

# Writing economically in medicine and science: Tips for tackling wordiness

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## Abstract

Concise medical and scientific writing is clearer, more direct, and more pleasurable to read than wordy text. It is also more accessible to readers, including those outside the discipline and non-native speakers of English. An added benefit of limiting word clutter is that it helps reduce the word count to suit publication guidelines. In this article, I describe three ways for medical writers and editors to tackle wordiness: avoiding repetition, eliminating redundancy, and minimising purposeless words such as unnecessary qualifiers, weak verbs, and roundabout expressions. Using these techniques will help remove barriers to comprehension, encouraging readers to focus on important content.

## Introduction

Writing economically, while helpful to writers in many domains, is especially important for medical and scientific writers. Uncluttered text relays a message that is clear, direct, and enjoyable to read. You should therefore strive to eliminate or minimise wordiness wherever it improves the text without sacrificing essential content or compromising understanding. Trimming excess words, or *deadwood*, can also solve another problem that you may often face as a medical writer or editor: how to reduce the word count to meet publication guidelines.

Achieving a good balance between clarity and conciseness requires a sense of where to look for repetitiveness, redundancy, and excessive words. It also takes practice. Consider, for example, the difference between the following – albeit exagg-

erated – sentence and the suggested revision:

**Original:** Needless to say, it is worth pointing out that the somewhat unanimous opinion of medical writers in terms of the development of actual written materials is that medical writers should aim for the reduction of as many words as possible in an attempt to achieve economy of language and conciseness. (50 words)

**Suggested revision:** Medical writers should aim to be less wordy. (8 words)

Not only is the revised sentence easier to read, but it brings you closer to your word count goal. Not every instance of minimising wordiness will result in such a dramatic reduction in the number of words – some revisions save only one or two – but many small word savings add up and improve a document overall. In this article, I describe various ways to tackle wordiness, as illustrated in the revised sentence. These tips will help you retain important content, stay within word limits, and remove obstacles that could come between the reader and your message.

## Repeat after me: avoid repetition

Repeated words and phrases are noticeable forms of wordiness that are typically easy to revise. You may nonetheless initially overlook them. Search for repetitions in the following places:

- A duplicated noun or phrase within a sentence. For example, consider the following sentence: ‘The severity of symptoms caused by a chronic underlying disease in hospitalised patients is evident from the high mortality rate of the underlying disease.’ Sometimes nouns or noun phrases need to be repeated in complex sentences for clarity or emphasis, but in simple sentences, they can be replaced with a pronoun. Here, the phrase *the high mortality rate of the underlying disease* can be replaced with *its high mortality rate*.
- Back-to-back sentences in which the second sentence starts with or includes *it, this, these*, or other pronouns and can easily be combined with the first.<sup>1</sup> For example, consider the following sentences: ‘The new system features three innovative tools. Of these tools, one is for patients, one is for clinicians, and one is for researchers.’ They

can be reduced to one sentence: ‘The new system features three innovative tools: one for patients, one for clinicians, and one for researchers.’ Notice the omission of the serial use of *is*. Again, be careful not to use this strategy if it combines two complex sentences that are better left separate for clarity.

- Parallel constructions. If a word is repeated in a series of items in a sentence or a list, it can often be omitted. For example, the article *a* can be omitted before *list* in the preceding sentence, and the word *improved* can be omitted after the first instance in the sentence: ‘Two patients improved by 3%, three patients improved by 4%, and one patient improved by 2%.’ Be careful, however, not to omit a non-equivalent word. For example, do not omit the word *an* in the following sentence: ‘The team consisted of a nurse educator and an on-call nurse.’ In addition, check all lists carefully: you may be able to restructure them to omit the first word or two in each item.
- The words immediately following an abbreviation. I sometimes find an abbreviation followed by a noun that is part of the expanded term. You can locate these instances by globally searching for the abbreviation to see if a repetitive word is used nearby. For example, if the author introduces *DMEM* as the abbreviation for *Dulbecco’s modified Eagle’s medium*, it should not later be described as *DMEM medium*; similarly, if the author introduces *SAD* in place of *seasonal affective disorder*, it should not subsequently be referred to as *SAD disorder*.

## Eliminate redundancy

Redundancy more broadly means the excessive use of unnecessary words, but it can also be considered in a narrower sense as the repetition of the same idea in different words, or tautology.<sup>2</sup> For instance, medical professionals often speak of a patient’s *past history*. But since history can only occur in the past, the word *past* is redundant and should be omitted in written materials.

Although redundancy may be obvious, we are often so used to hearing or seeing an instance of

it that, like the crooked picture in the hallway, we no longer notice. Because it may convey the impression that the writer is unknowledgeable, identification of redundancy is worth the effort. There is no easy way, however, to avoid these sources of wordiness: you will need to focus carefully on the meaning of terms or phrases, checking the dictionary if necessary, to recognise and eliminate them.

Examples are given in Table 1, but many writing and style manuals contain long lists of these expressions. You may find it helpful to review these lists from time to time and to note your own examples as you discover them.

Another common form of redundancy occurs when a writer piles up two or even three synonyms in a series even though the first word is clear.<sup>2</sup> Readers may as a result infer that the writer is indecisive. The following examples can be shortened to one word:

- *accurate, exact, and precise*
- *each and every*
- *ways and methods*

## Minimise purposeless words

Searching for purposeless words and expressions can be one of the most challenging, yet rewarding, aspects of improving clarity and readability. Be ruthless: cut or revise all unnecessary language – whether illogical, weak, or bloated – that detracts from your message.

### Unnecessary (and illogical) qualifiers

In medical writing, qualifiers such as *very, quite, rather, actually, basically, extremely, generally, largely, mostly, slightly, somewhat*, and others should be used with care. In my experience, the first three in particular are overused, as I routinely find numerous instances of them as I edit.

Writers use qualifiers to either strengthen or limit the meaning of a word, but pitfalls abound:

qualifiers are imprecise and ambiguous in scientific writing, add little meaning, and, if used too frequently, lose their effectiveness. Therefore, use them sparingly, if at all, or replace them with a stronger adjective (e.g. *very hard* with *difficult, very important* with *crucial*).

A special feature of qualifiers is that they cannot be used with incomparable words (words that represent an extreme state), such as *absolute, final, infinite, scant, total, and unique*. Incomparable words cannot be quantified (e.g. *very unique, somewhat final*) or compared (e.g. *more absolute, less scant, most total, least infinite*) because the resulting term is illogical.<sup>3</sup> Eliminating these uses not only decreases wordiness, but strengthens sentences without loss of meaning.

### Weak and lacklustre verbs

The strongest sentence and most direct construction in English assigns the action to a vigorous verb. Deviations from this pattern are associated with wordiness. Look for cues to wordiness in three sentence constructions that move the action elsewhere, creating weak verbs: passive voice, expletives, and nominalisations.

Authors can write in one of two voices, active or passive. The active voice emphasises the subject, who performs the action (e.g. ‘Smith collected the data’). The passive voice reverses this pattern by emphasising the receiver and including a form of *to be*, a past participle, and possibly a *by* phrase to name the performer (e.g. ‘The data were collected by Smith’). When passive-voice sentences include the performer, they are wordier than the comparable active-voice sentences, especially as sentences become more complex and demand more extensive revisions (e.g. ‘The data that were collected by Smith were shown to suggest’ versus ‘Smith’s data suggested’). Because the active voice is clearer and usually more concise, choose it unless you

have a good reason to prefer the passive voice.

An expletive – in the grammatical sense (not the profanity!) – consists of the word *There* or *It*, followed by a form of *to be* and then the subject. Because expletives are weak sentence openers that contribute to wordy text, they should be used judiciously. The most common type is followed by a noun and a clause that begins with *that, who, or which*.<sup>1</sup> For example, the sentence ‘There are five conditions that must be met’ can be reduced to ‘Five conditions must be met’ and the sentence ‘It is only the participants who sign the consent forms’ to ‘Only the participants sign the consent forms.’ Occasionally, however, anything other than an expletive would create awkward prose. Consider, for instance, the lack of alternative to the following sentence: ‘There can be benefits to patients delaying further treatment until the sensitivity subsides.’ Unless you wish to deliberately use an expletive to shift the subject of a sentence<sup>2</sup> or you have no alternative in an unmanageable sentence such as this, revise unnecessary expletives whenever possible.

Nominalisations transfer the action of a sentence from verbs or adjectives to nouns. When writers disguise verbs as nouns in a sentence, they must add weak (forms of *to be*) or vague verbs (e.g. *conducted, done, indicated, involved, made, obtained, occurred, performed, produced*).<sup>4</sup> Although these verbs have their place in scientific writing, their overuse weakens language. To identify nominalisations, look for cues in noun endings such as *-ion, -ment, -ence*, and *-al*.<sup>5</sup> For example, consider the following sentences:

**Original:** ‘A reformulation of the programme requirements was done for the establishment of a new set of criteria.’

**Suggested revision:** ‘The programme requirements were reformulated to establish a new set of criteria.’ Notice that the revision eliminates the nouns ending in *-ion* and *-ment* and the weaker verb *was done* when the verbs *reformulated* and *establish* are unmasked.

**Original:** ‘Inhibition of HIV replication is induced by antiretroviral therapy.’

**Suggested revision:** (*ignoring passive voice*): ‘HIV replication is inhibited by antiretroviral therapy.’

**Or revision with passive to active voice:** ‘Antiretroviral therapy inhibits HIV replication.’

Other words such as *increase* and *decrease*, when used as nouns, create weaker sentences.<sup>5</sup>

**Table 1. Redundant expressions: omit the italicised words**

Adjectives	Adverbs	Prepositional phrases
<i>advance</i> planning	<i>already</i> reported	2 a.m. <i>in the morning</i>
<i>both</i> alike	<i>completely</i> surround	at this point <i>in time</i>
<i>close</i> proximity	<i>definitely</i> proved	estimated <i>at about</i>
<i>end</i> result	<i>equally</i> as well as	extreme <i>in degree</i>
<i>final</i> outcome	<i>join together</i>	few <i>in number</i>
<i>general</i> rule	<i>lifted up</i>	large <i>in size</i>
<i>past</i> history	<i>may possibly</i>	light <i>in weight</i>
<i>personal</i> opinion	<i>refer back</i>	oval <i>in shape</i>
<i>single</i> unit	<i>repeat again</i>	qualitative <i>in nature</i>
<i>time</i> period	<i>summarise briefly</i>	short <i>in duration</i>

For example, choosing the verb form of *increase* in the sentence ‘An increase in patients’ scores was observed’ results in livelier prose: ‘The patients’ scores increased.’

To save the reader from wading through noun clutter, identify and transform the verbs masquerading as wordy nouns.

**Clichés, empty fillers, and roundabout expressions**

Circumlocution – unnecessarily lengthy and roundabout language – is language that avoids getting directly to the point. This device has its uses in some forms of writing, but it obscures meaning in medical writing. Clichés, empty fillers, and roundabout expressions are related forms of circumlocution.

Clichés are overused, sometimes redundant, expressions that convey a lack of originality. They include well-worn phrases such as *at first glance*, *avoid like the plague*, *in this day and age*, and *to all intents and purposes*. Such phrases may also be confusing to readers for whom English is a second language. Clichés are best avoided in medical and scientific communications.

Empty fillers are a type of cliché common to all types of writing. When used in speech, they are equivalent to throat clearing, although the purpose there can be to slow the speaker’s pace and give the audience time to understand the material.<sup>4</sup> In writing, this device is unnecessary, as readers can double back if necessary, and adding excess material simply builds a barrier between the reader and your message. Eliminating

empty fillers, such as the following, will help declutter your text:

- *as a matter of fact*
- *as already stated*
- *as such*
- *in other words*
- *it is important to note, it is interesting to note*
- *it is known that*
- *it has been reported that*
- *it goes without saying, needless to say*
- *obviously* (this may also annoy a reader who does not consider it obvious)

Roundabout expressions are another way to use as many words as possible when one or two, or none, will do. Table 2 represents a small sample of wordy expressions listed in writing and style manuals.

Prepositional phrases (beginning with *to, in, of, with*, etc.) and *that, which, or who* clauses<sup>1</sup> are two other sources of excessive and roundabout word use. Revise as shown in the following example.

**Original:** ‘The study, which was recently published, highlighted several challenges of importance.’

**Suggested revision:** ‘The recently published study highlighted several important challenges.’ Revising both the prepositional phrase (*of*

*importance*) and the *which* clause (*which was recently published*) creates a more concise sentence.

**Summary**

Striving for conciseness in medical writing is good practice, and being required to reduce the word count has a way of focusing the mind on economy of expression. But writers and editors need to consider the effects of each revision: if minimising wordiness worsens readability or alters essential content, you may need to reconsider. If, however, it improves clarity, precision, and enjoyment of reading, then cut away! You may be surprised by just how much deadwood you can discard.

**Table 2. Replacements for roundabout expressions**

Wordy	Concise
a majority of	most
a number of	many, several, numerous
a small number of	a few
are known to be	are
as a consequence of	because
at the same time	while
at present, at the present time, at this point in time	now
could potentially	may
due to the fact that, in light of the fact that	because
during the course of, during the time that	when, while
fewer in number	fewer
for the purpose of	for, to
for the reason that	because
has the opportunity, is able to	can
in a routine manner	routinely
in order to	to
in regard to, with regard to, with respect to	about, regarding
in spite of the fact that	although, despite, even though
in terms of	in, of, for
in the case of	for
in the course of	during
in the event that	if
in the near future	soon
it is often the case that	often
it is possible that	may
it is worth pointing out that	note that
it would appear that	apparently
on the basis of	by, from
on the order of	about
prior to	before
subsequent to	after
the authors	we

**References**

1. Purdue Online Writing Lab. Conciseness. 2013 [cited 2016 Dec 9]. Available from: <https://owl.english.purdue.edu/owl/resource/572/01/>
2. Messenger WE, de Bruyn J, Brown J, Montagnes R. The Canadian writer’s handbook. 5th ed. Don Mills, Ont: Oxford University Press; 2008.
3. Iverson C, Christiansen S, Flanagan A, et al. AMA manual of style: a guide for authors and editors. 10th ed. New York: Oxford University Press; 2007.
4. Matthews JR, Matthews RW. Successful scientific writing. 3rd ed. Cambridge: Cambridge University Press; 2008.
5. Zeiger M. Essentials of writing biomedical research papers. 2nd ed. New York: McGraw-Hill Health Profession Division; 2000.

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## Exercise

1. Roundabout expressions are a form of \_\_\_\_\_.
2. Shorten the prepositional phrases in the following sentences:
  - A. Continuous treatment with steroids was necessary to prevent inflammation of allergies.
  - B. The method of greatest efficiency included a number of steps in standard use.
3. Repeating an idea using different words is called:
  - A. nominalisation
  - B. redundancy
  - C. circumlocution
  - D. passive voice
4. Revise the nominalisations in the following sentences.
  - A. Our tasks were the collection of data and the development of innovative products.
  - B. Performance of the new protocol caused a 10% increase in the desired effect.
5. Which of the following answers are correct? A sentence that starts with 'It is known that' contains:
  - A. an expletive
  - B. a qualifier
  - C. a cliché
  - D. an empty filler
6. Identify and correct the redundancies in the following sentences:
  - A. As a general rule, we like to keep our presentations brief and concise.
  - B. They emptied out the flask before repeating the procedure again.
  - C. In their study, Smith et al. (2000) focused specifically on three species that were similar in nature.
7. Replace the following roundabout phrases with one word:
  - A. as a result of
  - B. have an effect on
  - C. at a slow rate
8. Rewrite the following paragraph to reduce wordiness:

In this review, an attempt is made to provide a description of the nature of Alzheimer

disease (AD), including the causes, symptoms, and management of this condition. There is reason to believe that AD is an extremely common form of dementia that causes an increase in a number of difficulties with memory, an escalation in issues with behaviour or with conduct, and a gain in problems with thinking. In spite of the fact that the majority of patients show signs of the development of AD after they are older than 65 years of age, some patients receive a diagnosis of AD prior to that age. A quite progressive neurodegenerative disorder, AD is a disease with worsening effects over the course of a person's lifetime. The stages range in the amount of severity from an absolutely mild to severe stage until substantial interference with daily activities occurs. It was already reported earlier in the literature by several investigators that in AD, amyloid plaques develop for the most part in the hippocampus, which is a brain structure that helps in the encoding of memories, as well as in other areas that are largely involved in our thinking and behaviour. It is not known at the present time whether the plaques cause AD or whether they are a consequence of the AD disease process. (221 words)

## Answer Key

1. circumlocution
2.
  - A. Continuous steroid treatment was necessary to prevent allergic inflammation.
  - B. The most efficient method included standard steps.
3. B
4.
  - A. Our tasks were to collect data and develop innovative products.
  - B. Performing the new protocol increased the desired effect by 10%.
5. A, C, and D.
6.
  - A. As a rule, we like to keep our presentations brief.
  - B. They emptied the flask before repeating the procedure.
  - C. In their study, Smith et al. (2000) focused on three similar species.
7.
  - A. because
  - B. affect
  - C. slowly
8. Wordiness can be reduced in many ways in this paragraph. *Here is one suggestion:*

In this review, we describe the causes, symptoms, and management of Alzheimer disease (AD). A common form of dementia, AD increases difficulties in memory, behaviour, and thinking. Although most patients show signs of the disease after age 65, others are diagnosed at an earlier age. A progressive neurodegenerative disorder, AD worsens by stage from mild to severe until individuals experience substantial interference with daily activities. Several investigators have reported that the amyloid plaques in AD develop mostly in the hippocampus, a brain structure that helps encode memories, and in other areas implicated in thinking and behaviour. Whether these plaques are a cause or consequence of AD is unknown. (108 words)