Writing the Abstract

Welcome to Chapter 10! After this chapter, you will know:

- what an abstract should be
- the differences between descriptive, informative, and graphical abstracts
- when to write your abstract and title

Purpose of the abstract
The abstract is a short summary of your manuscript. It is extremely important that your abstract is well prepared and sufficiently represents your paper, because the abstract is often the only part of paper that will be read. Yet it might be only 100 words long, so you need to practice how to write concisely but still accurately, interestingly, and persuasively.

The abstract should also be sufficiently enticing so that it attracts the readers to read the entire paper.

The content of the abstract, along with the title and keywords, is essential for the discoverability of your paper; thus, you should prepare it carefully.

Structure
The length of the abstract depends on the type of paper and the journal’s requirements. Most abstracts are usually 150–300 words. Abstracts can be one of the following:

- Unstructured (a single paragraph)
- Structured (divided into predetermined sections with headings such as Objective or Background, Methods, Results, and Conclusions)
- Graphical (a single image aimed at providing the key finding or message of the article).

Some journals require both a written and a graphical abstract.
Ask a colleague to read your abstract to see if they can identify the following:

- the gap in the knowledge
- the objective of your study
- the main finding
- the implication to the field

**Abstract style**

Abstracts are more often written in the past tense (especially in the parts related to the aims, methods, and results) because they tell what happened. The background and the conclusion are often in the present tense. In addition, many journals permit the use of the active voice and first-person plural pronoun (we).

But journals in some disciplines have different styles. They may use the present tense throughout, especially for chemical synthesis or mathematical/computer modeling studies. They may also use passive voice throughout and disallow the use of “We”, even if these are allowed in the text of the main article.

Abstracts normally should not include reference citations or references to tables and figures in the main text. Abstracts should "stand alone"; your reader should be able to understand the contents without having to refer to the rest of your paper. Thus, abbreviations, jargon, and technical language should be avoided whenever possible. If it is impractical to avoid such terms, they should be defined clearly.

You may draft a rough abstract/summary when you are planning your manuscript. But it is recommended that abstracts are written last, once the final content of the manuscript has been approved by all authors.

Note that so far, we have been discussing manuscript abstracts. Conference abstracts may have different styles. For example, conference organizers may allow you to include references and small figures or tables.
Descriptive vs. informative Content

Content
Based on their content, abstracts can be descriptive or informative. Abstracts of scientific papers are usually informative: that is, they include specific information related to the objective, methods, and results.

To ensure that your abstract includes all the necessary information, consider answering the following questions:

• What is the reason for performing the study? (State what is known and why the study is needed)
• What did you do to fulfill the objective/prove the hypotheses?
• What were the main findings? (Make sure these are directly related to the stated objectives)
• What are the meaning, implications, and clinical relevance of the findings?

You may recognize that abstracts follow an IMRaD format that parallels the main manuscript’s logic. But you only have space for the key methods and results. There is no space for a real discussion, so the final section is simply the Conclusion.

In some disciplines, such as the life sciences, the abstract has subheadings, called “structured” format. In other disciplines, the abstract may be “unstructured” -- just one paragraph without subheadings (but check the journal guidelines, because sometimes there is more than one paragraph). Even if the abstract you are preparing is unstructured, the content should still include the same core elements as a structured abstract.

Consider stating the answers to the questions above in a logical order, and you will be well on your way to writing a complete, effective abstract. It should be possible to clearly identify the different parts of your abstract.

Finally, make sure that the final abstract is consistent with the main text of the paper in terms of data, results, and general wording. You should also ensure that it meets the requirements of the journal guidelines in terms of word count, structure, headings, and use of abbreviations.

Additional sections or elements
Some clinical journals require additional stand-alone sections to highlight a particular aspect of the work. Often, this content should normally be included in any abstract anyway:

For example:
• Clinical learning point
• What we knew before/What we know now

Graphical abstracts
A graphical abstract is a single visual summary of the main findings of the article. This can be a figure from the article or a new, specially designed figure.

Some journals request that authors provide a graphical abstract in addition to the traditional written abstract. In most cases, submission of a graphical abstract is optional; But in the future it may become a preferred style for abstracts because readers can understand the important message of the paper quickly.

The following sites provide some excellent examples of graphical abstracts in different fields of study:
• Elsevier: Biology, medicine, materials science
• Thieme: Chemistry