

THE AMERICAN MEDICAL ASSOCIATION STYLE GUIDE

REFERENCES

The three purposes of references, according to the American Medical Association in the *AMA Manual of Style*, are to document, acknowledge, and direct readers to additional resources. Periods divide each reference into bibliographic groups. The period makes each bibliographic group distinct and establishes a sequence of bibliographic elements in a reference. Bibliographic elements may be separated by the following:

- **Commas:** if the items are sub-elements of the bibliographic element or a set of closely related elements, such as the authors' names in the reference list
- **Semicolons:** if the elements in the bibliographic group are different, such as between the publisher's name and the copyright year, or if there are multiple occurrences of logically related elements within a group; semicolons are also used before volume identification data
- **Colons:** are used before the publisher's name, between the title and subtitle, and after a connective phrase such as "In" or "Presented at"

The Reference List

Reference to retrievable information is made in the reference list. This includes but is not limited to articles published or accepted for publication in scholarly or mass-circulation print or electronic journals, magazines, or newspapers; books that have been published or accepted for publication; papers presented at professional meetings; abstracts; theses; CD-ROMs, films, videotapes, and audiofiles; package inserts or a manufacturer's documentation; monographs; official reports; databases and Web sites; legal cases; patents; and new releases.

References should be listed in numerical order at the end of the manuscript (except as specified in section 3.3 and 3.5 in the *AMA Style Guide*). Two references should not be combined under a single reference number.

References to material not yet accepted for publication or to personal communications (oral, written, and electronic) are not acceptable as listed references and instead should be included parenthetically in the text.

References in Text

Parenthetical citation in the text of references that meet the criteria for inclusion in a reference list should be restricted to circumstances in which reference lists would not be used, as news articles or obituaries. Note that in the text

- Author(s) may not be named
- The title may not be given
- The name of the journal is abbreviated only when enclosed in parenthesis
- Inclusive page numbers are given

Some resources, such as Web URLs, may be listed in the text when it is the Web site itself that is referred to rather than the content on that site.

Wiese et al recently reported that an extract from the fruit of the prickly pear cactus had a moderate effect on reducing the symptoms of the alcohol hangover (*Arch Intern Med.* 2004;164[12]:1334-1340).

The effect of an extract from the fruit of the prickly pear cactus on reducing the symptoms of the alcohol hangover was reported in a recent issue of the of *Archives of Internal Medicine* (2004;164[12]:1334-1340).

The Archives of Internal Medicine article (2004;164[12]:1334-1340) on the effects of an extract of the fruit of the prickly pear cactus on reducing the symptoms of the alcohol hangover received widespread publicity (eg, *USA Today*. June 29, 2004:7D).

Physicians may wish to consult the NIH Clinical Trials Registry (<http://clinicaltrials.gov>).

Minimum Acceptable Data for References

To be acceptable, a reference to journals or books or Web sites must include certain minimum data. The information varies slightly for journals and books online and journals and books in print. For all of these forms, please consult the specific section in chapter 3 in the *AMA Manual of Style*. The summary below is only for quick reference.

Journals:

Print: Author(s). Article title. *Journal Name*. Year;vol(issue No.):inclusive pages.

Online: Author(s). Article title. *Journal Name*. Year;vol(issue No.):inclusive pages. URL. Accessed [date].

Books:

Print: Author(s). *Book Title*. Edition number (if it is the second edition or above). City, State (or Country) of publisher: Publisher's name; copyright year.

Online: Author(s). *Book Title*. Edition number (if it is the second edition or above). City, State (or Country) of publisher: Publisher's name; copyright year. URL. Accessed [date].

Web Site: Author (or, if no author is available, the name of the organization responsible for the site). Title (or, if no title is available, the name of the organization responsible for the site). Name of the Web site. URL. Accessed [date].

Enough information to identify and retrieve the material should be provided. More complete data should be used when available.

Numbering

References should be numbered consecutively with arabic numerals in the order in which they are cited in the text. Unnumbered references, in the form of a resource or reading list, are rarely used in *JAMA* and the *Archives Journals*. When they are used, these references appear alphabetically, by the first author's last name, in a list separate from the specifically cited reference list.

Citation

Each reference should be cited in the text, tables, or figures in consecutive numerical order by means of superscript arabic numerals. It is acceptable for a reference to be cited only in a table or a figure legend and not in the text if it is in sequence with references cited in the text. For example, if Table 2 contains reference 13, which does not appear in the text, this is acceptable as long as the last reference cited (for the first time) before the first text citation of Table 2 is reference 12.

Use arabic superscript numerals *outside* periods and commas, *inside* colons and semicolons. When more than 2 references are cited at a given place in the manuscript, use hyphens to join the first and last numbers of a closed series; use commas without space to separate other parts of a multiple citation.

As reported previously,^{1,3-8,19}
The derived data were as follows^{3,4}:

Avoid placing a superscript reference citation immediately after a number or an abbreviated unit of measure to avoid any confusion between the superscript reference citation and an exponent.

Avoid: The 2 largest studies to date included 26² and 18³ patients.
Better: The 2 largest studies to date included 26 patients² and 18 patients.³

Avoid: The largest lesion found in the first study was 10 cm.²
Better: The largest lesion found in the first study² was 10 cm.

When a multiple citation involves sufficient superscript characters to create the appearance of a "hole" in the print copy (20-25 characters, including spaces and punctuation, depending on the column width and type size), use an asterisk in the text and give the citation in a footnote at the bottom of the page.

Note: (1) Reference numerals in such a footnote are set full size and on the line rather than as superscripts. (2) The spacing is different from that in superscript reference citations. (3) If 2 or more such bottom-of-the-page footnotes appear in a single article, use an asterisk for the first footnote, a dagger for the second such footnote, a double dagger for the third. *Note:* This is less relevant for the Web.

As reported previously,*

*References 3, 5, 7, 9, 11, 13, 21, 24-29, 31.

Note: If a cell in the table involves citation of a reference number *and* a footnote symbol, give the reference number first, followed by a comma and the footnote symbol (eg, ^{3,a}).

If the author wishes to cite different page numbers from a single reference source at different places in the text, the page numbers are included in the superscript citation and the source appears only once in the list of references. Note that the superscript may include more than 1 page number, citation of more than 1 reference, or both, and that all spaces are closed up.

These patients showed no sign of protective sphincteric adduction.^{3(p21),9}
Westman^{5(pp3,5),9} reported 8 cases in which vomiting occurred.

In listed references, do not use *ibid* or *op cit*.

Authors

Use the author's surname followed by initials without periods. In listed references, the names of all authors should be given unless there are more than 6, in which case the names of the first 3 authors are used, followed by "et al." *Note:* The NLM guidelines do not limit the number of authors listed but, for space considerations, the *AMA Manual of Style* does.

Note spacing and punctuation. Do not use *and* between names. Roman numerals and abbreviations for Junior (Jr) and Senior (Sr) follow author's initials. *Note:* The *AMA Manual of Style* prefers II, III, and IV, unless the author prefers arabic numerals.

Also, although *JAMA* and *Archives Journals*, in bylines, make a distinction between a group of individuals writing *for* a group and a group of individuals writing *as* a group or *in addition to* (ie, *and*) a group, this distinction is not retained in the NLM database and hence in MEDLINE. If authors, in their reference lists, provide this information, the *for* or *and* will be retained, but if this information is not provided, the reference will use the individuals named and the group name, without *for* or *and*. Both styles are illustrated in the examples below. Note that the group name is preceded by a semicolon rather than a comma (to show that the information that follows is related to what precedes it but somehow distinct) and that articles (eg, *the*) in the group name are removed.

1 author:	Doe JF.
2 authors:	Doe JF, Roe JP III.
6 authors:	Doe JF, Roe JP III, Coe RT Jr, Loe JT Sr, Poe EA, van Voe AE.
>6 authors:	Doe JF, Roe JP III, Coe RT Jr, et al.
1 author <i>for</i> or <i>and</i> a group:	Doe JF; for Laser ROP Study Group. <i>or</i> Doe JF; for Laser ROP Study Group. <i>or</i> Doe JF; and Laser ROP Study Group.
>6 authors <i>for</i> or <i>and</i> a group:	Doe JF, Roe JP III, Coe RT Jr, et al; Laser ROP Study Group. <i>or</i> Doe JF, Roe JP III, Coe RT Jr, et al; for Laser ROP Study Group. <i>or</i>

Doe JF, Roe JP III, Coe RT Jr, et al; and Laser ROP Study Group.

When mentioned in the text, only surnames of authors are used. For a 2-author reference, list both surnames; for references with more than 2 authors or authors and a group, include the first author's surname followed by "et al," "and associates," or "and colleagues."

Doe⁷ reported on the survey.

Doe and Roe⁸ reported on the survey.

Doe et al⁹ reported on the survey.

Note: Do not use the possessive form *et al's*; rephrase the sentence.

The data of Doe et al⁹ support our findings.

In material that is less clinical (eg, book reviews, historical features, letters to the editor), the author's first name or honorific may be used at first mention:

We agree with Dr Tayeb that the prevalence of domestic violence is difficult to determine.

In *Growing Up Fast*, Joanna Lipper profiles 6 teenaged mothers living in Pittsfield, Massachusetts, at the turn of the 21st century.

Titles

In titles of articles, books, parts of books, and other material, retain the spelling, abbreviations, and style for numbers used in the original. *Note:* Numbers that begin a title are spelled out (although exceptions are made for years; see section 2.1.2 of the *AMA Manual of Style*).

Names of Organisms

In all titles, follow the style recommended for capitalization and use of italics in scientific names of organisms given in sections 10.3.6 and 15.14 of the *AMA Manual of Style*. Use roman type for genus and species names in book titles.

Non-English Words and Phrases

In all titles, follow the guidelines recommended for use of italics or roman in non-English words and phrases in section 12.1.1 of the *AMA Manual of Style*. For example, even if *In Vivo* or *In Vitro* were set italic in a cited title, *JAMA* and the *Archives Journals* would set these in roman type.

Subtitles

Style for subtitles follows that for titles (section 3.9 of the *AMA Manual of Style*) for spelling, abbreviations, numbers, capitalization, and use of italics, except that for journal articles the subtitle begins with a lowercase letter. A colon and a space separate title and subtitle, even if a period was used in the original. Do not change an em dash to a colon. If the subtitle is

numbered, as is common when articles in a series have the same title but different—numbered—subtitles, use a comma after the title, followed by a roman numeral immediately preceding a colon.

1. Klein R, Klein BEK, Moss SE, et al. The relation of retinal vessel caliber to the incidence and progression of diabetic retinopathy, XIX: the Wisconsin Epidemiologic Study of Diabetic Retinopathy. *Arch Ophthalmol.* 2004;122(1):76-83.

MANUSCRIPT PREPARATION

Titles and Subtitles

Titles should be concise, specific, informative and should contain the key points of the work. Similarly, although the subtitle is frequently useful in expanding on the title, it should not contain key elements of the study as a supplement to an overly general title:

<i>Avoid:</i>	Psychiatric Disorders: A Rural-Urban Comparison
<i>Better:</i>	Rural-Urban Differences in the Prevalence of Psychiatric Disorders

However, too much detail should be avoided. Subtitles should complement the title by providing supplementary information that will supply more detail about the content and aid in information retrieval. Subtitles of scientific manuscripts may be used to amplify the title; however, the main title should be able to stand alone. Phrases such as “Role of,” “Effects of,” “Treatment of,” “Use of,” and “Report of a Case of” can often be omitted from both titles and subtitles, though, sometimes, especially in randomized controlled trials, in which causality can be demonstrated, the use of such phrases as “effects of” is appropriate. Randomized controlled trials should be identified in the title or subtitle because this alerts readers to the level of evidence and study design and is helpful to researchers performing a meta-analysis. Other aspects of study design may be included in the title or subtitle. Sometimes a subtitle will contain the name of the group responsible for the study, especially if the study is large and is best known by its group name or acronym or if it is a part of a series of reports from the same group.

Quotation Marks

If quotation marks are required in the title or subtitle, they should be double, not single.

Numbers

In scientific writing, and in the title, numerals are used to express numbers in most circumstances. Exceptions are the following:

- Numbers that begin a sentence, title, subtitle, or heading, exceptions may be made for years
- Common fractions
- Accepted usage such as idiomatic expressions and numbers used as pronouns
- Other uses of “one” in running text
- Ordinals *first* through *ninth*
- Numbers spelled out in quotes or published titles

Drugs

If drug names appear in the title or subtitle, (1) use the approved generic or nonproprietary name, (2) omit the nonbase moiety unless it is required, and (3) avoid the use of proprietary names unless (a) several products are being compared, (b) the article is specific to the particular formulation of a drug (eg, the vehicle, not the active substance, caused adverse reactions), or (c) the number of ingredients is so large that the resulting title would be clumsy and a generic term, such as “multivitamin tablet,” would not do.

Genus and Species

Genus and species should be expanded and italicized in the title or subtitle and an initial capital letter should be used for the genus but not the species name, just as in text.

Abbreviations

Avoid using abbreviations in the title and subtitle, unless space considerations require an exception or unless the title or subtitle includes the name of a group that is best known by its acronym. In both cases the abbreviation should be expanded in the abstract and at first appearance in the text.

Capitalization

Capitalize the first letter of each major word in titles and subtitles. Do not capitalize articles (eg, *a, an, the*), prepositions of 3 or fewer letters, coordinating conjunctions (eg, *and, or, for, nor, yet, so, but*), or the *to* in infinitives. Do capitalize a 2-letter verb, such as *Is* or *Be*. Exceptions are made for some expressions, such as compound terms from languages other than English (which require that you capitalize all parts of the expression) and phrasal verbs. Also, in the case of temporary hyphenated compound, in which each part of the hyphenated term carries equal weight, capitalize both words (eg, *Cost-Benefit Analysis*).

Names of Cities, Counties, States, Provinces, or Countries

Include cities, states, counties, provinces, or countries in titles only when essential, especially for results that may not be generalizable to other locations. In other cases, include this geographic information in the abstract and the text only.

Bylines and End-of-Text Signatures

In major articles, authors are listed in a byline, which appears immediately below the title or subtitle. Authors' names and academic degrees are used.

Authors' Names

The byline or signature block should contain each author's full name (unless initials are preferred to full names), including, for example, Jr, Sr, II, III, and middle initials, and highest academic degree(s). When a byline contains more than 1 name, use semicolons to separate the authors' names. See the *AMA Manual of Style* section 2.2.4 for more information on authors and groups that act as authors.

Footnotes to the Title Page

Footnotes should be avoided in text, but are allowed on the title page. They are placed in the following order: author affiliations, death of an author, information about members of a

group, corresponding author contact information. Author affiliations, for example the institutions with which an author is professionally affiliated, including locations, are given in the footnote. The authors' last names are given parenthetically in the footnote following their respective institutions. If 2 or more authors share the same last name, their initials should be used in addition to the last name to distinguish them. Title and academic rank are not included in this footnote. If all authors in the byline are affiliated with the same department and institution, there is no need to include their names in the footnote. See the *AMA Manual of Style* section 2.3.3 for more information on authors in the footnotes.

Page Numbers and Titles

Printed pages normally carry a shortened version of the title article and the page number. Ask your professor whether she/he prefers that this information be at the top of the page (running header) or the bottom (running footer). The shortened version of the title would be kept brief but should emphasize the main point of the article, not just repeat the first few words of the title. No punctuation follows the running foot/header.

Abstracts

The abstract of a research report summarizes the main points of an article: (1) the study object or background, (2) the study design and methods, (3) primary results, and (4) principal conclusions. For scientific studies and systematic reviews, narrative expressions, such as "X is described," "Y is discussed," "Z is also reviewed," do not add meaning and should be avoided. Results should be presented in a quantitative fashion, but authors and editors should be scrupulous in verifying the accuracy of all data and numbers reported and ensuring consistency with the results published in the full article.

Structured Abstracts

For reviews of original data, systematic reviews (including meta-analyses), and clinical reviews, structured abstracts that use predetermined sideheads are recommended. Many journals limit the number of words to 250, but some allow for 300 for reports of original data and for systematic reviews. Seek specific advice on this in section 2.5.1 of the *AMA Manual of Style*.

Unstructured Abstracts

For other major manuscripts, include a conventional unstructured abstract of no more than 150 words. Consult the journal's instructions for authors for special requirements in individual publications.

Keywords and Epigraphs

See sections 2.6 and 2.7 of the *AMA Manual of Style* for information on using keywords or epigraphs in abstracts.

Parts of a Manuscript, Heading, Subheadings, and Side Headings

A consistent pattern of organization for all heading should be used for original research articles (see section 20.1 for more information). Many scientific articles follow the IMRAD pattern (introduction, methods, results, and discussion). However, not all articles will conform to a single pattern because format and section headings vary with the type of article.

- **Introduction**

The introduction should provide the context for the article, the objective of the study, and should state the hypothesis or research question (purpose statement), how and why the hypothesis was developed, and why it is important. It should convince the expert that the authors know the subject and should fill in gaps for the novice. It should generally not exceed 2 or 3 paragraphs.

- **Methods**

The “Methods” section should include, as appropriate, a detailed description of (1) study design or type of analysis and dates and period of study, as well as mention of institutional review board or ethics committee approval (informed consent; see also section 5.8); (2) condition, factors, or disease studied; (3) details of sample (eg, study participants and the setting from which they were drawn, inclusion and exclusion criteria; (4) intervention(s), if any; (5) outcome measures or observations; and (6) statistical analysis. Enough information should be provided to enable an informed reader to replicate the study, or, if a methods article has already been published, that article should be cited and important points should be summarized.

- **Results**

The results reported in the manuscript should be specific and relevant to the research hypothesis. Characteristics of the study participants should be followed by presentation of the results, from the broad to the specific. The “Results” section should not include implications or weaknesses of the study, but should include validation measures if conducted as part of the study. Results should not discuss the rationale for the statistical procedures used. Data in tables and figures should not be duplicated in the text. (See section 4.0 on the visual presentation of data.)

- **Discussion**

The “Discussion” section should be a formal consideration and critical examination of the study. The research question or hypothesis should be addressed in this section, and the results should be compared to and contrasted with the findings of other studies. (*Note.* A lengthy reiteration of the results should be avoided.) The study’s limitations and the generalizability of the results should be discussed, as well as mention of unexpected findings with suggested explanations. The type of future studies needed, if appropriate, should be mentioned. This section should end with a clear, concise conclusion that does not go beyond the findings of the study. (Note that “Comments” has been traditionally been used here rather than “Discussion” and ask your professor what she/he prefers.

Levels of Headings

A consistent style or typeface should be used for each level of heading throughout a manuscript so that the reader may visually distinguish between primary and secondary headings.

Number of Headings

There is no requisite number of headings. However, because headings are meant to divide a primary part into secondary parts, and so on, there should be a minimum of 2.

Headings reflect the progression of logic or the flow of thought in an article and thereby guide the reader. Headings also help break up the copy, making the article more attractive and

easier to read. Headings may even be used in articles such as editorials and reviews, which usually do not follow the organization described for research articles.

In Headings Avoid

- Using a single abbreviation as a heading, even if the abbreviation has been expanded earlier in the text; if the abbreviation appears as the sole item in a heading, spell it out
- Expanding abbreviations for the first time in a heading; spell the abbreviation out in the heading if that is its first appearance and introduce the abbreviation, if appropriate, at the next appearance of the term
- Citing figures or tables in the heading; cite them in the appropriate place in the text that follows the heading
- Avoid citing references in headings

For Information About Addenda, Acknowledgements, List of Participants in a Group Study, Funding and Support, Financial Disclosure, About Published Articles, and Other Matters see the *AMA Manual of Style* in SLAC.