



MEDICAL COMMUNICATION:  
**Essential Skills  
for Success**



# Medical Communication: Essential Skills for Success

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Medical writers provide an essential service, producing print or digital (and visual) communications in a variety of areas of practice such as regulatory documents, patient education, scientific publications, and other health communications. It's important work, and excellent medical writers are in demand.

Like all professional communicators, medical writers need to be top-notch writers. However, careers in medical communication also require a solid understanding of science and familiarity with the rigors of research. Medical writers are trusted sources who specialize in gathering, evaluating, and interpreting complex information on medicine and health to different audiences.

[AMWA's mission](#) is to promote excellence in medical communication and to provide educational resources in support of that goal. The following is an overview of some of the most important skills for medical communication, based on AMWA's [Essential Skills Certificate Program](#). As a medical communicator, mastering these skills will

- Make you a better writer
- Improve your editing skills
- Enhance your knowledge of medical terminology and basic statistics
- Reinforce your understanding of medical ethics and ethical decision-making
- Help medical writers and editors achieve excellence

By learning these essential skills you will build a foundation for success as a medical writer.

## Basic Grammar and Usage



*The ability to write clearly, concisely, understandably, and correctly is a prerequisite for most jobs in the field of medical communication.*

Caring about clear writing requires caring about grammar. For writers, words are the tools used to practice the profession. Grammar helps put words together into coherent sentences, logical paragraphs, and cohesive documents.

If the goal is to become an excellent writer, medical communicators need to not just become familiar with the elements of language; they need to master them. The ability to write clearly, concisely, understandably, and correctly is a prerequisite for most jobs in the field of medical communication.

Let's start with some fundamentals of [basic grammar and usage](#). Medical communicators need to have an understanding of

- **The parts of speech**, including the function and types of verbs, that make writing come alive
- **Sentences and sentence elements**, including complements, phrases and clauses, and sentence types
- **Basic rules of grammar**, such as subject-verb agreement, pronouns, modifiers, and comparisons
- **Usage**, how to choose the right word, and which words to avoid at all costs

Many medical writers enjoy the satisfaction of choosing the right words and structure to convey important information. Good grammar is good communication.

# Punctuation for Clarity and Style



*Punctuation helps medical writers achieve clarity and precision that are critically important when conveying scientific concepts.*

Every mark on the page makes a difference. Punctuation goes hand in hand with good grammar in ensuring clear communication. It's fairly common, even for experienced medical writers and editors, to feel unsure of the rules of punctuation. It's helpful to brush up on the essentials because punctuation helps medical writers achieve clarity and precision that are critically important when conveying scientific concepts.

## Essential Concepts of Punctuation

Sentences have an anatomy; punctuation is the connective tissue that holds everything together. Understanding the basic anatomy of sentences is key to mastering punctuation.

Learning to punctuate correctly begins with understanding

- Subjects and predicates
- Clauses and phrases
- Restrictive vs nonrestrictive elements
- Types of sentences

Mastering the following skills will help improve [punctuation for clarity and style](#).

- Recognizing common grammatical constructions involving punctuation
- Harnessing useful editing techniques to eliminate awkward or excessive punctuation
- Varying punctuation to enhance clarity, emphasis, and liveliness
- Using appropriate [medical style](#) conventions

Another benefit of learning (or relearning) the rules of punctuation is knowing when it's acceptable to break a rule. For. Dramatic. Effect.

## What Do We Mean by Style?

Style for medical communication means using a full range of punctuation marks to keep one's writing lively and varied. It also means following conventions that are unique to medicine.

Style manuals are essential tools for writers, and every medical writer should have one handy. Some organizations and businesses develop their own style guides, which reflect the "house" style and outline the rules for writing and punctuating.

# Sentence Structure and Patterns



*“This course crosses what might be called the San Andreas Fault of writing: half of it is rooted in considerations of correctness (what must be done), and half in considerations of style (what can be done). Mastery of both improves a writer’s ability to be understood, and eventually to be read with ease.”*

— Doug Haneline, Sentence Structure and Patterns instructor

Good writing involves much more than just good grammar and punctuation. We’ve all seen perfectly error-free, but boring, writing.

## Structure and Patterns

English sentences can be organized in many different ways to emphasize many different points.

**Structure** refers to the clauses and phrases that produce units of meaning within sentences.



Medical writers should be familiar with the basics of sentence structure, including

- Four classes of sentences (simple, compound, complex, and compound-complex)
- Common structural errors (fragments, comma splices, fused sentences)
- Coordinating and subordinating techniques for emphasis

**Pattern** refers to the way information is ordered, including maintaining parallel construction, aligning subjects and predicates, and using techniques such as inversion or isolation to create emphasis.

Medical communicators should be familiar with sentence patterns, including the following common types of errors

- Dangling modifiers
- Misplaced modifiers
- Unnecessary use of passive voice
- Abstract nouns or forceful verbs
- Weak introductory phrases
- Lack of parallelism
- Unclear antecedents
- Misuse of restrictive or nonrestrictive clauses

Once writers learn to identify the basic principles of structure and patterns, they will learn techniques for correcting common errors.

Paying attention to [sentence structure and patterns](#) helps create clear sentences readers can understand and remember.

# Elements of Medical Terminology



*Writing for health care professionals or other technical medical audiences requires using medical terminology correctly.*

Let's get technical. Medical communicators need to read, write, and understand medical journal articles, pharmaceutical documents, and other technical medical writing. They often work with authors to prepare manuscripts for publication in medical journals.

Writing for health care professionals or other technical medical audiences requires using [medical terminology](#) correctly. Medical communicators also write for nonprofessional audiences, including patients and family members, who benefit from a medical communicator's interpretation and explanation of technical terms.

## What Medical Communicators Need to Know About Medical Terminology

- An understanding of principles of medical word formation
- Familiarity with many prefixes, roots, and suffixes that commonly appear in medical terms
- Knowledge of many basic (and some not-so-basic) medical terms
- An understanding of other aspects of medical terminology, such as abbreviations and nomenclature
- Knowledge of strategies and resources for further learning

Learning the [elements of medical terminology](#) can be a fun challenge. However, it's important that medical writers don't become so immersed in medical terminology that they veer into using jargon that lay audiences won't understand. Knowing the correct terminology is an essential skill for medical communicators, but there's a time to use it and a time to translate it.

# Tables and Graphs



*Learning to create good tables and graphs allows writers to focus readers' attention on important information.*

Medical communicators need to develop the ability to interpret, understand, create, and edit tables and graphs for different audiences and different media. These visual representations of data are critical elements of medical writing.

## What Medical Communicators Need to Know About Tables and Graphs

Professional medical communicators use tables and graphs to enhance their writing and deepen readers' grasp of data. At a minimum, these 5 skills should be considered:

1. Understand the functions of tables and graphs.
2. Recognize the basic parts of a table and a graph.
3. Construct a table or graph when given data in raw form, such as a spreadsheet, or in paragraph style.
4. Identify strengths and weaknesses in the design of a given table or graph and modify it accordingly.
5. Be familiar with the standard requirements for preparing tables and graphs for submission (with manuscripts) to medical journals and for posters, slides, regulatory documents, and other special formats.

## What's the Difference Between a Table, a Graph, and a Figure?

- A **table** is a systematic arrangement of data, usually in rows and columns.
- A **graph** is a diagram that shows relationships, trends, frequencies, or amounts of data.
- A **figure** can be a graph or other inserted item such as a map, flow chart or algorithm, illustration, computer-generated image, or photograph.



Tables and graphs can convey specific types of information more efficiently than text. Learning to create good [tables and graphs](#) allows writers to focus readers' attention on important information.

## Statistics for Medical Communication



*The goal is to equip yourself to ferret out the story behind the most commonly used statistical procedures, tests, and results.*

Medical writers are responsible for accurately communicating information related to statistical procedures, tests, and results. Understanding [statistics for medical writers and editors](#) is a way to increase skill and confidence in interpreting and reporting statistical methods and results.

For example, imagine coming across the following statistical information:

Length of hospital stay (days): mean, 13.3; median, 6; standard deviation, 12.1

When confronting those statistics, a medical writer may ask the following questions:

- What level of measurement is used to describe the length of hospital stay?
- What is *mean*?
- What is *median*?
- What are the implications of the large difference between the mean and the median?
- What is *standard deviation*?
- What additional information does the standard deviation provide?

## Role of Statistics in Medical Research and Communication

Medical research studies are designed to answer questions of interest, such as whether a new treatment is effective, how accurate a diagnostic test is, or how common a health-related behavior is. When designing a study, researchers decide on the specific study design to be used (eg, a randomized clinical trial, a general population survey) and the outcomes to be measured. These research outcomes include elements such as the number of patients experiencing a disease relapse, the change in patients' blood pressure after treatment with a new antihypertensive medication, or the proportion of subjects who report that they are currently smokers. Once data collection has been completed, researchers use applicable statistical techniques to determine the answer to the study question(s) posed.

The work of medical communication often involves using statistical tools to

- describe, summarize, and depict the collected data, or
- determine the probability that the study results may have arisen by chance.

Medical communicators use statistics to present critical scientific evidence in a clear and accurate manner to the intended audience.

## Ethics for Medical Communicators



*“Ethical behavior is determined by norms, principles, guidelines, and policies. If ethics does not regulate behavior, then we are forced to rely on public laws,”* writes Cindy Hamilton, author of *Essential Ethics for Medical Communicators*.

A code of ethics is a set of standards designed to guide professional behavior and conduct. For medical communicators, following a code of ethics can provide a set of principles to guide behavior and decisions that reflect a core set of values.

Understanding medical ethics is essential for medical communicators because violating ethical principles reflects on the entire field and affects many stakeholders.

Behavior is action, but it is also inaction. Not acting on ethical principles can have consequences just as severe as intentionally violating principles.

Some [essential ethics for medical communicators](#) include the following

- Observe statutes and regulation
- Apply objectivity and fair balance
- Meet the highest professional standards
- Refuse unethical practices
- Expand knowledge and skills
- Respect confidentiality
- Honor agreements
- Act professionally


## The AMWA Code of Ethics

In the field of medical communication, the [AMWA Code of Ethics](#) provides guidance for professional medical writers to help avoid ethical breaches and level the playing field so that everyone has the same understanding of right and wrong.

The Preamble to the AMWA Code of Ethics reads:

“AMWA is an educational organization that promotes excellence in medical communication and recommends principles of conduct for its members. These principles take into account the important role of medical communicators in writing, editing, and developing materials in various media and the potential for the products of their efforts to inform, educate, and influence audiences. To uphold the dignity and honor of their profession and of AMWA, medical communicators should accept these ethical principles and engage only in activities that bring credit to their profession, to AMWA, and to themselves.”

## A Solid Foundation

Whether diving into grammar and punctuation rules, understanding the basics of sentence structure, or becoming more familiar with statistics, charts, and graphs, medical writing offers many opportunities to grow and learn. Mastering the [Essential Skills](#) will help medical communicators to effectively, accurately, and clearly create communications that lead to better health and well-being. 



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