

CHAPTER 15

Titles

15.1 OVERALL

TITLE GUIDELINE 1:

Aim to attract readers.

TITLE GUIDELINE 2:

State the main topic of your study in the title.

TITLE GUIDELINE 3:

Your title should separate your article from other articles in the field.

The title is the single most important phrase of an article. Many readers will discover your paper by seeing it listed in Current Contents or a similar secondary service. Most readers will read your abstract only if the title interests them. They will judge the paper's relevance on the title alone.

To identify the main message of the paper, state the main topic in the title and make the title interesting to attract readers. Because a title in a scientific research journal will be used in indexing systems and bibliographic databases, it should also be informative and accurate.

A title is typically stated as a phrase, but it may also be a complete sentence. However, a full sentence with an active verb is usually not a good title—neither is an overly long phrase.

You need to ensure that your title separates the article from all other articles in that field. Do not hesitate to try out several versions of a title on colleagues and friends. When you convey the message of your paper, be assertive, but do not brag. Be exact and clear or readers for whom you wrote the paper will never read it.

15.2 STRONG TITLES

TITLE GUIDELINE 4:

Use a strong title: Make it clear and complete but succinct.

The first thing readers, editors, and reviewers see is the title. It is therefore very important that your title is strong. A strong title should fulfill three criteria: It needs to be clear, complete, and succinct.

Clarity of a Title

Unclear titles confuse or mislead readers, and can give an annoying first impression. Some titles are not clear because word choice is too general as shown in Example 15-1.

 **Example 15-1** Effect of hormones on tumor cells

The title in Example 15-1 is not clear because words in it are unspecific, such as the category terms “hormones” and “tumor cells.” What hormones and which tumor cells? The specific hormones and tumor cells should be listed. Otherwise, the title is essentially meaningless. At the same time, this title is unclear because it does not state what specific effect has been observed on the study. The revised example is a much stronger title:

 **Revised Example 15-1** Effect of testosterone and estradiol on the growth and morphology of rat epithelial tumor cells


Titles can also be ambiguous because of unspecific words such as *and* and *with*. Avoid these words as they tend to confuse readers.


 **Example 15-2** Tracking long-distance migration of gray whales with geolocators

In Example 15-2, the relationship between “gray whales” and “geolocators” is not clear. It reads as if gray whales have geolocators. “With” needs to be replaced by a more specific word.

 **Revised Example 15-2** Tracking long-distance migration of gray whales **by using** geolocators

Ambiguity can also arise because of noun clusters as is shown in the following example:

 **Example 15-3** Involvement of amygdala in the oxotremorine memory enhancing effect

 **Revised Example 15-3** Involvement of amygdala in memory enhancement by oxotremorine

The original title contains a confusing noun cluster. In the revised title, this noun cluster has been split up, and the word *effect* has been omitted, making the title much clearer.

Aside from unspecific word choices and confusing noun clusters, abbreviations, especially nonstandard abbreviations, can create unclear titles. The only abbreviations that are acceptable in titles are those that are better known than the words they stand for, such as DNA (deoxyribonucleic acid), and those for chemicals such as N_2O_5 (dinitrogen pentoxide). If you are unsure of whether an abbreviation will be clear, write the words.

Completeness of a Title

A title should not only be clear, it also has to be complete. To make a title complete, include and highlight the key items of your study (e.g., a specific disease seen in a certain group of people, a novel assay, the species studied). Keep in mind, however, that in the title, readers can only absorb three or four details and that the title cannot replace the Abstract. Concentrate on the most distinctive aspect of your work. Details of secondary importance can be presented in the Abstract or Introduction. Announcing the main variables of the paper is stronger than trying to fit all the variables into the title.

Consider the following title:

 **Example 15-4** Dengue virus activates human umbilical vein endothelial cells

Although this title orients the reader to the area of research, it does not give any specifics as to how the activation takes place. Adding a few more specific words completes the title and sets it apart from others in the field.

 **Revised** Dengue virus activates human umbilical vein endothelial cells

Example 15-4 **via the tumor necrosis factor- α pathway**

CHAPTER 14

Abstract

In your Abstract, do not include any information or conclusion not covered in the paper. Avoid abbreviations, unfamiliar terms, and citations. Do not include or refer to tables or figures. Do not include any references, but be sure to include all the important key terms found in the title because the Abstract and the Title have to correspond to each other (see Chapter 6, Section 6.3 for more details on key terms, and distinguish between key terms and key words, also known as indexing terms — for key words see Chapter 15, Section 15.5.)

14.3 ORGANIZATION

ABSTRACT GUIDELINE 1:

Use an informative or structured abstract for research articles.

ABSTRACT GUIDELINE 2:

Abstracts of research papers include

Question/Purpose (not required for descriptive papers)
 Experimental approach (not required for descriptive papers)
 Results/Description

Conclusion (answer)/Implication

Optional: short background

significance such as implication,
 speculation, application or recommendation
 (for investigative papers)

Abstracts for research papers (both investigative and descriptive papers) differ from those used for review articles or proposals. Research paper abstracts can be divided into informative and structured abstracts. The latter form is used mainly for clinical journals.

When you write your Abstract, follow the specific instructions from the journal to which you are planning to submit your manuscript. Although there will be some differences among journals, the content of the Abstract remains the same. An abstract for an investigative research paper should include the following:

Question or purpose
 Experiments
 Results
 Conclusion (answer to the question) and implication

In addition to these basic parts, the Abstract may begin with a sentence or two of background information to help the reader understand the question and end with a sentence indicating the significance of the paper.

14.1 OVERALL

Most people (including editors and reviewers) will read your article only if your Abstract interests them. The Abstract is often also the only part of the paper—together with the title—that can be retrieved through a search, such as those done through Medline or Ovid. It is therefore essential that the Abstract interest your reader.

Knowing how to write an Abstract is one of the most important skills in science, as virtually all of a scientist's work will be judged first (and often last) based on an abstract. The ability to write a competitive abstract applies not only to research papers but also to grant proposals, progress reports, project summaries, and conference submissions and proceedings. Therefore, learning this critical skill cannot be underestimated.

14.2 CONTENT

The Abstract should fully summarize the contents of the paper in one paragraph. The Abstract must also be written such that it can stand on its own without the text. It must be concise, informative, and complete. Do not try to include every finding in your Abstract. Rather, include all the important details of the paper, but use as few words as possible. Write the Abstract with the nonspecialist in mind. Remember, you want to attract as wide an audience as possible.

The abstract selects the highlights from each section of the paper. Because the Abstract summarizes all of these highlights, it is easiest to write once your manuscript is complete. The Abstract covers all of the main information in the paper (Introduction, Material and Methods, Results, and Discussion) in a single paragraph.