Information for Authors

THE AMERICAN JOURNAL OF CLINICAL NUTRITION

STATEMENT OF SCOPE

The purpose of The American Journal of Clinical Nutrition (AJCN) is to publish original research studies relevant to human and clinical nutrition. Well-controlled clinical studies that describe scientific mechanisms, efficacy, and safety of dietary interventions in the context of disease prevention or a health benefit will be considered. Public health and epidemiologic studies relevant to human nutrition, and innovative investigations of nutritional questions that employ epigenetic, genomic, proteomic, and metabolomic approaches are encouraged. Solicited editorials, book reviews, solicited or unsolicited review articles, invited controversy position papers, and letters to the Editor that relate to prior AJCN articles are essential components of the AJCN. All submitted material with scientific content will undergo peer review by the Editors or their designees before acceptance for publication.

Symposia or workshop articles may be published as supplements to the AJCN and are funded by their sponsors. The AJCN welcomes queries about the publication of supplements. The AJCN uses a 2-part acceptance process for supplements. The first step involves editorial acceptance of the topic and content as provided by the symposium organizer; the following material should be sent to the Editorial Office at dbier@nutrition.org: title, location, and date of the meeting; the names and affiliations of potential guest editors; the sponsor(s) of the meeting; the sponsor(s) of the publication; and the agenda/program from the meeting along with the names of the speakers. The second step involves anonymous peer review of the individual articles. To be considered for publication, supplement articles must be received within 3 mo of each symposium or workshop. Each manuscript should not exceed 15 text pages, exclusive of tables, figures, and references; must adhere to AJCN style and format; and will be reviewed according to the same scientific standards used to evaluate original research articles.

CRITERIA FOR MANUSCRIPT ACCEPTANCE

The AJCN can publish only about 20% of the more than 1800 original submissions received per year. Submitted manuscripts may be rejected without detailed comments after initial review by at least 2 AJCN editors if the manuscripts are considered inappropriate or of insufficient scientific priority for publication in the AJCN. All other manuscripts undergo a complete review by at least 2 consulting editors or other selected experts. Criteria for acceptance by the AJCN include originality, validity of data, clarity of writing, strength of the conclusions, and potential importance of the work to the field of clinical nutrition. Indicate explicitly in your cover letter what is truly new in the present work compared to work already published in the field. Because Cochrane assessments are now readily available on the web via PubMed, AJCN no longer considers it necessary to disseminate them by secondary publication in the Journal. Submitted manuscripts will not be reviewed if they do not conform to standard English usage and to the “Uniform Requirements for Manuscripts Submitted to Biomedical Journals” (Internet: http://www.icmje.org/), which is also available free of charge from the Secretariat Office, Annals of Internal Medicine, American College of Physicians, Independence Mall West, Sixth Street at Race, Philadelphia, PA 19106-1572. As recommended in the Committee on Publication Ethics Code of Conduct for Journal Publishers, and supported by the International Committee of Medical Journal Editors, when ASN is made aware of cases of suspected research and publication misconduct, ASN holds the right to publish an Expression of Concern during an investigation, and, depending on the outcome of the investigation, to retract articles.

SUMMARY OF REQUIREMENTS

Each manuscript component should begin on a new page in the following sequence:

Title page
Abstract
Text
Acknowledgments
References
Tables: each table on a separate page, complete with title and footnotes
Legends for figures
Figures

Identify on the title page the author who will be responsible for correspondence regarding the manuscript. The signed Authors’ Statement and Copyright Release Form and copies of any documents granting permission needed to reproduce material in print and electronic form or to use illustrations of identifiable subjects should be scanned and uploaded to the submission system at http://submit.ajcn.org/ or e-mailed to ajcnsr@nutrition.org. If scanning is not possible, then the Authors’ Statement and Copyright Release Form and any necessary documents may be faxed to (240) 404-6798. As recommended by the Council of Science Editors, when a coauthor dies or is incapacitated during the writing, submission, or peer review process, coauthors should obtain disclosure and copyright documentation from a familial or legal proxy. Authors should keep copies of all submitted material.

The AJCN encourages authors to provide the names, fields of interest, addresses, telephone and fax numbers, and e-mail addresses of 4-6 unbiased and qualified potential expert reviewers from outside the authors’ institutions.

All material to be considered for publication in a regular or supplement issue should be submitted electronically at the following website: http://submit.ajcn.org. See “Tips for authors submitting manuscripts to the AJCN” for helpful advice regarding electronic submission.

Manuscripts will be considered with the understanding that no part has been published, simultaneously submitted, or already accepted for publication elsewhere, other than in abstract form. A health research reporting checklist must be included with the submission of every research manuscript. Papers will be screened for similarity to previously published papers using iThenticate. The Editor reserves the right to request a copy of the Institutional Review Board approval documents, data, or statistical analyses files upon which the paper is based.

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MAJOR SECTIONS OF THE AJCN

Editorials
Review Articles
Special Invited Articles, including Controversies and Perspectives
Original Research Communications (including formal systematic review/meta-analysis)
Letters to the Editor
Book Reviews
Books Received
ASN Announcements
Letters to the Editor that refer to a recent *AJCN* original research article must be received within 12 wk of the article's publication. All letters will be subjected to editorial review and decision before acceptance. The *AJCN* does not accept letters that are unrelated to a specific, recently published original research article; that contain extensive unpublished data; or that engage in personal slander or invective. The *AJCN* does not print letters to the editor based on opinion pieces such as editorials, perspectives, commentaries, and the like, since these are clearly the opinions of the authors. Letters should be submitted by e-mail to ajcnsubmit@nutrition.org.

Letters must be provided as a Word document. They must be double-spaced, include line numbers, should include a title page, should have no more than 10 references, and should not exceed 1000 words. All letters to the Editor and book reviews must include a conflict of interest statement.

**RESEARCH REGISTRATION**

The *AJCN* does not require study registration for statutory purposes, but for transparency purposes. Therefore, the Journal requires registration of studies that would not have to be registered for strictly legal reasons. To provide a public record of the basic study question(s), the study design, the *a priori* primary and secondary endpoint(s), and the proposed analytical plan in a standardized format, to reduce publication and outcome reporting bias, to allow for comprehensive study retrieval at the time of future systematic review(s), and to help editors understand the full context of study results relative to the precise question(s) asked, *The AJCN* requires registration (in English and in an appropriate public trials registry) of all original research submitted to the Journal for review. Research based on older, established studies requires registration only of researchers’ current plan of data inquiry, that is, the specific interrogation of the study's data that was the basis for the current manuscript. We do not require registration of the entire original study itself provided it was started before July 1, 2008. Observational studies are included in this requirement, and ClinicalTrials.gov provides considerations for such registrations at https://clinicaltrials.gov/ct2/manage-recs/how-register#Considerations. In fact, more than 40,000 observational studies (20% of the total studies registered) are already registered at clinicaltrials.gov.


**REQUIRED CHECKLISTS**

Depending on the design of the study, one of the health research reporting checklists referenced at the Equator Network (http://www.equator-network.org/reporting-guidelines/) must accompany the first version of each manuscript as a “supplemental file” in the online manuscript submission system. Page or line numbers must be included to indicate where the checklist items are located in your paper. Participant flow charts should be included whenever possible, especially accompanying CONSORT, PRISMA, and STROBE checklists. The ARRIVE checklist is appropriate for manuscripts with animal research. If none of the checklists apply to your study, please explain in your cover letter why none is needed.

**FORMAT AND STYLE REQUIREMENTS**

Articles are copyedited according to *AJCN* style policy, the “Uniform Requirements for Manuscripts Submitted to Biomedical Journals,” and the style manual of the Council of Science Editors (Scientific style and format: the CSE manual for authors, editors, and publishers. 8th ed. Chicago: The University of Chicago Press; 2014).

**Authorship**

**Scientific conduct**

Each author must have participated sufficiently, intellectually or practically, in the work to take public responsibility for the content of the article, including the conception, design, and conduct of the experiment, and for the data interpretation. An article with corporate (collective) authorship must specify the key persons responsible for the article; others contributing to the work should be recognized separately. The Editors may require authors to justify the assignment of authorship. All authors must sign a statement agreeing to all the requirements for authorship with the transfer of copyright (http://www.ajcn.org/misc/Authors_Agreement_Form.pdf).

A Change in Authorship Form must be submitted if an author’s name is added to the manuscript, there is a change in the author order, if an author’s name changes, or an author wishes to remove his/her name. In the last case, a letter requesting the removal of his/her name and signed by the author must accompany the form.

**Conflict of interest**

Authors must disclose in the Acknowledgment section any possible conflicts of interest. For detailed guidelines, please see http://www.nutrition.org/publications/guidelines-and-policies/conflict-of-interest/. Authors who wish to make use of the ICMJE Form for Disclosure of Potential Conflicts of Interest (available from http://icmje.org/conflicts-of-interest/) may copy the Disclosure Statement from that form and paste it in to the Acknowledgments section of the manuscript file.

**Instructions for manuscript preparation**

**Initial manuscript submissions**

Prepare your manuscript, including figure legends and tables, in Word format. The manuscript should be formatted as follows: 216 × 279 mm (8½ × 11 in) or ISO A4 (212 × 297 mm), with margins of at least 2.5 cm; use double-spacing and 12-point type throughout. Do not justify the right margin. The abstract and text pages should have consecutive line numbers in the left margin beginning in the abstract and ending before the reference section. Number pages consecutively in the upper right-hand corner of each page, beginning with the title page. Foreign authors are advised to have their manuscripts reviewed by a scientific colleague who is fluent in English so that the manuscripts will conform to US English usage and grammar.

**Revised manuscript submissions**

Submit manuscript text, including figure legends and tables, in a Word file; tables must be included in the text file; do not submit tables in separate files. Submit each figure in a separate file according to the specifications listed in the section titled, Figures. Changes in the manuscript text must be marked with red font. This requirement does not apply to changes made to figures or supplemental material. Deleted text should be completely removed. Do not use the “track changes” feature in Word.

**Fonts**

For optimum legibility we recommend that you use only certain fonts in your document: Times, Times New Roman, Courier, Helvetica, Arial, and the Symbol font for special characters. For review purposes references will be copied from the manuscript file into the submission system and linked to the online source of the cited abstract or article.

**Title page**

The title page should contain: 1) Title of the article, beginning with a key word if possible, with only the first letter of the first word capitalized; 2) Author Names (first name, middle initial, last name); 3)
Author Affiliations (departmental and institutional) at the time the research was done. Indicate which authors are associated with which institutions by listing the appropriate author initials in parentheses after each affiliation listed. 4) Authors’ last names—listed separately for PubMed indexing; please consider this carefully, in particular for authors with names that include hyphens and prefixes. Punctuation and spacing are generally disregarded when indexing, and the name will usually be indexed under the first letter to appear in the name. 5) Any authors’ changed affiliations - should be included in a separate line on the title page. 6) Disclaimers, if any, and not Conflict of Interest; 7) Corresponding Author name, mailing address, telephone number, and e-mail address; 8) the Sources of Support including grants, fellowships, and gifts of materials (eg, chemicals, experimental diets); 9) Short running head of not more than 50 characters (count letters and spaces); 10) Abbreviations list and their definitions for all abbreviations used in the text if there are 3 or more; and 11) Clinical Trial Registry number and website where it was obtained.

Abstract

A properly constructed and informative abstract is helpful for the initial editorial review of the submitted manuscript. Original research and review articles must include a structured abstract that contains no more than 300 words, is written in complete sentences, and includes the following headings:

Background: Provide 1 or 2 sentences that explain the context of the study.

Objective: State the precise objective, the specific hypothesis to be tested or both.

Design: Describe the study design, including the use of cells, animal models, or human subjects. Identify the control group. Identify specific methods and procedures. Describe interventions, if used.

Results: Report the most important findings, including results of statistical analyses.

Conclusions: Summarize in 1 or 2 sentences the primary outcomes of the study, including their potential clinical importance, if relevant (avoid generalizations).

Review articles, special articles, and reports should include an unstructured abstract (no more than 300 words) that states the purpose of the article and emphasizes the major concepts and conclusions. Any abbreviations used in the abstract should be defined in the abstract at first mention. Below the abstract, provide and identify 5–10 keywords or short phrases, including the subject group, that will help to increase the discoverability of your manuscript; do not use adjectives. Terms that are fundamental to your manuscript but are not included in your manuscript title or abstract are especially important to include to increase discoverability by indexing services such as PubMed.

Please note that during manuscript submission, you will be asked to supply keywords to assist the editors in locating suitable reviewers for your manuscript. Keywords for reviewer searches should include the terms most fundamental to your manuscript, and may differ from your list of keywords for publication.

Text

Use active voice whenever possible. Use past tense when describing and discussing the experimental work on which the article is based. Reserve present tense for reference to existing knowledge or prevailing concepts and for stating conclusions from the experimental work. Clearly differentiate previous knowledge and new contributions. Do not use level when referring to a concentration. Use metric units of measure; SI units are no longer required.

The text of observational and experimental articles should be divided into sections with the following headings: Introduction, Subjects (or Materials, for cell or animal studies) and Methods, Results, and Discussion. Long articles may require subheadings within some sections. Authors should consult recent issues of the AJCN for guidance on the formatting of other types of articles, book reviews, and editorials.

Introduction

Clearly state the purpose of the article. Summarize the rationale and background for the study or observation, giving only strictly pertinent references. Do not include methods, data, results, or conclusions from the work being reported. The Introduction should be limited to 1.5 manuscript pages.

Subjects (or Materials) and Methods

Describe clearly your selection of the experimental and control subjects and provide eligibility and exclusion criteria and details of randomization. Describe the methods for, and success of, any masking (blinding) of observations. Report any complications of experimental treatments. Identify the methods, apparatus, apparatus (manufacturer’s name in parentheses), and procedures in sufficient detail to allow other researchers to reproduce the results. Define all group designations parenthetically at first mention [for example, “control (CON) and high-fat (HF) groups”] and include definitions for these abbreviations in the abbreviation footnote on the title page. Do not use trademark names, such as Teflon, as generic terms. Give references for established methods, including statistical methods; provide references and brief descriptions of methods that have been published but are not well known and describe new statistical tests or modifications of existing tests.

Materials and Methods

When reporting experiments on human subjects, indicate that the procedures followed were in accordance with the ethical standards of the responsible institutional or regional committee on human experimentation or in accordance with the Helsinki Declaration of 1975 as revised in 1983. Do not use patients’ names, initials, or hospital identification numbers. When reporting experiments on animals, indicate approval by the institutional’s animal welfare committee and state whether the National Research Council’s guide for the care and use of laboratory animals was followed.

Ethics. When reporting experiments on human subjects, indicate that the procedures followed were in accordance with the ethical standards of the responsible institutional or regional committee on human experimentation or in accordance with the Helsinki Declaration of 1975 as revised in 1983. Do not use patients’ names, initials, or hospital identification numbers. When reporting experiments on animals, indicate approval by the institutional’s animal welfare committee and state whether the National Research Council’s guide for the care and use of laboratory animals was followed.

Statistics. Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (eg, CIs, SDs, or SEs), even for differences that were not significant. Report the numbers of observations. Specify any general-use computer programs used, including the version number and the manufacturer’s name and location. Include general descriptions of statistical methods in the Subheadings (or Materials) and methods section and specific descriptions in each table and figure legend. Indicate whether variables were transformed for analysis. Provide details about what hypotheses were tested, what statistical tests were used, and what the outcome and explanatory variables were (where appropriate). Indicate the level of significance used in tests if different from the conventional 2-sided 5% alpha error and whether or what type of adjustment is made for multiple comparisons.

The AJCN prefers replicate analyses. The Journal does not have a specific policy on simplistic sample analysis, but we will assess these on a case by case basis. Reviewers and Editors might disagree with the authors’ approach, and we cannot guarantee the outcome. The Journal recommends strongly that at least a subset of samples be analyzed at least in duplicate in order that the degree of measurement error can be estimated. Furthermore, we refer the author to established approaches for dealing with such circumstances: Allison, D. B., Allison, R. L., Faith, M. S., Pautere, F., & Pi-Sunyer, F. X. (1997). Power and money: Designing statistically powerful studies while minimizing financial costs. Psychological Methods, 2(1), 20-33.

When data are summarized in the Results section, specify the statistical methods used to analyze them. Avoid nontechnical uses of technical statistical terms, such as random (which implies a randomizing device), normal, significant, correlation, sample, and parameter. Define statistical terms, abbreviations, and symbols not listed under “Abbreviations for statistical terms” below. If there are 3 or more abbreviations used in the text, prepare an abbreviation footnote. The footnote should be associated with the first abbreviated term in the text and should be an alphabetized listing of all author-defined abbreviations and their definitions. Detailed statistical analyses, mathematical
derivatives, and the like may sometimes be suitably presented as one or more supplemental files.

Results

Present your results in a logical sequence in the text, tables, and figures. Do not present specifics of data more than once and do not duplicate data from tables or figures in the text; emphasize or summarize only important observations. Do not present data from individual subjects except for very compelling reasons. Report losses to observation (such as dropouts from a clinical trial). Use boldface for the first mention of each table or figure.

Discussion

The Discussion should not exceed 4 typewritten pages except in unusual circumstances as approved by the Editor. Emphasize concisely the important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or other material given in the Introduction or Results. Include the implications of the findings and their limitations and relate the observations to other relevant studies. Link conclusions with the goals of the study and avoid unqualified statements and conclusions that are not completely supported by the data. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses and recommendations when warranted by the results and label them clearly as such.

Acknowledgments

1) Acknowledge only persons who have made substantive contributions to the study. Authors are responsible for obtaining written permission from everyone acknowledged by name and for providing to the Editor a copy of the permission, if requested. 2) Conflict of Interest (COI) Statement: Please see http://www.nutrition.org/publications/guidelines-and-policies/conflict-of-interest/ for a list of requirements for authors with respect to COI disclosure. 3) Authors' contributions to the manuscript – Each author is required to list his or her contribution to the work, with a description of the contribution.

Please use the following descriptors: 1) designed research (project conception, development of overall research plan, and study oversight); 2) conducted research (hands-on conduct of the experiments and data collection); 3) provided essential reagents or provided essential materials (animals, equipment, databases, etc, necessary for the research); 4) analyzed data or performed statistical analysis; 5) wrote paper (only authors who made a major contribution); 6) had primary responsibility for final content; 7) other (use only if categories above are not applicable; describe briefly); 8) for single-authored papers, please state: The sole author had responsibility for all parts of the manuscript. Please do not include “obtained funding” (the initials of authors who received grants may be included in the footnote regarding support on the manuscript’s title page). Although not all manuscripts will necessarily include all descriptors, all manuscripts, including reviews, must indicate who is responsible for design, writing, and final content. An example of a properly formatted author contribution statement is as follows: "AX, RFG, and PGY designed research; RFG and QC conducted research; PT analyzed data; AX, PGY, and QC wrote the paper; PGY had primary responsibility for final content. All authors read and approved the final manuscript.”

References

Number references consecutively in the order in which they are first mentioned in the text. For a standard journal article with more than 10 authors, please list first 10 authors before using "et al."; list all authors when 10 or fewer.

In the text, identify references by Arabic numerals in parentheses (1), not superscript. References cited in tables or in legends to figures should be numbered according to the first citation of the table or figure in the text. Supplemental Material should have a separate reference section.

It is rarely necessary to cite more than 50 references in an original research article. Try to avoid citing published abstracts as references [i.e., published abstract is cited, include "(abstract)" at the end of the reference]. Abstracts from scientific meetings not published in peer-reviewed journals may not be used as references. Unpublished observations and personal communications (written, not oral) may not be used as references but may be inserted in parentheses with the names of the responsible researchers and the year of the observation or communication. Authors are responsible for obtaining written permission from everyone so cited and for providing to the Editor a copy of the permission, if requested. Doctoral dissertations may be used as references. Include manuscripts accepted but not yet published; designate journal name followed by "(in press)." Report foreign titles in the original language, identify the language, and provide the English translation in parentheses. The references must be verified by the author against the original documents.

Journals

1) Journal article published electronically ahead of print: Authors may add to a reference, the DOI (“digital object identifier” number unique to the publication) for articles in press. It should be included immediately after the citation in the References.


2) Standard journal article: list all authors when 10 or fewer; when >10, list only the first 10 and add "et al." Abbreviate journal titles according to Index Medicus style, which is used in MEDLINE citations.


3) Corporate author


Books and other monographs

4) Personal authors


5) Committee report or corporate author


6) Chapter in book


7) Agency publication


Internet references

8) Website


9) Online journal article

Tables

Tables must be included in the text file, and each table should begin on a new page. Double-spacing of tables is preferred but not required. Number tables consecutively with Arabic numerals (do not use 1A, 1B, etc.) and supply a brief descriptive title for each. Give each column a short or abbreviated heading. Place explanatory matter in footnotes, not in the heading or table title. Each table should contain enough detail (including statistics) that the table is intelligible without reference to the text. All nonstandard abbreviations, including group designations, used in a table or table title should be defined in a footnote to the table title, and the abbreviations should be listed in alphabetic order. If the footnote to the table title contains multiple items, the definitions of the abbreviations should be the last item. If a table contains only one abbreviated term, then a separate footnote placed after that abbreviation should be used to define that term. Commonly used approved abbreviations (see “Units and Abbreviations” below) may be used without explanation. Additionally, explanations are not needed for ANOVA, BMI, F (females), and M (males). For footnotes, use superscript Arabic numerals. For reporting results of statistical analyses, superscript letters can be used if explaining the results in the usual manner would be too complicated (see a recent issue of the AJCN for examples). The first appearance in a horizontal row determines the order of the footnotes. Identify statistical measures of variation, such as SD and SE, Omit internal horizontal and vertical rules before submitting your tables. Cite each table in the text in consecutive order. Use boldface for the first mention of each table. If you use data from another published source, acknowledge the source fully. Number references in tables according to the location of the first citation of each table in the text. For an illustrated table quality checklist, visit http://pubs.nutrition.org/site/misc/ASNTableChecklist.pdf.

Figures

Cite each figure in consecutive order in the text. Use boldface for the first mention of each figure. Spell out the word “Figure”; do not use “Fig.” If a figure has been published, acknowledge the original source and submit written permission from the copyright holder to reproduce or adapt the material in print and electronic format. Except for documents in the public domain, permission is required from the copyright holder, regardless of authorship or publisher.

Legends for all figures should be included within the manuscript text file on a separate page and be typed with double-spacing (legends should not be included on the figures themselves). Each legend should contain enough detail, including statistics, to make the figure intelligible without reference to the text. All nonstandard abbreviations, including group designations, used in a figure or figure legend (see below for list of standard abbreviations under “Units and Abbreviations”) should be defined at the end of the figure legend in alphabetic order. When symbols, arrows, numbers, or letters are used to identify parts of the figures, identify and explain each one clearly in the legend. Explain internal scale and identify the method of staining in photomicrographs.

Files must conform to the minimum-resolution specifications listed below (see Image resolution). Figures that are part of the regular manuscript submission and not part of OSM must be uploaded as separate files. Lettering and symbols must be large enough to be readable when the figure is reduced to 1 column width (<8.5 cm) or, in rare cases, to 2 column widths. Preferred text size is 7 points.

1 column: 18p0 / 3 inches / 7.6 cm
Maximum width (to span 2 columns): 34p0 / 5.7 inches / 14.4 cm
Maximum height: 53p0 / 8.8 inches / 22.4 cm

The use of color will be evaluated for each figure on an as-needed basis, and authors who are not members of ASN must pay an extra charge if color is used. Reprints of articles with color figures will be billed at a higher charge because of the additional costs of printing color. Do not use 3-dimensional figures unless necessary. When labeling axes, capitalize only the first word and proper nouns; use lowercase letters for the remaining words and put units in parentheses.

Formatting

Microsoft PowerPoint (PPT) and Word (DOC) files can be acceptable if properly prepared and submitted in their native format. When creating print-quality files in MS Office applications, follow these general guidelines:

1) Do not use pattern or texture fills in graphics. Instead use solid fills or percentage screens that will be effectively converted to vector images during file conversion. 2) When inserting pictures or images into files, be sure to select “insert” and not “insert link,” which will not properly embed the hi-res image into the MS Office file. 3) Do not reduce or enlarge the images after placement within the MS Office file. Otherwise the image quality will be affected. 4) A separate file should be submitted for each figure. Make sure that any multi-panel figures (i.e., figures with parts labeled A, B, C, D, etc.) are assembled into one file. Rather than sending four files (Figure 1A, Figure 1B, Figure 1C, Figure 1D), the four parts should be assembled into one piece and supplied as one file. 5) If a figure is very small in the system-generated PDF file, the resolution of the figure file was not high enough. A higher-resolution figure should be uploaded before the PDF is approved. 6) Authors are requested to create and keep high-resolution print copies of the figures, in the event that they are needed for publication purposes.

Image resolution

Files at publication size must conform to the minimum-resolution specifications listed in the figure below.

**Supplemental material**

Supplemental material may be included with manuscript submissions. Supplemental files for upload may include required research checklists, articles published/in press elsewhere, reports or technical briefs related to manuscript submission, figure source files, questionnaires, permissions, videos, etc. All supplemental data should be clearly labeled either as “Supplemental Data for Reviewers Only,” or, each page should be labeled as “Online Supporting Material” (OSM) if it is submitted for online publication only in *The American Journal of Clinical Nutrition*. Online-only figures and tables should be labeled “Supplemental Figure 1,” “Supplemental Table 1,” etc. Upload the OSM in the format that will make it most widely accessible to readers, preferably PDF. OSM files will not be edited before being posted online; therefore, please be sure that *The American Journal of Clinical Nutrition* format is used and that the files are accurate. Please also upload supplemental files for review only separately from supplemental files for online publication.

**UNITS AND ABBREVIATIONS**

Use only standard abbreviations. Consult the following sources for standard abbreviations: *Scientific Style and Format and Standard for Use of the International System of Units (SI): the Modern Metric System* (American Society for Testing and Materials. Philadelphia: American College of Physicians, 1998), *Am J Clin Nutr 1998;67:166–81* or *J Nutr 1990;120:20-35*. Dosage forms and dietary ingredients may be expressed in gram or mole quantities. Energy may be expressed in kilocalories or joules; the conversion factor for converting kilocalories to kilojoules is 4.184. Do not report energy in Calories with units of measurement. SI units of measurement, chemical compound preceded by a digit, and the following standard abbreviations do not require definition: ADP, AIDs, AMP, ASN, ATP, AUC, BMI, BOLD, CDC, CFU, CoA, CTP, DHA, DMEM, DMSO, DNA, EDTA, eg, EGTA, ELISA, EPA, FAD, FAO, FMN, fMRI, GAPDH, GDP, GTP, HCl, HDM, HEPE, HIV, HOA-IR, HPLC, ic, Ig, IL, LDL, Ln, LPS, MEM, MOPS, MRI, MUF, m/z, NAD, NADH, NADP, NADPH, NHANES, NIH, PUFA, RNA, SDS-PAGE, SFA, TNP, tris, UDP, UNICEF, USDA, UTP, UV, VLDL, vol:vol, WHO, and wt:vol. These standard abbreviations, however, should be defined at first mention in the abstract.

**Abbreviations for statistical terms**

- analysis of variance, ANOVA
- analysis of covariance, ANCOVA
- coefficient of correlation, sample, \( r \)
- coefficient of multiple correlation, \( R \)
- coefficient of variation, CV
- confidence interval, CI
- degrees of freedom, df
- hazard ratio, HR
- interquartile range, IQR
- not significant, NS
- number of observations, \( n \)
- odds ratio, OR
- probability, \( P \)
- risk ratio, RR
- standard deviation, SD
- standard error of the estimate, SEE
- standard error of the mean, SEM
- variance ratio, \( F \)

Metric units are required and the use of the International System of Units (SI units) is optional. For a comprehensive listing of SI conversion factors, consult *SI Units for Clinical Measurement* (Young DS, Huth EJ. Philadelphia: American College of Physicians, 1998). Dosage forms and dietary ingredients may be expressed in gram or mole quantities. Energy may be expressed in kilocalories or joules; the conversion factor for converting kilocalories to kilojoules is 4.184. Do not report energy in Calories with a capital C; use kcal, MJ, or kJ instead. Temperatures should be reported in degrees Celsius. Blood pressures should be reported in millimeters of mercury. Use of katal to report enzyme activity is optional.

**Commonly used approved abbreviations**

<table>
<thead>
<tr>
<th>Standard units of measurement</th>
<th>abbreviations</th>
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<td>ampere, A</td>
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hertz, Hz  sievert, Sv
hour, h  volt, V
joule, J  watt, W
katal, kat  week, wk
kelvin, K  year, y
kilocalorie, kcal

Acceptable standard units
length: m, mm, μm
area: m², mm², μm²
volume: L, mL, μL, pL
mass: kg, g, mg, μg, ng, pg
mass concentration: kg/L, g/L, mg/L, μg/L
substance concentration: mol/L, mmol/L, μmol/L, nmol/L

Unacceptable units
length: not acceptable: in, ft, yd, Å, μm
area: not acceptable: sq in, in², μm²
volume: not acceptable: pint, gallon, cc, ccm, μL
mass: not acceptable: oz, lb, gr, gm, gms, mgm, mgms, mgs
mass concentration: not acceptable: mg/μL
substance concentration: not acceptable: M, N

Combining prefixes
tera-(10¹²), T
micro-(10⁻³), μ
giga-(10⁹), G
nano-(10⁻⁹), n
mega-(10⁶), M
pico-(10⁻¹²), p
kilo-(10³), k
femto-(10⁻¹⁵), f
milli-(10⁻³), m
atto-(10⁻¹⁸), a

NOMENCLATURE

In general, the AJCN follows the nomenclature policies of the IUPAC-IUB Joint Commission on Biochemical Nomenclature. The vitamin nomenclature is summarized at J Nutr 1990:120:12-19, and the amino acid nomenclature is summarized at J Nutr. 1987:117:15. Both articles can be accessed at http://jn.nutrition.org. Authors are responsible for ensuring that their terminology conforms with these policies. For guidelines on gene and protein nomenclature, authors should consult the following websites:

http://www.informatics.jax.org/ (mouse), http://rgd.mcw.edu/ (rat),
http://www.genenames.org/ (human and other species), and

As recommended by the American Society for Microbiology, the spelling of bacterial names should follow the Approved Lists of Bacterial Names (Amended) & Index of the Bacterial and Yeast Nomenclature Changes (V. B. D. Skerman et al. ed., ASM Press, Washington, DC, 1989) and the validation lists and notification lists published in the International Journal of Systematic and Evolutionary Microbiology (formerly the International Journal of Systematic Bacteriology). Further information on currently approved bacterial names can be found at: Bacterial Nomenclature Up-to-Date (http://www.dsmz.de/microorganisms/main.php?contentleft_id=14) and at List of Prokaryotic Names with Standing in Nomenclature (http://www.bacterio.cict.fr). If authors must use a name that does not have standing in nomenclature, the name should be enclosed in quotation marks in the title, when appropriate, and at its first use in the abstract and the text. Correspondingly, an appropriate statement concerning the nomenclatural status of the name should be made in the text.

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