the most critical aspects of your research. A longer procedure can be restructured as several shorter videos and submitted in that form.
- It is advisable to compress files to use as little bandwidth as possible and to avoid overly long download times. Video files should be less 15 MB. This is a suggested maximum. If files are larger, please contact the JACC: Basic to Translational Science office (jaccbts@acc.org).
- A video legends page giving a brief description of the content of each video should be included in the manuscript. Please note that ALL videos must be linked to figures or panels of a figure(s).

- Videos should be cited in numerical order in the text with each video called out individually, rather than using a range (for instance, Videos 1, 2, and 3, rather than Videos 1-3). Videos should be cited as “Video 1, Video 2,” etc.

- If your paper is accepted for publication, you may wish to supply the editorial office with your video files in several different resolutions. This will allow viewers with slower connections to download a lower resolution version of your video.

EDITORIAL POLICIES. All manuscripts must be submitted online at <https://www.jaccsubmit-basicts.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.

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

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 and most recently updated in December 2021.

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 (<http://hyper.ahajournals.org/content/7/4/655>),” 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.

RESEARCH DATA. This journal encourages and enables you to share data that supports your research publication where appropriate and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project. For more information on depositing, sharing and using research data and other relevant research materials, visit the [Research Data](#) page.

Data statement. To foster transparency, we encourage you to state the availability of your data in your submission. 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. For more information, visit the [Data Statement](#) page.

PATIENT CONSENT. Publication of any individually identifiable information about a living individual requires a written consent under HIPAA known as a “HIPAA authorization” from the individual or the individual’s guardian. Written consent may also be required under other federal, state, local or international laws. These consents are referred to herein globally as “consents.” While consents cannot be uploaded in the ACC submission site, authors are required to obtain them where necessary and to document in the submission data that they were obtained. ACC requires that authors obtain any necessary consents before initial submission to avoid delays if the submission is accepted for publication. Additionally, if a submission is accepted, authors will have to sign a form confirming they have obtained all necessary consents. The authors of each submission are fully responsible for obtaining any necessary consents.

Additionally, if you are conducting research on human subjects you are required to obtain: (1) institutional review board approval and (2) (a) informed consent or (b) a waiver of informed consent in accordance with applicable law. Such institutional review board approval must be completed prior to commencement of the research. The author’s submission should clearly articulate the institutional review board’s determination as to whether informed consent was required or waived. If the consent is subject to conditions, please inform ACC upon submission of your paper. In certain scenarios, the institutional review board or your institution may determine that the research is exempt and oversight is not required in accordance with applicable law and institutional policy. If so, the exemption must be documented in the submission.

Individual’s privacy is paramount to ethical research. Therefore, identifying information, including individuals’ names, initials, hospital numbers, and images should not be included in videos, recordings, written descriptions, photographs, and pedigrees unless the information is essential for

scientific purposes and only the minimum necessary identifiable information is articulated in the research.

Even where consent/authorization 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 an assurance that alterations do not distort scientific meaning.

Unless individually identifiable information is essential, all submissions should be de-identified and anonymized in accordance with applicable international, federal, state and local laws. As stated above you are responsible for obtaining all necessary HIPAA authorizations and consents under applicable law, including but not limited to obtaining permissions to de-identify and anonymize information included in the submission in instances where information will be included from deceased individuals, consents should be obtained from the deceased individual’s next of kin or legal representative in accordance with applicable law.

In the event the submission involves research on animals such research shall be approved by an Institutional Animal Care and Use Committee (IACUC) and be conducted in accordance with applicable law including but not limited to the Animal Welfare Act and to the extent applicable animal facilities must meet the standards of the American Association for Accreditation of Laboratory Animal Care (AAALAC) and the Association for Assessment and Accreditation of Animal Care International.

The *JACC* Journals have an ethics committee comprised of 7 members, which oversees quality control and will review issues of concern, as they arise.

EXCLUSIVE SUBMISSION/PUBLICATION POLICY. Manuscripts are considered for review only under the conditions that they are not under consideration elsewhere and that the data presented have not appeared on the Internet or have not been previously published (including symposia, proceedings, transactions, books, articles published by invitation, and preliminary publications of any kind, excepting abstracts that do not exceed 400 words). On acceptance, transfer of copyright to the American College of Cardiology Foundation will be required. Elsevier will maintain copyright records for the College. Sharing of data from manuscripts that are under review or accepted but not yet published is expressly forbidden, unless permission is received from the *JACC* Journals Editorial Office. We ask that authors disclose this information during the submission process.

JACC Journals do not consider the posting of manuscripts to a preprint server a prior publication, if they have not undergone peer review and provided that the following conditions are met: 1) when submitting a manuscript to a *JACC* journal, authors must acknowledge preprint server deposition and provide all associated accession numbers or DOIs; 2) versions of a manuscript that have been altered as a result of our peer review process may not be deposited; 3) the preprint version cannot have been indexed in MEDLINE or PubMed; and 4) upon publication in a *JACC* journal, authors are responsible for updating the archived preprint with a DOI and link to the published version of the article. Should the paper be accepted and published in a *JACC* journal, the *JACC* journal DOI should be considered to be the one representing this published work in all credits, citation, and attribution.

RELATIONSHIP WITH INDUSTRY POLICY. All authors are required to disclose any relationship with industry and other relevant entities—financial or otherwise—within the past 2 years that might pose a conflict of interest in connection with the submitted article. All relevant relationships with industry, disclosures, and sources of funding for the work should be acknowledged on the title page, as should all institutional affiliations of the authors (including corporate appointments). This includes associations such as consultancies, stock ownership, or other equity interests or patent licensing arrangements. If no relationship with industry exists, please state this on the title page.

All forms are now signed and submitted electronically. Once a manuscript is accepted, the authors will be sent links to complete the electronic Relationship with Industry forms. Elsevier now handles copyright for the journal. Only the corresponding author may electronically sign the copyright form; however, all authors are required to electronically sign a relationship with industry form. Once completed, a PDF version of the form is emailed to the author. Authors can access and confirm receipt of forms by logging into their account at <https://www.jaccsubmit-basicts.org>.

Each author will be alerted if his or her form has not been completed by the deadline. Please note that copyright is now handled by the publisher and no copyright form will be sent to you until the manuscript has been sent to the publisher. Only authors appearing on the final title page will be sent a form. YOU CANNOT ADD AUTHORS AFTER ACCEPTANCE OR ON PROOFS.

The JACC Journals program prefers the term Relationships with Industry and Other Entities as opposed to the term Conflict of Interest, because, by definition, it does NOT necessarily imply a conflict. When all relationships are disclosed with the appropriate detail regarding category and amount, and managed appropriately for building consensus and voting, the JACC Journals program believes that potential bias can be avoided and the final published document is strengthened since the necessary expertise is accessible.

DISCLOSURE OF AI PROGRAMS. Please disclose in the cover letter and in the acknowledgement section (the latter of which is published, if the paper is accepted) if any artificial intelligence (AI) programs (e.g., ChatGPT, or other similar software) contributed to the compilation of the submitted manuscript as well as the nature of the contribution that the tool provided. This could include design, performance, analysis, writing, and reporting of the work.

MENTIONING BRAND NAME DRUGS/DEVICES. Please reduce or remove mentions of brand name/trademarked drugs and devices from the manuscript. In particular, we try to avoid using brand name/trademarked drugs and devices in titles. Note that if the manuscript is offering CME, we cannot discuss brand name drugs/devices at all.

If you are reproducing an image of a device, permission from the device manufacturer is the sole responsibility of the authors. You will not be asked to provide the permission, but the journal/Elsevier will assume that you have obtained permission at the point of acceptance.

REVIEW PROCESS. JACC: *Basic to Translational Science* uses a single-blind peer-review system, meaning that the authors are blinded to the identity of the reviewers and as a general rule, although there are exceptions, the reviewers are blinded to each other. While the JACC: *Basic to Translational Science* Associate Editor will be identified at the end of the review process, all correspondence concerning a manuscript should be addressed to the JACC: *Basic to Translational Science* editorial staff at jaccbts@acc.org. At initial submission, a manuscript is reviewed by editorial staff for compliance with journal style and to make sure the submission is clear and legible for reviewers and editors. Once the editorial staff have checked in the paper, it is assigned to the JACC: *Basic to Translational Science* Editor-in-Chief, who will assign it to an Associate Editor. The Associate Editor then determines if it should be sent for peer review or if it is not of sufficient priority for JACC: *Basic to Translational Science*. All reviewers and editors are asked to report any potential conflicts of interest, and when those exist, the manuscript is reassigned to a different editor or reviewer. Once the 2 reviews have been completed, the submission is reviewed by all JACC: *Basic to Translational Science* Associate Editors in a weekly meeting. The group then comes to one of the five decisions below:

- **Accept.** The manuscript is acceptable for publication in its current form. However, minor edits may be made by the JACC: *Basic to Translational Science* medical editors, illustrators, or the publisher, and authors will need to work with the appropriate contacts to ensure these changes are incorporated post-acceptance.

- **Minor Revision.** It is important to note that this decision does not guarantee acceptance. However, less significant edits are required than a Reject de Novo or Major Revision decision.
- **Major Revision.** It is important to note that this decision does not guarantee acceptance. Additional experiments/studies are generally required to address the comments of the reviewers and editors.
- **Reject de Novo.** The manuscript is unacceptable for publication in its current form. However, the editors are willing to reconsider a thoroughly revised manuscript. The authors should respond to the reviewer and editor comments by performing additional experiments/studies. The submission will be re-re-reviewed and treated as a new submission.
- **Reject.** The manuscript is unacceptable for publication and/or is not an appropriate fit for JACC: *Basic to Translational Science*.

APPEALS. Authors may appeal editorial decisions by email. To appeal a decision, send your rationale as to why the editors should reconsider the paper to jaccbts@acc.org. The rationale should address all of the reviewers' concerns. The editors may grant or deny the appeal, and their decision is final. Appeals must be submitted within 30 days of the date the decision was rendered.

PERMISSIONS. If a figure/table is reprinted or adapted from a previously published work, permission must be obtained from that publisher (or copyright holder, if not the publisher) and sent to the editorial office. Please also see Figures. If a manuscript includes excerpts of published text longer than 50 words, permission from the copyright holder to republish the text is required.

AUTHORSHIP. Each author must have contributed significantly to the submitted work. If there are more than 4 authors, the contribution of each author must be substantiated in the cover letter. If authorship is attributed to a group (either solely or in addition to 1 or more individual authors), all members of the group must meet the full criteria and requirements for authorship. Each individual author should be listed on the title page and in the online submission system. If you have an author group, you may list it in a Supplemental Appendix. To save space, if group members have been previously published, the article should be referenced rather than reprinting the list. The Editors consider authorship to include all of the following:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Participation solely in the collection of data does not justify authorship but may be appropriately acknowledged in the Acknowledgments section.

EXPEDITED REVIEW. In order for papers to be considered for expedited review, they should report important original findings of high-potential clinical impact or research significance. Authors should request expedited review and the rationale for this request in their cover letter at the time of submission. The editors commit to a decision regarding suitability for expedited publication processing within 2 days, and an initial decision within 14 days. Those manuscripts not deemed appropriate for the expedited publication track will be considered according to the standard review process. We always inform authors whether we are able to offer expedited review. An agreement to provide expedited review does not guarantee acceptance.

STATISTICS. All publishable manuscripts will be reviewed for appropriateness and accuracy of statistical methods and statistical interpretation of results. We subscribe to the statistics section of the “Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations),” available at www.icmje.org. In the Methods section, please provide a subsection detailing the statistical methods, including specific methods used to summarize the data, methods used for hypothesis testing (if appropriate), and the level of significance used for hypothesis testing. When using more sophisticated statistical methods (beyond *t*-tests, chi-square, or simple linear regression), specify the statistical package, version number, and nondefault options used. For more information on statistical review, see “Glantz SA. It is all in the numbers. *J Am Coll Cardiol.* 1993;21:835-7.”

ELSEVIER POLICIES

OPEN ACCESS. This is an open access journal: all articles will be immediately and permanently available for everyone to read and download without cost. Permitted third party (re)use is defined by the following Creative Commons user licenses (see <http://www.elsevier.com/openaccesslicenses>).

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

If you need to comply with your funding body policy you can apply for a CC-BY license after your manuscript is accepted for publication.

To provide open access, this journal has an open access fee (also known as an article publishing charge aka APC), which needs to be paid by the authors or on their behalf, e.g., by their research funder or institution. The open access fee for Original Research papers is \$4,530, excluding taxes. The open access fee for Research Letters is \$1,700, excluding taxes. The open access fee for unsolicited State-of-the-Art Reviews is \$4,530, excluding taxes. There is a 10% discount for active ACC members for all article types (discount applies to first, corresponding, or senior author only). We also offer a discount of 50% if the first, corresponding, or senior author is from a developing country. (Note: Discounts exclude taxes and are not cumulative.) Learn more about Elsevier’s pricing policy: <http://www.elsevier.com/openaccesspricing>.

FUNDING BODY AGREEMENTS AND POLICIES. Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder’s open access policies. Some authors may also be reimbursed for associated publication fees. To learn more about existing agreements please visit <http://www.elsevier.com>. After acceptance, open access papers will be published under a noncommercial license. For authors requiring a commercial CC BY license, you can apply after your manuscript is accepted for publication.

COPYRIGHT. On acceptance, transfer of copyright to the author(s) will occur (for more information see <http://www.elsevier.com/OAauthoragreement>). Permitted third party reuse of open access articles is determined by the author’s choice of user license (see <http://www.elsevier.com/openaccesslicenses>). As an author you (or your employer or institution) have certain rights to reuse your work. For more information on author rights please see <http://www.elsevier.com/copyright>.

AUTHOR INQUIRIES. Elsevier’s Authors Home also provides the facility to track accepted articles (<http://www.elsevier.com/trackarticle>) and set up email alerts to inform you of changes in the status of an article, as well as detailed artwork guidelines, copyright information, frequently asked questions, and more. You are also welcome to contact Customer Support via

<http://support.elsevier.com>. Authors can order copies of the issue in which their article appears at a discounted rate.

ENGLISH LANGUAGE HELP SERVICE. Upon request, Elsevier will direct authors to an agent who can check and improve the English of their paper (before submission). Please visit <https://webshop.elsevier.com/language-editing-services/language-editing/> for further information.

JACC JOURNALS PUBLICATION INTEGRITY GUIDELINES

JACC Journals have adopted integrity guidelines to help authors uphold the ethics, values, and principles of the publication process at the highest standards. The guidelines below include best practices and are consistent with those implemented by other journals and scientific publishers.

PLAGIARISM. The Office of Research Integrity (ORI) defines plagiarism as “theft or misappropriation of intellectual property and the substantial unattributed textual copying of another’s work.” Manuscripts where unacknowledged copying of others’ ideas, language and/or results will not be published in *JACC* Journals and, depending on level of egregiousness, will be reported to ORI and/or other agencies. Therefore, authors should ensure that appropriate attribution and citation is provided when discussing, paraphrasing, or summarizing the work of others. Included is the use of one’s own text from previous publications (exclusive of materials and methods), where appropriate attribution and citation is necessary. Reuse of one’s own or others’ previously published data, whether it be publishing the same paper in multiple journals or adding incremental new data to a previous publication without providing appropriate references, will be considered a duplicate publication.

Should *JACC* Journals discover acts of plagiarism pre-publication, the publication process will be halted until the matter is resolved. Should *JACC* Journals discover acts of plagiarism post-publication, an investigation to determine the extent and context of the plagiarism will be conducted. *JACC* Journals reserve the right to correct or retract any publication based on the findings of said investigations.

DUE CREDIT FOR UNPUBLISHED AND PUBLISHED WORK. Authors must discuss, properly cite, and provide appropriate permissions for any unpublished work included in submitted manuscripts. Any data, intellectual contribution, and/or technical development, including unpublished data from databases, must be acknowledged and appropriately cited. Authors must include written assurance that they are complying with the data-licensing agreements of the original source documents when using licensed data. If an author is reusing or modifying previously published or copyrighted figures, documented permission from the previous publisher or copyright holder is required.

DUPLICATE PUBLICATION. Material submitted to a *JACC* Journal must be original. Submitted material cannot have been previously published and cannot be simultaneously submitted elsewhere (exclusive of meeting abstracts). Related manuscripts under consideration or in press elsewhere must be declared by authors submitting to a *JACC* Journal at the time of submission in the cover letter. If related material is submitted elsewhere after submission to a *JACC* Journal, authors must notify the *JACC* Journal immediately.

DATA INTEGRITY. All data and figures published in *JACC* Journals must accurately represent the original data and findings. Misrepresentation of data acquisition and/or post-acquisition processing is not acceptable.

While *JACC* Journals understand minor data processing may be unavoidable, submitted digital images must be as close to original as possible. Processing/image adjustment (e.g., contrast or brightness) must be applied equally across the entire image and any relevant

controls. Any image processing/adjustment should not make data disappear or mask additional bands. Authors should explain any image alterations in the figure legend and identify image acquisition tools and processing software in the methods. Integral settings and processing manipulations used to process the presented data should also be described.

JACC Journals reserve the right to request all unprocessed data files included in a submitted manuscript. Manuscript evaluation may be halted or discontinued if the files are not available upon request.

Authors should take care to adhere to the following specific concerns:

Electrophoretic Gels and Blots. Cropped gels must preserve all important bands. Individual images cannot be used in multiple figures except when the figures describe different aspects of the same experiment (e.g., when a single control experiment serves multiple experiments performed simultaneously). When an image is used in multiple figures, authors must clearly state the reason(s) for this in the figure legend.

Quantitative comparisons between samples on different gels/blots should be avoided, and only performed when normalizing controls are available for both gels. Protein loading controls must be run on the same blot. If unavoidable, the figure legend must indicate that the samples are derived from the same or parallel experiments and that the gels/blots are processed in parallel.

Removal of irrelevant or blank lanes from a gel is permissible; however, such alterations must be noted in the figure legend and boundaries between the nonadjacent or rearranged lanes must be clearly marked in the figure.

Microscopy. A scale bar should be included with all microscopy images. The measured resolution at which an image was acquired and any subsequent processing or averaging that enhances the resolution must be clearly stated. Adjustments should be applied over the entire image.

Microscopy settings for comparable controls and samples should be the same between experiments. Any necessary nonlinear, pseudocolor, or color adjustments made to images must be stated in the figure legend. Any manipulation of threshold and expansion or contraction of signal ranges should be avoided.

Authors should not combine images obtained separately, at different times, or from different locations, into a single image, unless specifically stated in the figure legend.

Data Visualization Guidelines. Figures representing data need to be designed and presented in a way that allows readers to understand and critically interpret the data. Authors must ensure that figures use easily distinguishable colors/lines/symbols and are color-blind-safe.

Continuous data and small sample sizes should be represented with figures that show full data distribution, such as dot or scatter plots. Bar graphs should be avoided except when showing counts or proportions.

Authors should consider adding a flow chart or study design diagram when appropriate. Flow charts should provide information about excluded observations and reasons for exclusion at each phase of the study.

Data Management Guidelines. As outlined by ORI, data management is one of the essential areas of responsible conduct of research (<https://ori.hhs.gov/education/products/clinicaltools/data.pdf>). Authors are expected to maintain all of the primary data used for their research submission, so that it can be evaluated by the reviewers and editors. At a minimum the retention of data after manuscript publication should conform to the policies within the authors' organization and the funding organization.

CONTACTING US

EDITORIAL OFFICE AT HEART HOUSE. For enquiries relating to submitted articles or to articles currently under review, please contact the *JACC: Basic to Translational Science* editorial office at jaccbts@acc.org.

The mailing address for the *JACC: Basic to Translational Science* editorial office and the Editor-in-Chief is:

Douglas L. Mann, MD
Editor-in-Chief, *JACC: Basic to Translational Science*
Heart House
2400 N Street NW
Washington, DC 20037
Phone: (202) 375-6136
Fax: (202) 375-6819

ELSEVIER (PUBLISHER). For information on articles that have been accepted for publication, please visit Elsevier's Authors Home at <https://www.elsevier.com/authors>. Elsevier's Authors Home also provides the facility to track accepted articles (<http://www.elsevier.com/trackarticle>) and set up email alerts to inform you of when an article's status has changed, as well as detailed artwork guidelines, copyright information, frequently asked questions, and more. You are also welcome to contact Customer Support via the [Journal Article Publishing Support Center](#). Authors can order copies of the issue in which their article appears at a discounted rate. For this service, please contact:

Elsevier Health Sciences Division
Subscription Customer Service
3251 Riverport Lane
Maryland Heights, MO 63043
Phone: 1-800-654-2452
Email: journalscustomerservice-usa@elsevier.com

It is important to note that when citing an article from *JACC: Basic to Translational Science*, the correct citation format is *J Am Coll Cardiol Basic Trans Science*.