Medical Writing:
A Prescription for Clarity

A self-help guide to clearer medical English

FOURTH EDITION
Medical Writing: A Prescription for Clarity

A self-help guide to clearer medical English

FOURTH EDITION

Dr Neville W. Goodman
Retired Consultant Anaesthetist, Southmead Hospital, Bristol, UK

and

the late Dr Martin B. Edwards
formerly Senior Research Fellow, Royal College of Surgeons of England, and Freelance Medical Editor

with contributions from

Elise Langdon-Neuner
Freelance Medical Editor and Editor Emeritus, Medical Writing

and with cartoons by

Dr Andy Black
Retired Senior Lecturer in Anaesthesia, Bristol University, Bristol, UK
This fourth edition is dedicated to Brian, Bob and Martin [NWG]
We have frequent occasion to observe this tendency to neologism, and the avidity with which [writers] cover a certain crudity of reasoning and obscurity of thought, or endeavour to give weight to a shallow theory, by the selection of the very longest and most technical words which the medical vocabulary will supply. This is an error to be deplored and reprobated. (The Lancet 30 Sept 1885: quoted in the column 'From The Lancet' Lancet 1990; 336: 224.)
# Contents

*Foreword, Tim Albert*  ix  
*Preface to the fourth edition*  xi  
*Layout of the fourth edition*  xii  
*Preface to the first edition*  xiii  
*Acknowledgements*  xiv  

## Part I: Problem: the illness

1. **Introduction**  1  
2. **The malaise of medical manuscripts**  3  
   - Summary  8  
3. **The difficulties of English as an additional language**  11  
   - Cultural errors  12  
   - Grammatical errors  13  
   - Word errors  14  

## Part II: Solution: symptomatic relief

4. **Technology, changing language and authority**  19  
5. **Guidelines to clearer writing**  25  
   - Watson and Crick show how it's done  25  
   - Planning  27  
   - Getting started  28  
   - Some grammatical terms  28  
   - Using a word processor  29  
   - Reference lists  31  
6. **Spelling**  32  
   - Using capitals  44  
   - Check your proofs  45  
   - A puzzle  45  
7. **Is there a better word?**  46  
8. **Superfluous words**  160  
9. **Imprecise words**  183  
10. **Superfluous phrases**  200  
11. **Trouble with short words**  206  
   - Prepositions following verbs and adjectives  206  
   - Short words expanded to a phrase  210  
   - Variations of because  214  
   - Pronouns  217  
12. **Use of the passive voice**  221  
   - The verb 'to perform'  223  
   - Conclusion  224  
13. **Consistency: number and tenses**  226  
   - Number: singular or plural?  226  
   - Lists  227  
   - Collective nouns  228  
   - Tenses  230  
14. **Word order**  232  
   - Noun clusters and stacked modifiers  233  
   - Adverbs and verbs  237  
   - Missing words  238  
15. **Punctuation**  240  
   - Commas after sentence adverbs like certainly  241
Commas between subject and verb 242
Commas before which and that 243
Lists 245
Hyphens 247
The lazy slash 250

16 Circumlocution 252

17 Words and parts of speech for EAL writers 258
Words 258
Adjectives and adverbs 271
Prepositions 273
The and a: articles and determiners 277
Tenses 281

18 Clichés and article titles 285
Titles for medical articles 288

19 Constructing sentences 294
The opening sentence 294
Balance 296
Simplicity 299
Emphasis and connections 300
Avoiding abbreviations 303
The concluding sentence 309

20 Further help with sentences for EAL writers 310

21 Drawing clear graphs 316
Reprise 322

22 It can be done 323

Part III: Practice: recuperation

23 Exercises 329
Postscript to the exercises 344
Uncorrected exercises 344

Appendix: British–American English 351
References and further reading 354
References 354
Reference books 356
Books to read or dip into 357
Index 358
Foreword

Nearly a quarter of a century ago I left the security of a well-paid and well-pensioned position to go on a mission to show doctors how much they—and their patients—would benefit from knowing the simple techniques of effective writing. As an editor on medical magazines for a decade, I had been surprised by much of what I had seen: winding texts of long and pompous words brought together in rambling sentences that obscured any sensible meaning. Here was a great opportunity, I thought, to pass on what I had learnt as a professional writer: that the best way to express clear and well-ordered thoughts was through clear and simple language. I was confident that within a year or two the culture would start to change, and instead of glibly trotting out phrases like *Long term medication is predicated*, doctors would start writing: *You may have to take these pills for a long time.*

To my surprise I met fierce resistance. ‘You can’t use simple words; they are for children’; ‘Approximately is a proper scientific word; it would be wrong to write about’; ‘Don’t put *We examined the patient*; instead write, *The patient was examined.*’ One exasperated public health doctor went so far as to say: ‘We’re doctors. We don’t necessarily want people to understand what we are writing’. At this point I might well have given up had I not started to come across, like pioneers straggling in from the wilderness, one or two others who independently were seeing the same problems and dreaming the same dream. Prominent among these were the authors of the first edition of this book, which a reviewer in my own little newsletter hailed as an ‘original, absorbing, comprehensive, compact, practical manual, worth every penny’ (W. Whimster. Curing gobbledegook. *Short Words*, Spring 1993, p. 3).

I too found it full of treasures. By the second chapter the authors had started to dismantle the arguments against clear medical writing that had become so familiar to me. I still have my first edition of this book and one of my early pencilled annotations is for this sentence, which can hardly be bettered for clarity and sense: ‘There is no more precise way of expressing the idea of a female parent than the word *mother*.’ There followed a succession of paragraphs on such useful topics as word choice, imprecise phrases, circumlocution, punctuation and many more. Towards the end came my favourite part of the book—a world-class collection of 35 examples of medical nonsense laid out for the reader to ponder—and then each skewered with a translation of epic simplicity. For instance: ‘This comprises of increased blood pressure and pulse amplitude in the upper extremity and decreased blood pressure and pulse amplitude in the legs’ becomes—via the authors’ diagnoses of repetition and circumlocution—‘Blood pressure and pulse amplitude are increased in the arm and decreased in the leg’. Simple when you know how—and take the trouble to practise.

Now the book has evolved to a fourth edition, which reflects the onward march of life in a new century. Newcomers to the list of words that cause spelling problems are *disc/disk, program/programme* and *millennium*. The recognition that most English-language medical papers are written by people for whom English is not their first language has spawned several chapters addressing their difficulties. And the development of electronic databases and search engines has allowed the authors to locate still more
wonderful pieces of impenetrable prose, and there are 43 new examples to be admired and puzzled over.

But the durability of the book and the excellence of the material raises an awkward question: how come, with such effective medicine, the disease of bad writing continues to infect thousands? My view is that the forces arraigned against simple medical writing are too great, and I would draw attention in particular to three of them. One is that authorship has (for no logical reason that I can see) become an important measure for regulating promotions and determining grant applications; this means that the end point is no longer communication but publication. Second, these papers are written by large teams who spend huge amounts of time arguing over the words and (I have seen this happen many times) making the writing become more and more obscure as it goes through the so-called ‘corrections’ process. Then there is the rise of defensive medicine (and its cause, offence-seeking patients) which makes some people believe that writing can be made safe by making it incomprehensible. As I was writing this foreword I had a conversation with a colleague in which I told him that I had spent a long time drafting my email to him: it emerged that his assumption was that I had been trying to blur, not clarify, the meaning.

Don’t be down-hearted, however. Persevere with the treatment. Read this book; share it with others; pass it to your supervisor; even send it to an editor of your acquaintance. One day perhaps the news will get around that good writing is not about putting down unclear words but putting across clear messages. The journey will take some time and effort but it will be worth it: as a slogan I saw recently on a postcard put it, ‘good clear writing can bring down fascism’. It can also delight, inform, offend – and heal.

Tim Albert
Leatherhead, UK
Preface to the fourth edition

This is the most extended revision of a book that first appeared nearly 25 years ago. For the second edition, we included more examples and exercises, and a new chapter on that much abused diagram, the graph. For the third, there were new words, new examples and fresh exercises. There are over 100 new abused words in this fourth edition. Many of the exercises from previous editions are now included as examples in the text, and there are new exercises. The introductory chapter attempting to explain the reasons for poor medical writing has been shortened. We do not think that the attitudes of medical writers to the way they write have altered, but it is better to present solutions than to be too introspective about problems.

Sadly, my co-author, Martin Edwards, died during the production of the third edition; I am joined for this fourth edition by Elise Langdon-Neuner, an experienced copy-editor. She has looked at the text with writers of English as an additional language (EAL), also known as writers of English as a foreign language (EFL) and non-native speakers (NNS), in mind, so they are catered for more directly than in previous editions. In 1960 just under half of all articles now listed by PubMed® were published in English. In 1991, the year of the first edition, there were nearly four times as many articles published, with over 80% in English. By 2012, this had risen to nine times, and 94% were published in English. (At March 2014, this was 95% for articles published in 2013.) Most medical articles are now written by writers whose first language is not English. We give pointers to errors made by EAL writers both with their words and with their sentence construction, which will be helpful not only to them, but to their English native language co-writers trying to correct the errors.

We have also used PubMed® to give some idea of which words and phrases are most in need of attention, and of how English medical usage is changing. This, and the ability to use our examples and exercises for group work, makes our fourth edition more worthwhile for those organizing courses on medical writing, and for those with an academic interest in medical English. For those interested in reading more about the English language, we have updated the lists of suggested books.
Examples, which are taken from submitted or published articles, are inset in smaller type. Simple replacements often have the replaced words struck through, with the replacement in small capitals and enclosed in square brackets. If, in the discussion about an example for a word, there is another word that has its own entry, that word is in small capitals. Spelling follows British English, but when rewriting examples we have sometimes stayed with the original if it followed American spelling. The layout in the chapters on Spelling and Exercises is explained in those chapters.
Preface to the first edition

Doctors, nurses, paramedical workers and medical scientists need to communicate their ideas effectively. Writers in the field of medicine tend to use unfamiliar words in tortuous constructions, particularly when writing reports for submission to learned journals. Research can often be judged only by its final written report. A meticulous study can be let down by poor writing, which may lead a reviewer to wonder if lack of attention to detail in the writing indicates lack of attention to detail in the research. Certain usually superfluous words and phrases occur again and again in medical papers. Once able to recognize these, writers should be able to delete them or to find more appropriate constructions, guided by the suggestions made in this book.

Most of the examples are quotations from medical books and journals, though some, particularly those from more specialized texts, have been modified.

Words or phrases whose use in medical writing is discussed specifically in the text are in capitals:
(a) where they occur as the ‘heading’ to a main entry, i.e. where the discussion takes place;
(b) in cross-references to main entries, for example ‘(see regime)’;
(c) in the index.

Superscript numbers in the text refer to articles and books listed sequentially in the reference list at the end of the book. There is also a list of the standard texts to which we refer frequently, and these texts are identified by author’s name or by an obvious shorthand: for instance, Greenbaum and Whitcut are the latest revisers of Sir Ernest Gowers’ The complete plain words, and this is referred to as Gowers. COD is the Concise Oxford Dictionary. OED is the CD-ROM version of the Oxford English Dictionary.
Acknowledgements

In the acknowledgements to the first three editions, we thanked those who had unwittingly provided our examples. We added that 'although they may recognize their own words, others will be unable to make an attribution'. Advancing technology means others may now be able to do so. Many of the examples new to this fourth edition were culled from PubMed®. Searching for administered turned up the example, 'Medication administered by the trial was recorded on case report forms'. If this sentence is fed back into the PubMed® searchbox, its source is revealed. The source is revealed even if the word case is omitted. (Omitting case report brings up two other papers in which the remaining phrase appears in the abstract.) Thus, even though we have altered many of our examples in an attempt to hide sources, we may not have succeeded. We ask the forbearance of their authors, and suggest to those tempted that there are better things to do than seek those authors out. For copyright reasons, no example is more than about 200 words long.

Earlier versions of the first edition were seen by a number of assessors, usually reviewers reporting to publishers. Many of their comments were added to the text and again they may be recognized. Because the reviewers were anonymous we can do no more than give a general thanks.