STYLE NOTES FOR MANUSCRIPT PREPARATION

When you prepare early drafts of manuscripts, it may be helpful to follow the conventions listed below. After you've chosen a journal for submission, you should follow the journal's specific instructions.

The following site lists instructions for over 6,000 journals: [http://mulford.meduhio.edu/instr/](http://mulford.meduhio.edu/instr/)

General Rules

- Double-space.
- Use 1-inch margins, and keep the right margin unjustified (ragged).
- Use a 12-point font for the title page, abstract, headings, body of text, and references. Times New Roman or Arial is best. Pick one of these and stick with it.
- Use 10-point Arial for the tables. A 12-point font is usually too large, and Arial is best for aligning columns with numbers.
- The usual order is as follows: (1) title page; (2) abstract; (3) text; (4) references; (5) tables, each beginning on a new page; (6) list of figure legends for all figures; and (7) figures, each on a separate page.

Headings and Paragraphs

- Place all headings at the left margin (don't center them).
- Use this format:
  
  **FIRST-LEVEL HEADING** (bold, all caps)  
  **Second-Level Heading** (bold, initial caps)  
  **Third-level heading** (bold italic, one initial cap)

- Put an extra line of space before each type of heading (but not after a heading).
- Indent the paragraphs.
- Don't put an extra line of space between the paragraphs.

Terminology and Organization

- Choose the most accurate and succinct terminology to use. Then use it consistently throughout the abstract, text, tables, and figures. Example: If you have two study groups and you decide to refer to one group as the "HIV-positive participants" and the other group as the "HIV-negative participants," then don't randomly call the "HIV-positive participants" a lot of different names, such as infected individuals, infected respondents, infected subjects, HIV-infected patients, HIV-positive patients, subjects with HIV infection,
and participants with AIDS. Why? The participants with AIDS are a subgroup of HIV-positive participants, who are a subgroup of HIV-infected patients, who are a subgroup of infected individuals, and so forth. By being accurate and consistent, you make it clear that there are only two groups. You also avoid causing confusion for translators and readers whose first language is not English.

- Pick the most logical order in which to discuss things and try to stick with it. **Example:** If you decide to discuss HIV-positive participants before you discuss HIV-negative participants, then use this order in the abstract, the introduction, the methods section, the results section, the discussion, every table, and every figure. **Another example:** If you are using six different study instruments, describe them in the same order in the methods, results, tables, and elsewhere.

- There are many conventions concerning how to organize the different parts of your manuscript. **Examples:** Move from a discussion of what is already known to a discussion of what is unknown; move from general to specific; move from greater importance to lesser importance; move from simple to complicated; move from a description of normal results to a description of abnormal results; and move in chronological order.

- If there is a convention to follow, then it is usually best to follow it. **Examples:** *Introductions* generally move from known to unknown and end with the hypothesis being explored. *Methods* generally use chronological order. *Results* generally discuss the number of subjects, then demographics, then morbidity or anything affecting living subjects, then mortality, and then costs. *Discussions* usually begin with a one- or two-sentence statement that repeats the number and general description of the study participants and recaps the important results. This statement is followed by an attempt to place your results in the context of the existing literature and discuss why your results are important or different or unexpected. This is followed by a discussion of study limitations, and then you must end on a positive note about your study.

- Begin with an outline of first-level, second-level, and third-level headings for the whole manuscript. Don't write your results section until you have composed the results tables and figures, since the results section should complement (not repeat) the information in the tables and figures. Write your abstract last, and make sure that it doesn't include anything that was not discussed somewhere in the body of the text.

### Use of Numerals versus Words

- Different journals have different style rules for when to spell out numbers and when to use numerals (e.g., two versus 2). Most journal rules are complicated and have many exceptions.

- The rules followed by *JAMA* and all AMA journals are the simplest: (1) Spell out a number if it is at the beginning of a sentence. (2) Otherwise, use numerals. **Example:** Twenty-five people were at the meeting. I asked each of them to bring 1 ruler, 3 pencils, and a large tablet of paper. (There are very few exceptions to the AMA number rules, and the exceptions are probably not worth learning.)

- If you don't use the AMA rules, you should remember that all medical journals use numerals for units of measure (time, distance, temperature, dosages, etc.), even if they spell out numbers for items that are not units of measure (patients, desks, automobiles, etc.). **Example:** After undergoing treatment for 1 year, the two patients were told to switch to a different drug regimen.
**P Values and Other Numbers with Decimal Points**

- The simplest rule is the one followed by most medical journals: Use a zero before the decimal point in all numbers with decimal points. **Examples:** 0.5 mg/dL; 0.7%; κ = 0.87; range of 0.9–1.2; *P* <0.001; *P* = 0.16; a predetermined α level of 0.05. **Recommendation:** In drafts, always use a zero, since it is easier for your readers to see the decimal point (it is easier to see the decimal in 0.01 than in .01), and you will not have to memorize exceptions to the rule.

- However, be aware that *JAMA* and other AMA journals follow this rule: "Place a zero before the decimal point in numbers less than 1, except when expressing the 3 values related to probability: *P*, α, and β." The reason for the exceptions is that these values for probability cannot equal 1 unless they are rounded. **Examples:** *P* <.001; *P* = .16; a predetermined α level of .05. **Recommendation:** After you choose a specific journal, look at several articles in the journal to see how the journal handles *P* values. Because these values are so important, it is best to change them yourself to conform to the journal's style rules, rather than leave it up to a journal copy editor to change them for you.

**Rounding of *P* Values**

- The following guidelines are based on information in the *AMA Manual of Style*: Round *P* values to 2 or 3 digits after the decimal point, depending on the number of zeros. Change .157 to .16. Change .037 to .04. Don't change .047 to .05, because it will no longer be significant. Keep .003 as is because 2 zeros after the decimal are fine. Change .0003 or .00003 or .000003 to <.001, because "expressing *P* to more than 3 significant digits does not add useful information."

- The smallest and largest *P* values should be expressed as <.001 and >.99. If your statistical program says *P* = .0000, you should report this as *P* <.001, rather than leaving a row of zeros.

- In tables, *P* values should not be expressed as NS (not significant). Specific *P* values should be given, even if they are not statistically significant.

**Reference Numbers in Text, Tables, and Figures**

- Number the references consecutively. If you refer to the same reference twice and the reference was number 2 the first time, it will be number 2 the next time also (i.e., it won't have a new number).

- If a reference number is cited in a table or figure but not in the text, it should be numbered according to where the table or figure is first mentioned within the text. Let's say your references in the text go to number 14 before you introduce Table 1. If you want to cite a new reference in Table 1, you would number the reference 15. If old reference 12 also appears in Table 1, you would continue to call it reference 12 in Table 1. After you've finished numbering the references in Table 1, you go back to the text and assign the next number to a reference in the text (in this case, assign number 16).

- Put reference numbers in parentheses (1, 2), and place the reference notations before the punctuation (3–6), as shown in this sentence (7). The rules are usually the same if you use brackets instead of parentheses [8, 9].
• Later, if you discover that the journal you have chosen wants you to use superscript numbers,1, 2 you will need to place the reference notations after the punctuation,3–6 as shown in this sentence.7 (Note that there are exceptions8: you place the reference notations before a semicolon9; and, as you can see at the beginning of this sentence, you also place the reference notations before a colon.)

Abbreviations and Acronyms

• Don't overuse abbreviations and acronyms. Use them only if you repeatedly refer to a term and the term is complex or if people generally recognize the term more in its abbreviated form (e.g., chronic obstructive pulmonary disease, or COPD).

• Spell out all abbreviations and acronyms the first time they are used in the abstract and in the body of the text. Spell them out in a footnote in every table in which they are used, and spell them out in the legend to every figure in which they are used.

• Capitalize the first letters of the long version of a term only if the term is a proper noun. Example: We examined end-stage liver disease (ESLD) in patients in the member countries of the North Atlantic Treaty Organization (NATO). ESLD is not a proper noun, but NATO is.

• Why is it important to spell out terms that "everybody" knows? Because NATO in Spanish is OTAN, and AIDS in Spanish is SIDA. Failure to spell out terms is a discourtesy to readers whose first language is not English, and it's a stumbling block to editors and translators.

When Not to Use Hyphens

• Webster's dictionary and all medical dictionaries follow the rule that you should not use hyphens in words that begin with these prefixes: ante, anti, bi, co, contra, counter, de, extra, infra, inter, intra, micro, mid, non, over, post, pre, pro, pseudo, re, semi, sub, super, supra, trans, tri, ultra, un, and under (this is just the partial list supplied by the AMA Manual of Style). Examples: antenatal, prenatal, postnatal, bidirectional, coauthor, coexistence, coworker, counterbalance, extrasensory, nonabsorbent, nonnucleated, nonwhite, pretransplant, posttransplant, pretreatment, posttreatment, pseudocyst, submolecular, ultraviolet, unweighted, unobserved, overdeveloped, underdeveloped, and underrepresented.

• There are exceptions, but there are only two that you really need to remember. One is to use a hyphen if the stem word begins with a capital letter. Examples: non-African (not nonAfrican), non-Hispanic, non-American, and un-American. The other is to consult a real dictionary or grammar book if you want to check about whether to use a hyphen. Don't trust the spell-checker on your computer.

Math Symbols, Footnote Symbols, Hyphens, and Dashes

• To find math symbols such as ≤, ≥, ±, and × in the Word program, click "Insert" on your tool bar. Then click "Symbol," and when you get to the menu, click the tab that says "Symbols." Under "Font," scroll down to "Symbol."

• Many journals use symbols for footnotes to tables. The symbols usually go in this order: * (asterisk), † (dagger), ‡ (double dagger), § (section mark), ‖ (parallel mark), ¶ (paragraph
symbol), # (number sign), ** (asterisk repeated), †† (dagger repeated), and ‡‡ (double dagger repeated). To find these symbols in the Word program, click "Insert" on your tool bar. Then click "Symbol," and when you get to the menu, click the tab that says "Symbols." Under "Font," select "normal text." Under "Subset," scroll down through the various subsets until you find the correct symbol.

- Hyphens are used to connect letters in compound words (e.g., long-term). En dashes are used for negative numbers (–0.2). The en dash takes up the same amount of space as a number does, so if you use an en dash in a column of negative and positive numbers, you will be able to align the numbers in the column. Em dashes are used in places where you could use parentheses instead—as here, for example—but the difference is that parentheses enclose information and thereby minimize attention paid to it, whereas em dashes expose information and maximize attention paid to it. To find en dashes and em dashes in the Word program, click "Insert" on your tool bar. Then click "Symbol," and when you get to the menu, click the tab that says "Special Characters."

Recommended Resources


- Sabin, William A. *The Gregg Reference Manual.* 11th ed. Boston, MA: McGraw-Hill; 2010. Costs from $30 to $50. Covers grammar, usage, style, and formats for all types of written materials, including manuscripts, reports, letters, and memos. Has an excellent index so you can look things up without having to know parts of speech. For example, the index includes the following entries: affect–effect, comprise–compose, e.g., i.e., and who–whom. You don't have to memorize or even read the rules, since it gives you lots of terrific examples to follow.
Parallel Structure

Words and phrases
- fishing, jumping, eating, laughing (all end in "ing")
- to ride your bike, to take your dog for a walk, to hike 15 miles and back, and to be home for dinner (all begin with "to")
- in the house, on the second floor, under the bed, and away from the kids

Sentences
- Say this:  "Group A consisted of men, and group B consisted of women."
  Not this:  "Group A consisted of men, and women were in group B."

- Say this:  "In group A, the patients . . . In group B, the patients . . ."
  Not this:  "In group A, the patients . . . The patients in group B . . ."

- Say this:  "Drug A increased the heart rate; drug B decreased the heart rate; and drug C had no effect on the heart rate."
  Not this:  "Drug A caused an increase in heart rate. The rate was decreased by drug B. Suppression did not occur with drug C."

Analogy: Parallel structure is to writers as a controlled experiment is to scientists.
- In a controlled experiment, you try to minimize the number of variables so the importance of each variable stands out.

- In a statement with parallel structure, you try to minimize the number of different words so the importance of each different word stands out.

- If I say "Drug A increased the heart rate; drug B decreased the heart rate; and drug C had no effect on the heart rate," you hear the letters A B C and the words increased, decreased, had no effect. That's because the statements are in parallel structure.

- These statements are in parallel structure: In a controlled experiment, you try to minimize the number of variables so the importance of each variable stands out. In a statement with parallel structure, you try to minimize the number of different words so the importance of each different word stands out.

Benefits of parallel structure:
- Helps you think logically and see things in perspective.
- Forces you to clarify and simplify.
- Saves you time by allowing you to rely on established patterns (use the same terms, use the same order, compare and contrast).
- Forces readers to see the overall structure and logic of your arguments.
- Helps readers focus on what is important.

Parallel structure is underlined in this example:

The study designs and patients in each phase 3 trial are summarized in Table 1. All phase 3 trials were randomized, placebo-controlled, double-blind, multicenter, 2-year studies. The interferon beta-1b phase 3 trial included 372 patients with baseline Expanded Disability Status Scale (EDSS) scores ranging from 0 to 5.5 (mean, 2.9) and at least 2 relapses during the 2 years before enrollment. Patients were randomized to receive subcutaneous (SC) interferon beta-1b, 8 mIU (250 µg) or 1.6 mIU (50 µg), or placebo every other day for 2 years. The primary end points were the annual relapse rate and the proportion of relapse-free patients. Secondary end points included the number of days to first relapse, relapse duration and severity, change from the baseline EDSS and Scripps Neurologic Rating Scale scores, and quantitative disease burden as measured by means of T2 lesion activity on annual MRI scans.

In the phase 3 trial of Avonex, 301 patients with relapsing MS were randomized to receive 30 µg of the study drug (n = 158) or placebo (n = 143) intramuscularly once weekly for 2 years. Patients with a baseline EDSS score of 1.0 to 3.5 (mean, 2.4) who experienced at least 2 relapses during the 3 years before enrollment (mean, 1.2) were enrolled in the study. The primary outcome variable was time to onset of sustained worsening in disability, defined as deterioration from baseline by at least 1.0 point on the EDSS that was sustained for at least 6 months. Secondary outcome variables included relapse rate, the number and volume of lesions with contrast enhancement on T1-weighted MRI after administration of gadolinium (Gd-positive lesions), and the number and volume of T2 lesions.

In the phase 3 trial of Rebif, the Prevention of Relapses and Disability by Interferon beta-1a Subcutaneously in Multiple Sclerosis (PRISMS) study, 560 patients with RRMS were randomized to receive SC interferon beta-1a, 22 or 44 µg, or placebo 3 times-weekly for 2 years. Patients were included in the study if they had had at least 2 relapses during the 2 years before enrollment and an EDSS score of 0 to 5.0 (mean, 2.5). The primary outcome measure was the relapse rate. Secondary outcome measures included the proportion of relapse-free patients, times to first and second relapses, time to sustained disability progression, findings on an ambulation index and an arm-function index, need for corticosteroids and hospitalization due to MS, and MRI measures of disease burden and T2 active lesions.

In the phase 3 trial of glatiramer acetate, 251 patients with RRMS were randomized to receive 20 mg of the study drug or placebo SC once daily for 2 years. Patients who had had at least 2 relapses during the 2 years before enrollment and an EDSS score of 0 to 5.0 (mean, 2.6) were enrolled in the study. The primary outcome variable was the mean number of relapses during 2 years. Secondary outcome variables included the proportion of relapse-free patients, time to first relapse, proportion of patients with sustained disease progression, and mean change in the EDSS score and an ambulation index.
Comparisons in Research

In the Results Section - try to use the word "than" instead of the word "compared"

Avoid: X was larger compared to Y.
OK: X was larger than Y.

Avoid: The proportion of patients who recovered was greater compared to those who failed to recover.
OK: The proportion of patients who recovered was greater than the proportion who failed to recover.
OK: The proportion of patients who recovered was greater than that of patients who failed to recover.

Avoid: X compared to Y was more likely to leave the hospital within 24 hours.
OK: X was more likely than Y to leave the hospital within 24 hours.

Examples of correct comparisons:

- We found that women whose symptoms of depression had been treated with fluoxetine during the past month were more likely than their male counterparts to continue with treatment and return to work but were less likely to gain weight and join a support group.

- Among the patients whose symptoms of depression had been treated with fluoxetine during the past month, the women were more likely than the men to do this, do that, do this, and do that. The women were less likely to do this, do that, and do this.

In the Methods Section - it is usually appropriate to use the word "compare"

Avoid: We compared X to Y.
OK: We compared X with Y.
OK: We compared X and Y.

Avoid: We compared the incidence of X with Y.
OK: We compared the incidence of X with that of Y.
OK: We compared the incidence of X and the incidence of Y.

Examples of correct comparisons:

- We compared bipolar disorder with schizophrenia.

- We compared bipolar disorder and schizophrenia.

- We compared women with bipolar disorder and women with schizophrenia.

- We compared 2 groups: middle-aged women who had symptoms of anxiety and were unemployed and older women who had symptoms of anxiety and were unemployed.
• We compared 2 groups of women with symptoms of anxiety: those who were middle-aged and unemployed and those who were older and unemployed.

• We compared a group of middle-aged women who had symptoms of anxiety and were unemployed with a group of older women who had the same symptoms and employment status.

• We compared the incidence of bipolar disorder with the incidence of schizophrenia.

• We compared the incidence of bipolar disorder with that of schizophrenia.

• We compared the incidence of bipolar disorder in middle-aged women in Sweden with the incidence in middle-aged women in Peru.

• We compared middle-aged Swedish women with middle-aged Peruvian women in terms of the number of symptoms, results of treatment, and rate of disease recurrence.